

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, 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 levels and 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 begin to cohabit only 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, India, 1998–99							
Background characteristic	Current age						
	20–24	25–29	30–34	35–39	40–49	20–49	25–49
Residence							
Urban	NC	19.3	18.7	18.3	18.1	18.9	18.6
Rural	17.6	16.9	16.6	16.5	16.3	16.8	16.6
Education							
Illiterate	16.3	16.1	16.1	16.1	16.0	16.1	16.0
Literate, < middle school complete	18.1	17.6	17.3	17.2	17.3	17.5	17.4
Middle school complete	19.3	18.9	18.7	18.9	18.6	18.9	18.8
High school complete and above	NC	21.8	21.4	21.3	21.1	NC	21.5
Religion							
Hindu	18.2	17.4	17.0	16.8	16.7	17.2	16.9
Muslim	18.2	17.3	16.8	16.7	16.6	17.1	16.9
Christian	NC	21.2	20.2	20.4	20.2	NC	20.5
Sikh	NC	20.2	20.2	19.9	20.2	NC	20.1
Jain	NC	20.6	19.1	18.9	18.3	19.6	18.9
Buddhist/Neo-Buddhist	19.8	17.5	17.0	16.8	16.7	17.6	16.9
Other	19.1	17.2	17.1	17.2	17.5	18.0	17.2
No religion	(19.2)	(18.7)	(18.1)	(19.9)	(18.3)	18.8	18.7
Caste/tribe							
Scheduled caste	17.8	16.7	16.4	16.3	16.0	16.6	16.3
Scheduled tribe	17.1	16.8	16.5	16.7	16.5	16.7	16.6
Other backward class	18.2	17.4	16.9	16.8	16.7	17.2	16.9
Other	18.9	18.3	17.8	17.5	17.3	18.1	17.7
Standard of living index							
Low	16.5	16.2	16.1	16.1	15.9	16.2	16.1
Medium	18.3	17.5	17.0	16.7	16.6	17.2	16.9
High	NC	20.1	19.4	18.9	18.4	19.6	19.1
Total	18.3	17.5	17.1	16.9	16.8	17.4	17.0
Note: Total includes women with missing information on education, religion, caste/tribe, and the standard of living index, who are not shown separately.							
NC: Not calculated because less than 50 percent of women have started living with their husband by age 20							
() Based on 25–49 unweighted cases							

Table 4.1 shows that, in India, the median age at first cohabitation with husband is 17.4 years for women age 20–49. For age groups, the lowest median age at first cohabitation is 16.8 for women age 40–49, and the highest is 18.3 for women age 20–24, suggesting a modest increase of 1.5 years in the median age at first cohabitation over a period of approximately 23 years. The value of 18.3 for the youngest age group is still rather low, however, suggesting that the considerable decline in fertility that has occurred in India has resulted mostly 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 two 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, but the rise has been greater in urban areas. Differentials in the median age at first cohabitation by education are larger than differentials by residence. For women age 25–49, the median age at first cohabitation ranges from 16.0 for illiterate women to

21.5 for women with at least a high school education. Increases over time in the median age have been small in all educational groups, but the increase among illiterate women has been almost negligible. By religion, the median age at first cohabitation for women age 25–49 ranges from 16.9 for Hindus, Muslims, and Buddhists to 20.1 for Sikhs and 20.5 for Christians. By caste/tribe, for women age 20–49, the median age ranges from 16.6–16.7 for scheduled-caste and scheduled-tribe women to 18.1 for women who belong neither to a scheduled caste or tribe nor to an other backward class. The median age of first cohabitation increases steadily with the standard of living, from 16.2 for women living in households with a low standard of living to 19.6 for women living in households with a high standard of living.

4.2 Fertility Levels

NFHS-2 provides estimates of age-specific fertility rates (ASFR), total fertility rates (TFR), and crude birth rates (CBR) for the three-year period preceding the survey, which in NFHS-2 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 woman-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 for 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 was 24.8 births per 1,000 population, and the TFR was 2.9 births per woman, as shown in Table 4.2. Fertility is higher in rural areas than in urban areas. The CBR is 20.9 in urban areas and 26.2 in rural areas, and the TFR is 2.27 in urban areas and 3.07 in rural areas.

Table 4.2 and Figure 4.1 show that the TFR is lower in urban areas than in rural areas because ASFRs are lower at all ages in urban areas than in rural areas. Sixty-seven percent of urban total fertility and 61 percent of rural total fertility are concentrated in the prime childbearing ages 20–29. There is also a moderate amount of early childbearing. Fertility at age 15–19 accounts for 15 percent of total fertility in urban areas, 20 percent in rural areas, and 19 percent overall. Fertility at ages 35 and older accounts for only 5 percent of total fertility in urban areas, 8 percent in rural areas, and 7 percent overall.

Based on estimates for the three-year period preceding NFHS-1 and NFHS-2, the CBR fell from 28.7 to 24.8 between the two surveys, a decline of 14 percent in approximately six and one-half years. Over the same period, the TFR fell by 0.54 child from 3.39 to 2.85, a decline of 16 percent. Fertility fell mainly at ages 20 and above and very little at age 15–19 (Figure 4.2). Although fertility fell at ages 40–44 and 45–49, fertility at these ages was already very low in NFHS-1, so that fertility declines above age 40 had a negligible impact on the changes in the CBR and TFR that occurred 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, India

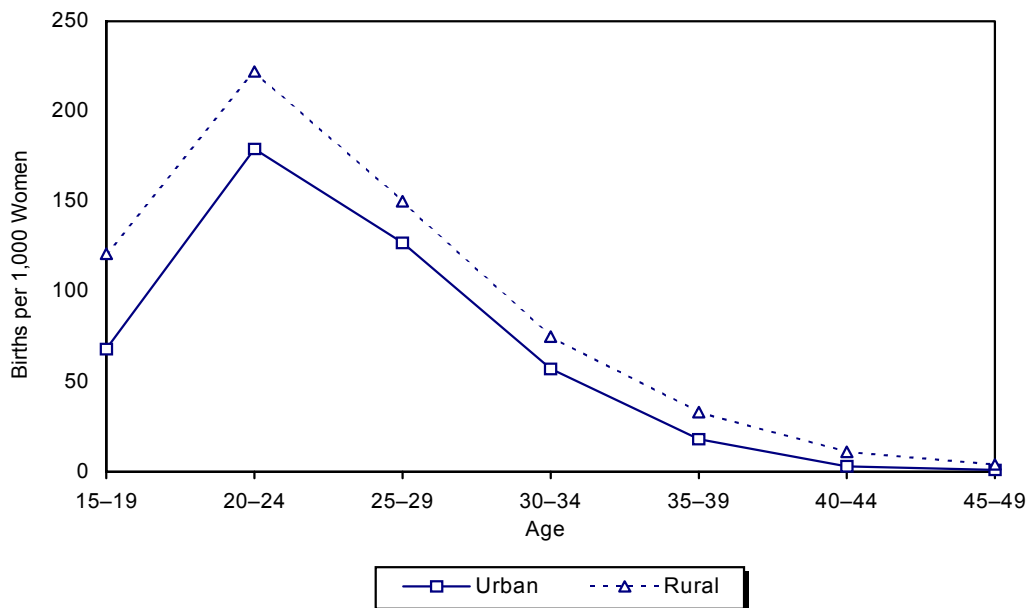
Age	NFHS-1 (1990–92)	NFHS-2 (1996–98)		SRS (1997)			
	Total	Urban	Rural	Total	Urban	Rural	Total
15–19	0.116	0.068	0.121	0.107	0.032	0.061	0.054
20–24	0.231	0.179	0.222	0.210	0.178	0.242	0.226
25–29	0.170	0.127	0.150	0.143	0.152	0.200	0.188
30–34	0.097	0.057	0.075	0.069	0.071	0.122	0.109
35–39	0.044	0.018	0.033	0.028	0.029	0.063	0.055
40–44	0.015	0.003	0.011	0.008	0.012	0.030	0.026
45–49	0.005	0.001	0.004	0.003	0.003	0.009	0.008
TFR 15–44	3.36	2.27	3.06	2.84	2.36	3.59	3.29
TFR 15–49	3.39	2.27	3.07	2.85	2.38	3.63	3.32
CBR	28.7	20.9	26.2	24.8	21.5	28.9	27.2

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 data: Office of the Registrar General, 1999a

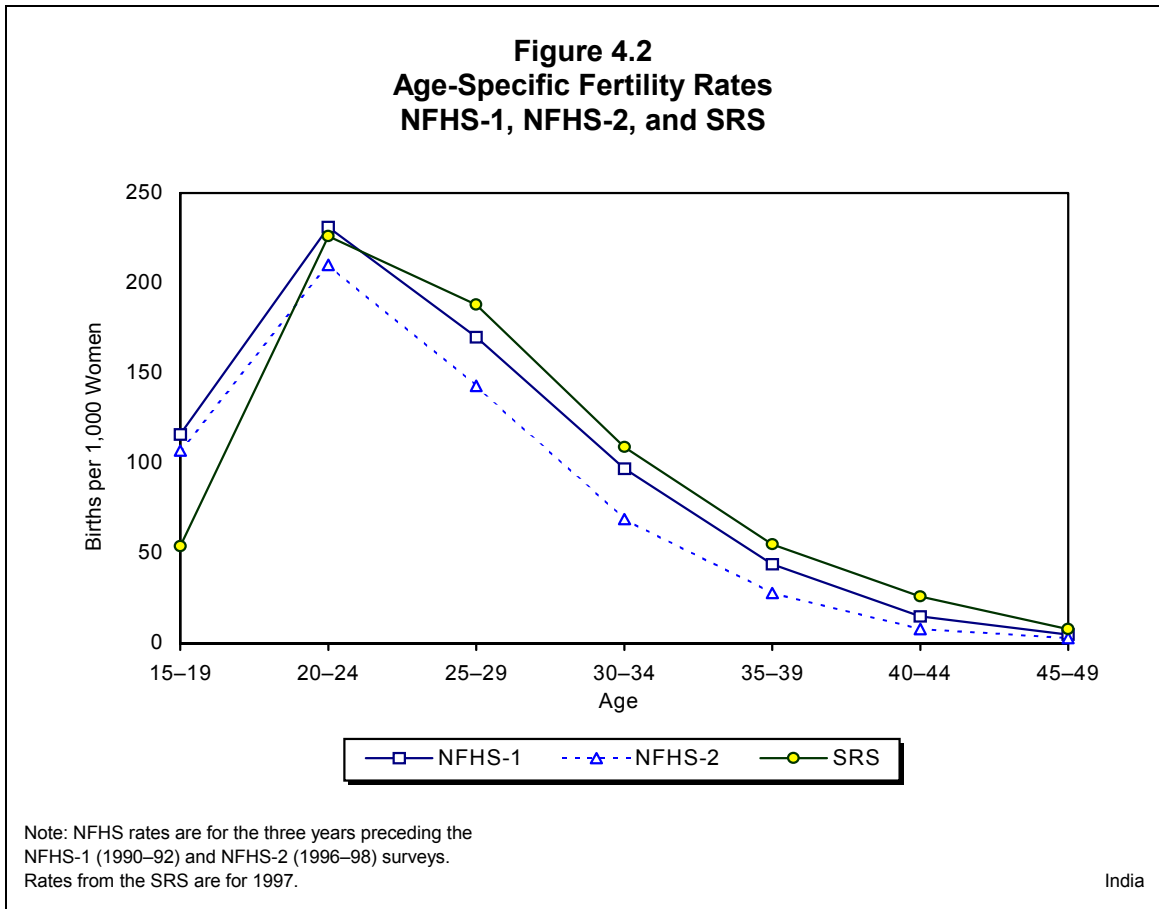
Figure 4.1
Age-Specific Fertility Rates
by Residence



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

NFHS-2, India, 1998–99

Figure 4.2
Age-Specific Fertility Rates
NFHS-1, NFHS-2, and SRS



The pattern of fertility change by age is consistent with the findings that there has been only a small increase in the age at cohabitation, only a weak effort to promote spacing between children, and the predominant use of permanent methods of contraception (discussed elsewhere in this report).

The 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. The NFHS-2 estimate of the CBR, at 24.8, is lower than the SRS estimate of the CBR, at 27.2. Similarly, the NFHS-2 estimate of the TFR, at 2.85, is lower than the SRS estimate of the TFR, at 3.32. Differences between the fertility estimates from NFHS-2 and the SRS are considerably smaller in urban areas than in rural areas. The larger discrepancy in rural areas may be caused by more age misreporting in rural areas, which tends to result in the displacement of births further into the past in the birth histories. 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. In the analysis of the earlier NFHS-1 survey, Narasimhan et al. (1997) compared NFHS-1 and SRS estimates of fertility and concluded that both are probably underestimates. 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-1 estimates. This argument is probably equally valid for NFHS-2 estimates of fertility as compared with the corresponding SRS estimates.

Table 4.3 and Figure 4.3 compare fertility levels and trends in each state. There is a wide diversity of fertility levels among the states. Total fertility rates range from 1.8 in Goa to 4.6 in Meghalaya. Almost two-thirds of the states (16 out of 25) have TFRs below the all-India mean of 2.85 children per woman. This skewed pattern occurs because the mean is strongly affected by the relatively high fertility of a handful of populous states in the northern half the country—Uttar Pradesh (with a TFR of 4.0), Rajasthan (3.8), Bihar (3.5), and Madhya Pradesh (3.3). Fertility is uniformly low in the West and South Regions (where most states are close to the replacement level of about 2.1 children per woman). Fertility is higher than average in the two states in the Central Region, but the picture is mixed in the other regions. In the North Region, the TFR is close to the replacement level in Himachal Pradesh (2.1) and Punjab (2.2), and it is also low in Delhi (2.4), but it is quite high in Rajasthan (3.8). In the East Region, the TFR ranges from 2.3 in West Bengal to 3.5 in Bihar. Two of the states in the Northeastern Region (Meghalaya and Nagaland) have high levels of fertility, but the remaining states in the region have much lower fertility. As already mentioned, these estimates for states must be viewed with some caution, because they are affected by displacement of births from the first three years before the survey to earlier years and tend to be lower than comparable estimates from the Sample Registration System, which does not suffer from displacement.

Table 4.3 also shows the estimated change in the TFR between NFHS-1 and NFHS-2 for each state. As already noted, the TFR for the whole country is estimated from the two surveys to have declined by about half a child per woman between the two surveys (slightly higher than the SRS decline of 0.4 child during the same period). The estimated change varies greatly by state, however, ranging from a decline of 1.7 children per woman in Arunachal Pradesh to an increase of 0.8 child per woman in Meghalaya. Excluding the northeastern states, the change in the TFR ranges from a decline of 1.1 children per woman in Haryana to an increase of 0.2 child per woman in Rajasthan. The TFR declined by more than the all-India average in every state in the North Region except Rajasthan, in both states in the Central Region, and in West Bengal, Arunachal Pradesh, Assam, and Karnataka. States in which the TFR declined by less than the all-India average are Bihar, Orissa, and all the states in the West and South Regions except Karnataka. The TFR increased between the two surveys in Rajasthan, Manipur, Meghalaya, Mizoram, and Nagaland.

These estimates of change in the TFR between the two surveys must be interpreted with great caution, mainly because of possible differences in the extent of age misreporting between the two surveys. These differences in age misreporting, to the extent that they exist, translate into differences in the degree of displacement of births from the three years immediately preceding the survey (the period to which the TFR estimates pertain) to earlier years. If this differential displacement is large, it can seriously bias the estimated trend in the TFR. Because the two surveys are only six and one-half years apart, the estimation errors due to differential displacement can be as large or larger than the actual change in the TFR. Differential displacement of births (and in some cases differential omission of births) is probably the principal explanation of the estimated fertility increases (which in all likelihood are not real) in Rajasthan, Manipur, Meghalaya, Mizoram, and Nagaland. An initial study of the accuracy of the NFHS-2 fertility estimates suggests that in Uttar Pradesh differential displacement largely accounts for the more rapid TFR decline estimated from the two surveys than from the Sample Registration System (Retherford et al., 2000). Further research addressing the question of accuracy of the NFHS fertility estimates is currently underway for other states.

Table 4.3 Fertility by state

NFHS-2 age-specific and total fertility rates (TFR) and crude birth rate for the three-year period preceding the survey, and NFHS-1 TFR, according to residence and state, India

State	NFHS-2 age-specific fertility rates							NFHS-2	NFHS-1	NFHS-2
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR	TFR	crude birth rate
URBAN										
India	0.068	0.179	0.127	0.057	0.018	0.003	0.001	2.27	2.70	20.9
North										
Delhi	0.035	0.185	0.176	0.058	0.018	0.003	0.000	2.37	3.00	20.9
Haryana	0.031	0.186	0.151	0.063	0.011	0.000	(0.006)	2.24	3.14	18.1
Himachal Pradesh	0.025	0.132	0.116	0.052	0.019	0.003	(0.000)	1.74	2.03	15.7
Jammu & Kashmir	0.028	0.082	0.145	0.063	0.010	0.003	(0.000)	1.66	U	16.4
Punjab	0.015	0.145	0.143	0.047	0.007	0.000	(0.000)	1.79	2.48	15.4
Rajasthan	0.092	0.219	0.157	0.076	0.036	0.013	0.004	2.98	2.77	25.3
Central										
Madhya Pradesh	0.087	0.195	0.131	0.075	0.030	0.004	0.000	2.61	3.27	22.9
Uttar Pradesh	0.057	0.195	0.173	0.095	0.040	0.012	0.004	2.88	3.58	23.5
East										
Bihar	0.072	0.200	0.160	0.088	0.030	0.000	(0.000)	2.75	3.25	22.3
Orissa	0.057	0.166	0.123	0.059	0.023	0.009	(0.000)	2.19	2.53	20.1
West Bengal	0.049	0.133	0.102	0.047	0.007	0.000	0.000	1.69	2.14	15.1
Northeast										
Arunachal Pradesh	(0.045)	(0.158)	*	*	*	*	*	NC	NC	NC
Assam	0.040	0.110	0.084	0.052	0.014	0.000	(0.000)	1.50	2.53	15.8
Manipur	0.033	0.114	0.154	0.099	0.049	(0.014)	(0.008)	2.36	NC	21.4
Meghalaya	(0.030)	(0.182)	(0.138)	*	(0.063)	*	*	NC	NC	NC
Mizoram	0.038	0.143	0.144	0.091	0.046	(0.013)	*	2.37	NC	22.4
Nagaland	(0.034)	(0.187)	*	*	*	*	*	NC	NC	NC
Sikkim	(0.053)	(0.158)	*	*	*	*	*	NC	U	NC
West										
Goa	0.022	0.103	0.093	0.078	0.033	(0.008)	(0.000)	1.69	1.80	16.2
Gujarat	0.062	0.205	0.139	0.048	0.011	0.001	0.000	2.33	2.65	21.4
Maharashtra	0.094	0.185	0.111	0.045	0.014	0.000	0.000	2.24	2.54	21.6
South										
Andhra Pradesh	0.099	0.189	0.093	0.026	0.007	0.000	0.000	2.07	2.35	21.4
Karnataka	0.069	0.160	0.091	0.042	0.010	0.005	0.000	1.89	2.38	18.5
Kerala	0.013	0.128	0.097	0.042	0.022	0.000	0.000	1.51	1.78	14.8
Tamil Nadu	0.071	0.172	0.122	0.042	0.011	0.004	0.000	2.11	2.36	21.3

Table 4.3 Fertility by state (contd.)

NFHS-2 age-specific and total fertility rates (TFR) and crude birth rate for the three-year period preceding the survey, and NFHS-1 TFR, according to residence and state, India

State	NFHS-2 age-specific fertility rates							NFHS-2	NFHS-1	NFHS-2
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR	TFR	crude birth rate
RURAL										
India	0.121	0.222	0.150	0.075	0.033	0.011	0.004	3.07	3.67	26.2
North										
Delhi	(0.046)	(0.251)	*	*	*	*	*	NC	NC	NC
Haryana	0.116	0.260	0.150	0.062	0.018	0.013	0.008	3.13	4.32	25.0
Himachal Pradesh	0.030	0.210	0.132	0.044	0.014	0.006	0.000	2.18	3.07	20.4
Jammu & Kashmir	0.048	0.192	0.192	0.112	0.039	0.013	0.004	3.00	U	24.6
Punjab	0.050	0.197	0.165	0.053	0.015	0.005	0.000	2.42	3.09	20.9
Rajasthan	0.139	0.280	0.190	0.113	0.053	0.027	0.011	4.06	3.87	31.4
Central										
Madhya Pradesh	0.162	0.240	0.170	0.083	0.034	0.015	0.009	3.56	4.11	27.9
Uttar Pradesh	0.137	0.272	0.217	0.137	0.071	0.020	0.006	4.31	5.19	33.0
East										
Bihar	0.119	0.226	0.182	0.115	0.053	0.020	0.003	3.59	4.14	28.8
Orissa	0.081	0.175	0.140	0.073	0.023	0.006	0.001	2.50	3.00	22.4
West Bengal	0.125	0.185	0.112	0.047	0.019	0.004	0.006	2.49	3.25	22.7
Northeast										
Arunachal Pradesh	0.075	0.160	0.138	0.072	0.045	(0.016)	*	2.68	4.38	23.2
Assam	0.094	0.152	0.119	0.072	0.033	0.008	0.000	2.39	3.68	22.3
Manipur	0.044	0.139	0.181	0.189	0.080	0.032	(0.017)	3.41	3.03	27.8
Meghalaya	0.103	0.222	0.261	0.208	0.123	(0.094)	*	5.16	3.80	38.4
Mizoram	0.064	0.248	0.198	0.139	0.040	(0.005)	*	3.47	(2.30)	28.4
Nagaland	0.060	0.237	0.212	0.172	0.091	(0.025)	(0.014)	4.06	3.60	31.7
Sikkim	0.069	0.166	0.145	0.083	0.064	0.036	(0.012)	2.87	U	24.7
West										
Goa	0.017	0.083	0.141	0.099	0.021	0.005	0.000	1.83	1.99	16.9
Gujarat	0.105	0.250	0.156	0.056	0.023	0.009	0.006	3.03	3.17	26.4
Maharashtra	0.156	0.254	0.101	0.026	0.010	0.000	0.000	2.74	3.12	23.8
South										
Andhra Pradesh	0.144	0.186	0.085	0.031	0.014	0.003	0.000	2.32	2.67	21.4
Karnataka	0.135	0.180	0.089	0.033	0.009	0.002	0.002	2.25	3.08	21.4
Kerala	0.041	0.179	0.137	0.039	0.014	0.004	0.000	2.07	2.09	19.7
Tamil Nadu	0.090	0.199	0.120	0.026	0.009	0.002	0.000	2.23	2.54	21.5

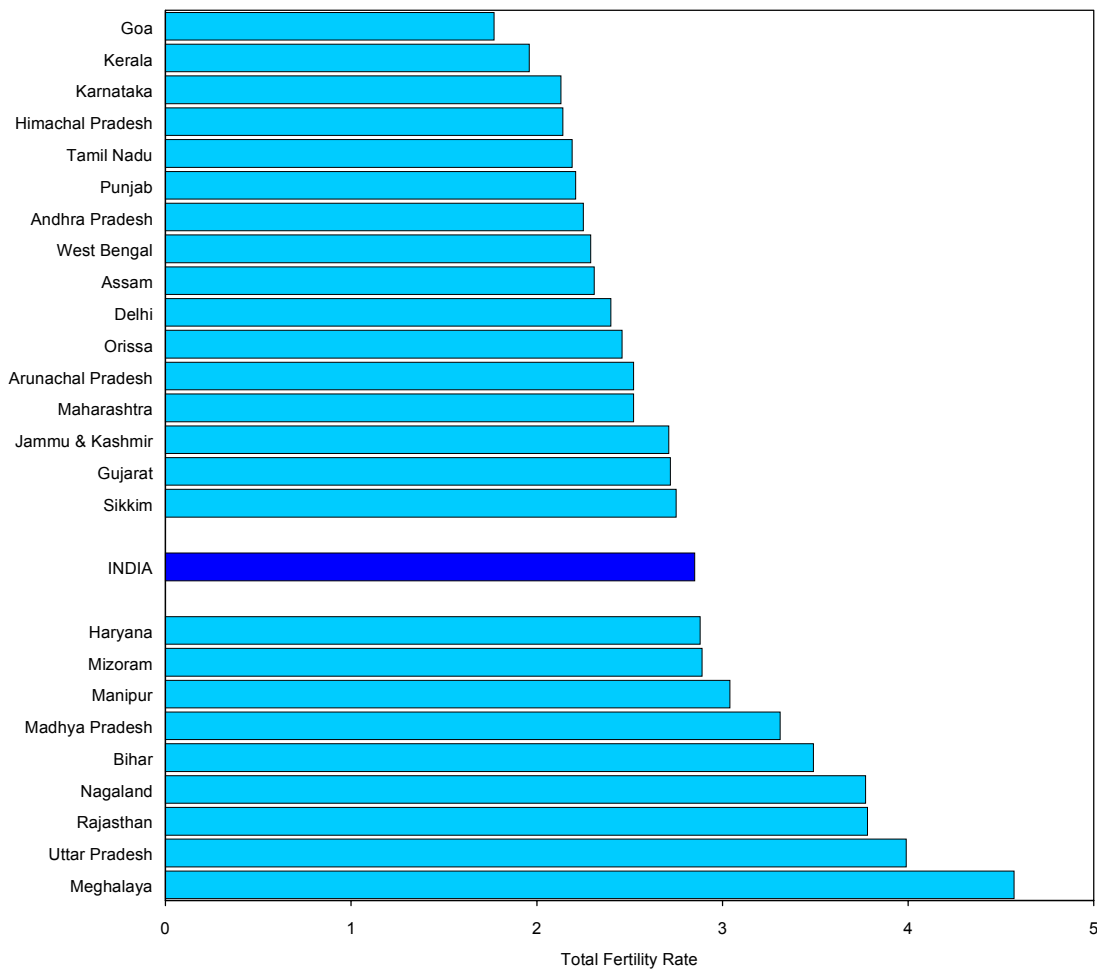
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	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR	TFR	crude birth rate
TOTAL										
India	0.107	0.210	0.143	0.069	0.028	0.008	0.003	2.85	3.39	24.8
North										
Delhi	0.036	0.191	0.174	0.059	0.017	0.003	0.000	2.40	3.02	21.3
Haryana	0.092	0.240	0.150	0.062	0.015	0.009	0.007	2.88	3.99	23.1
Himachal Pradesh	0.029	0.203	0.130	0.045	0.015	0.006	0.000	2.14	2.97	19.9
Jammu & Kashmir	0.044	0.171	0.181	0.100	0.033	0.010	0.003	2.71	U	23.1
Punjab	0.040	0.178	0.158	0.051	0.012	0.003	0.000	2.21	2.92	19.1
Rajasthan	0.126	0.264	0.181	0.103	0.048	0.023	0.009	3.78	3.63	29.9
Central										
Madhya Pradesh	0.142	0.228	0.159	0.081	0.033	0.012	0.006	3.31	3.90	26.7
Uttar Pradesh	0.120	0.256	0.208	0.127	0.064	0.018	0.006	3.99	4.82	31.1
East										
Bihar	0.113	0.223	0.180	0.112	0.050	0.018	0.002	3.49	4.00	28.1
Orissa	0.079	0.174	0.138	0.071	0.023	0.006	0.001	2.46	2.92	22.1
West Bengal	0.107	0.173	0.110	0.047	0.015	0.003	0.004	2.29	2.92	20.8
Northeast										
Arunachal Pradesh	0.066	0.160	0.129	0.068	0.043	(0.013)	*	2.52	4.25	22.6
Assam	0.089	0.149	0.116	0.070	0.031	0.007	0.000	2.31	3.53	21.8
Manipur	0.042	0.132	0.173	0.153	0.068	0.026	0.014	3.04	2.76	25.8
Meghalaya	0.086	0.211	0.232	0.184	0.105	0.080	(0.014)	4.57	3.73	35.7
Mizoram	0.054	0.188	0.167	0.110	0.048	0.009	(0.000)	2.89	2.30	25.7
Nagaland	0.056	0.224	0.203	0.162	0.076	0.023	(0.012)	3.77	3.26	30.4
Sikkim	0.065	0.171	0.141	0.078	0.053	0.032	(0.011)	2.75	U	24.5
West										
Goa	0.021	0.089	0.122	0.090	0.026	0.007	0.000	1.77	1.90	16.6
Gujarat	0.087	0.230	0.148	0.052	0.018	0.005	0.003	2.72	2.99	24.3
Maharashtra	0.129	0.223	0.106	0.034	0.012	0.000	0.000	2.52	2.86	23.0
South										
Andhra Pradesh	0.132	0.186	0.087	0.029	0.012	0.003	0.000	2.25	2.59	21.4
Karnataka	0.112	0.172	0.090	0.037	0.009	0.003	0.001	2.13	2.85	20.4
Kerala	0.039	0.166	0.128	0.040	0.016	0.003	0.000	1.96	2.00	18.8
Tamil Nadu	0.083	0.189	0.121	0.032	0.010	0.003	0.000	2.19	2.48	21.4

NC: Not calculated because there are too few women
U: Not available
() Rate based on 125-249 woman-years of exposure
*Rate not shown; based on fewer than 125 woman-years of exposure

Figure 4.3
Total Fertility Rate by State



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

NFHS-2, India, 1998–99

4.3 Fertility Differentials and Trends

Table 4.4 and Figure 4.4 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. In NFHS-2, the TFR for India is 1.5 children higher for illiterate women than for women with at least a high school education. The TFR is 0.8 child higher for Muslims than for Hindus, and both of these groups have much higher fertility than any other religious group. By caste/tribe, the TFR is 0.5 child higher for scheduled-caste women, 0.4 child higher for scheduled-tribe women, and 0.2 child higher for OBC women than for women who do not belong to any of these groups. The TFR is 1.3 children higher for women living in households with a low standard of living and 0.8 child higher for women living in households with a medium standard of living than for women living in households with a high standard of living. Fertility transitions in other countries have shown that fertility differentials typically diverge early in the transition and reconverge (though rarely completely) towards the end of the transition as fertility approaches the replacement level. India as a whole still has fairly large fertility differentials.

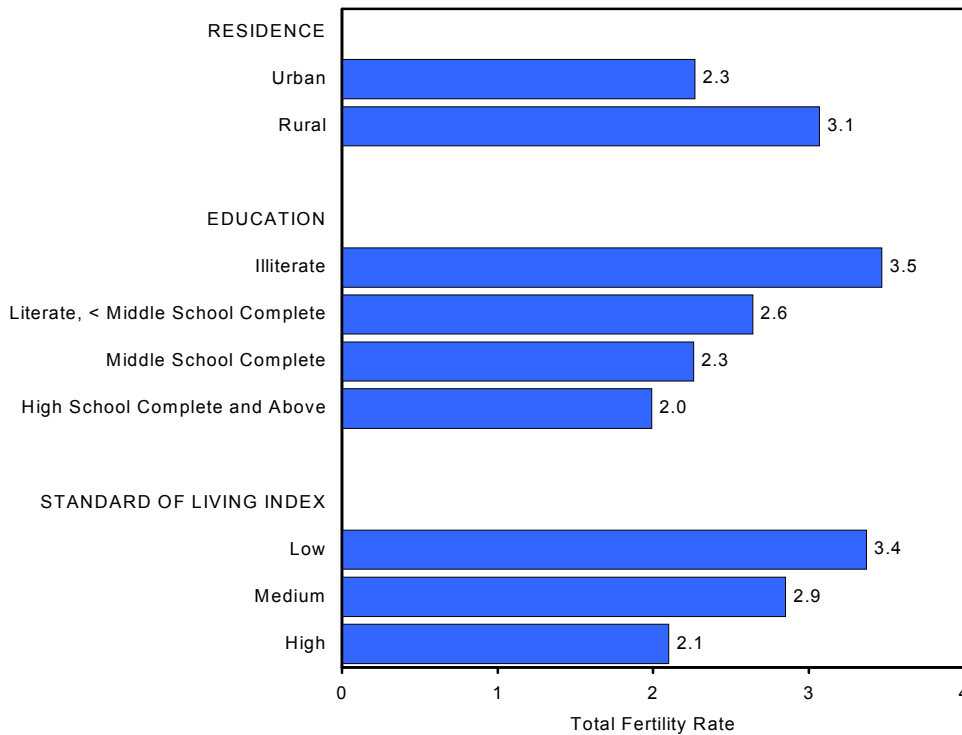
Table 4.4 Fertility by background characteristics

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 ever-married women age 40–49 by selected background characteristics, India, 1998–99

Background characteristic	Total fertility rate ¹	Percentage currently pregnant ²	Mean number of children ever born to ever-married women age 40–49 years
Residence			
Urban	2.27	4.4	3.78
Rural	3.07	6.1	4.73
Education			
Illiterate	3.47	6.2	4.98
Literate, < middle school complete	2.64	5.4	4.06
Middle school complete	2.26	5.1	3.41
High school complete and above	1.99	4.7	2.66
Religion			
Hindu	2.78	5.5	4.34
Muslim	3.59	6.9	5.72
Christian	2.44	4.3	3.47
Sikh	2.26	4.8	3.59
Jain	1.90	*	3.32
Buddhist/Neo-Buddhist	2.13	3.7	4.05
Other	2.33	5.0	4.33
No religion	3.91	*	(5.62)
Caste/tribe			
Scheduled caste	3.15	6.1	4.85
Scheduled tribe	3.06	6.8	4.74
Other backward class	2.83	5.6	4.43
Other	2.66	5.1	4.20
Standard of living index			
Low	3.37	6.4	4.81
Medium	2.85	5.8	4.67
High	2.10	4.1	3.61
Total	2.85	5.6	4.45
<p>Note: Total includes women with missing information on education, religion, caste/tribe, and the standard of living index, who are not shown separately. () Based on 25–49 unweighted cases *Percentage not shown; based on fewer than 25 unweighted cases ¹Rate for women age 15–49 years ²For this calculation, it is assumed that women who are never married, widowed, divorced, separated, or deserted are not currently pregnant.</p>			

Overall, 6 percent of women age 15–49 report that they are currently pregnant. Differentials in the percentage of women who are currently pregnant do not always parallel differentials in the TFR. In Table 4.4, for example, Sikhs have a slightly lower TFR than Christians but a higher percentage currently pregnant. Such apparent inconsistencies can occur because the TFR is not affected by age structure, whereas the percentage currently pregnant is affected by age structure, which can vary from one group to the next. In most cases in the table, however, the direction of differentials in the percentage currently pregnant parallels the direction of differentials in the TFR.

Figure 4.4
Total Fertility Rate by Selected Background Characteristics



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

NFHS-2, India, 1998–99

The last column of Table 4.4 shows the mean number of children ever born to ever-married women age 40–49 at the time of the survey. The average number of children ever born for these women, who are at the end of their childbearing years, is 4.5. The substantial decline in fertility in India over time is evident from the difference of 1.6 children between the average number of children for women who are currently in their forties and the number of children women would have in their lifetime if they were subject to the current age-specific fertility rates (the last column and first column of Table 4.4). 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 religion are again a partial exception. Exceptions can occur because the mean number of children ever born at age 40–49 reflects fertility in the past, whereas the TFR only reflects fertility in the three years preceding the survey.

The preceding section already discussed fertility trends based on estimates from NFHS-1 and NFHS-2 for the three-year period preceding each survey. Table 4.5 shows fertility trends for five-year time periods preceding NFHS-2, estimated solely from NFHS-2 birth histories. 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, for example, 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

Table 4.5 Fertility trends				
Age-specific fertility rates for five-year periods preceding the survey by residence, India, 1998–99				
Age	Years preceding survey			
	0–4	5–9	10–14	15–19
URBAN				
15–19	0.072	0.101	0.125	0.138
20–24	0.186	0.221	0.253	0.268
25–29	0.132	0.162	0.183	0.210
30–34	0.059	0.071	0.101	[0.132]
35–39	0.019	0.031	[0.047]	U
40–44	0.004	[0.008]	U	U
45–49	[0.001]	U	U	U
RURAL				
15–19	0.132	0.182	0.198	0.190
20–24	0.231	0.282	0.295	0.298
25–29	0.157	0.197	0.222	0.242
30–34	0.079	0.111	0.136	[0.175]
35–39	0.036	0.057	[0.075]	U
40–44	0.012	[0.025]	U	U
45–49	[0.004]	U	U	U
TOTAL				
15–19	0.116	0.160	0.177	0.174
20–24	0.218	0.264	0.282	0.289
25–29	0.150	0.186	0.210	0.232
30–34	0.073	0.099	0.125	[0.162]
35–39	0.031	0.049	[0.066]	U
40–44	0.010	[0.020]	U	U
45–49	[0.003]	U	U	U
Note: Age-specific fertility rates are expressed per woman.				
U: Not available				
[] Truncated, censored				

not possible to compute ASFRs for the oldest three age groups. Thus Table 4.5 shows only the truncated trends in ASFRs. Results are shown separately for urban and rural areas as well as for the entire country. These results show very substantial fertility declines in every age group over a 15-year period in both urban and rural areas. In many cases, age-specific fertility declined by half or more. The proportionate decline tends to be 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 4.5. This is done by summing ASFRs for the age groups 15–19 through 35–39 and multiplying the sum by five. For India as a whole, CFR(15–39) declined from 3.8 to 2.9 over the five-year period, a decline of 0.9 child. The decline was 0.6 for urban areas and 1.0 for rural areas, indicating that fertility fell slightly more rapidly in rural areas than in urban areas during the 10 years before the survey. 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 India 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).

Table 4.6 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, India, 1998–99				
Duration since first cohabitation (in years)	Years preceding survey			
	0–4	5–9	10–14	15–19
URBAN				
< 5	0.307	0.324	0.340	0.335
5–9	0.161	0.202	0.233	0.271
10–14	0.073	0.100	0.135	0.183
15–19	0.031	0.047	0.082	0.123
20–24	0.010	0.026	0.057	*
25–29	0.004	0.007	*	U
RURAL				
< 5	0.302	0.331	0.332	0.310
5–9	0.220	0.275	0.285	0.298
10–14	0.126	0.166	0.197	0.227
15–19	0.065	0.097	0.127	0.172
20–24	0.030	0.053	0.081	(0.118)
25–29	0.010	0.029	(0.086)	U
TOTAL				
< 5	0.303	0.329	0.335	0.317
5–9	0.205	0.256	0.271	0.290
10–14	0.112	0.148	0.180	0.216
15–19	0.056	0.083	0.115	0.162
20–24	0.025	0.046	0.076	0.115
25–29	0.009	0.025	0.078	U
Note: Duration-specific fertility rates are 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				

Another way of looking at fertility is to calculate fertility rates by the number of years since the first cohabitation with the husband. These rates are measures of marital fertility, i.e., fertility within marriage. Table 4.6 shows fertility rates by duration since first cohabitation for ever-married women for four five-year periods preceding the survey¹. Fertility has declined at all durations, but more so at the longer durations. The limited decline of fertility at duration 0–4 years since first cohabitation is typical of populations in which contraception is initiated only after the first birth or later, as is the case in India (see Table 5.8). The large overall declines in fertility rates by duration since first cohabitation confirm the earlier observation that fertility within marriage has declined substantially in India. It is also evident from Table 4.6 that marital fertility is lower in urban areas than in rural areas at most durations for most time periods.

¹Because 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 4.7 Outcome of pregnancy by state					
Percent distribution of all pregnancies of ever-married women by their outcome, according to state, India, 1998–99					
State	Spontaneous abortion	Induced abortion	Stillbirth	Live birth	Total percent
India–Urban	5.2	3.4	1.5	89.9	100.0
India–Rural	4.2	1.1	2.1	92.6	100.0
India–Total	4.4	1.7	2.0	91.9	100.0
North					
Delhi	5.8	4.7	1.3	88.2	100.0
Haryana	5.7	1.4	3.0	90.0	100.0
Himachal Pradesh	4.5	1.6	2.6	91.3	100.0
Jammu & Kashmir	5.1	2.6	1.8	90.5	100.0
Punjab	4.1	3.0	2.9	90.0	100.0
Rajasthan	5.0	0.9	2.1	91.9	100.0
Central					
Madhya Pradesh	3.8	1.0	1.8	93.4	100.0
Uttar Pradesh	4.5	1.4	1.8	92.4	100.0
East					
Bihar	3.2	0.3	2.1	94.4	100.0
Orissa	5.4	1.6	2.1	90.9	100.0
West Bengal	4.0	2.2	1.8	91.9	100.0
Northeast					
Arunachal Pradesh	2.6	0.7	3.1	93.5	100.0
Assam	6.1	3.3	3.2	87.4	100.0
Manipur	6.6	6.3	1.2	85.8	100.0
Meghalaya	5.2	0.7	3.3	90.9	100.0
Mizoram	5.3	0.6	2.3	91.8	100.0
Nagaland	5.8	2.3	2.3	89.5	100.0
Sikkim	2.1	0.9	2.9	94.0	100.0
West					
Goa	7.1	3.9	1.1	87.9	100.0
Gujarat	4.9	2.1	1.4	91.6	100.0
Maharashtra	3.8	1.9	1.5	92.8	100.0
South					
Andhra Pradesh	4.0	0.8	2.3	92.9	100.0
Karnataka	4.0	0.9	2.3	92.8	100.0
Kerala	5.7	1.9	1.2	91.2	100.0
Tamil Nadu	6.2	5.2	2.5	86.2	100.0

4.4 Pregnancy Outcomes

Table 4.7 shows the percent distribution of all pregnancies of ever-married women age 15–49 by their outcome, for all India and states. The possible outcomes considered are spontaneous abortion, induced abortion, stillbirth, and live birth. Information on pregnancies that did not result in a live birth is collected on the birth history. For each interval between births, as well as the interval before the first birth and after the last birth, the respondent was asked whether she had any stillbirths, spontaneous abortions, or induced abortions (and, if yes, how many she had). This information is summed to obtain the total number of non-live births of each type she has had in her lifetime. In most countries, the reporting of non-live births (particularly induced

abortions) is inadequate, so it is likely that there is some underreporting of these events in NFHS-2.

In India, 92 percent of pregnancies resulted in a live birth, 4 percent in a spontaneous abortion, 2 percent in an induced abortion, and 2 percent in a stillbirth. The proportion resulting in a spontaneous abortion is one percentage point higher in urban areas than in rural areas, the proportion resulting in an induced abortion is two percentage points higher in urban areas than in rural areas, and the proportion resulting in a stillbirth is one percentage point lower in urban areas than in rural areas. The reported rate of induced abortion in urban areas, though higher than in rural areas, is quite low.

By state, the proportion of pregnancies resulting in a spontaneous abortion ranges from 2 percent in Sikkim to 7 percent in Goa and Manipur, and the proportion of pregnancies resulting in an induced abortion ranges from 0.3 percent in Bihar to 6 percent in Manipur. In addition to Manipur, Delhi and Tamil Nadu stand out as having a relatively high proportion (5 percent) of pregnancies resulting in an induced abortion. The proportion of pregnancies resulting in a stillbirth ranges from 1.1 percent in Goa to 3.3 percent in Meghalaya.

4.5 Children Ever Born and Living

The number of children a woman has ever borne 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 4.8 shows the percent distribution of all women and currently married women by the number of children ever born (CEB). The table shows these distributions by the age of the woman at the time of the survey and also shows the mean number of children ever born and living children.

Among women age 15–49 in India, the mean number of children ever born is 2.4 for all women irrespective of marital status, and 3.0 for currently married women. The mean number of children ever born increases steadily with age, reaching a high of 4.6 children for all women age 45–49 and 4.8 children for currently married women age 45–49. The table also shows that early childbearing is fairly common in India. Sixteen percent of all women age 15–19 and nearly half of currently married women age 15–19 have already had a child.

For women age 45–49, the number of children ever born is of particular interest because these women have virtually completed their childbearing. For all women in this age group, the modal number of children is four. Eighteen percent of these women have reached the end of childbearing with four children ever born. Among currently married women age 45–49, the modal number of children is also four; 18 percent of these women have also reached the end of childbearing with four children ever born. More than one-third of currently married women in this age group (35 percent) have had six or more live births, and half have had five or more live births. Only two percent of currently married women age 45–49 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 India.

Table 4.8 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, India, 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	83.6	11.9	3.8	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	23,735	0.21	0.19
20–24	35.8	23.4	23.7	12.0	3.8	0.9	0.2	0.0	0.0	0.0	0.0	100.0	21,006	1.28	1.16
25–29	12.2	12.4	26.6	23.9	14.5	6.6	2.7	0.7	0.2	0.0	0.0	100.0	18,954	2.52	2.27
30–34	6.1	7.3	20.9	23.4	17.6	11.4	7.1	3.7	1.5	0.7	0.3	100.0	15,481	3.36	2.96
35–39	4.5	5.3	16.9	22.4	18.3	12.6	8.8	5.5	2.9	1.6	1.3	100.0	13,287	3.84	3.33
40–44	3.8	4.4	13.4	18.6	18.1	14.9	10.2	6.9	4.4	2.6	2.7	100.0	10,625	4.31	3.62
45–49	3.8	4.0	10.7	16.7	17.7	14.0	12.3	8.1	5.4	3.6	3.7	100.0	8,249	4.62	3.79
Total	28.7	11.5	16.8	15.4	10.9	6.9	4.4	2.6	1.4	0.8	0.7	100.0	111,336	2.40	2.08
CURRENTLY MARRIED WOMEN															
15–19	52.2	34.8	11.1	1.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	100.0	8,014	0.63	0.57
20–24	17.3	29.9	30.5	15.7	5.0	1.2	0.3	0.0	0.0	0.0	0.0	100.0	15,930	1.66	1.50
25–29	5.8	12.7	28.5	25.9	15.8	7.2	3.0	0.8	0.3	0.1	0.0	100.0	17,055	2.73	2.45
30–34	3.0	6.8	21.4	24.4	18.3	12.1	7.4	4.0	1.6	0.7	0.3	100.0	14,286	3.51	3.10
35–39	2.2	4.5	17.1	22.9	19.2	13.0	9.2	5.8	3.2	1.7	1.3	100.0	12,052	3.99	3.47
40–44	2.1	3.9	12.9	18.7	18.8	15.4	10.6	7.3	4.6	2.8	2.9	100.0	9,363	4.46	3.75
45–49	2.3	3.2	10.3	16.6	18.2	14.6	13.0	8.5	5.6	3.9	4.0	100.0	6,948	4.79	3.94
Total	10.7	14.1	21.1	19.4	13.7	8.6	5.5	3.2	1.8	1.0	0.9	100.0	83,649	3.00	2.62

For all women age 15–49, the average number of dead children per woman is 0.32. For currently married women it is 0.38, implying that 13 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. For currently married women, the proportion of children ever born who have died increases from 10 percent for women age 20–24 to 18 percent for women age 45–49.

4.6 Birth Order

The distribution of births by birth order is yet another way to view fertility. Table 4.9 shows the distribution of births during the three-year period before the survey by birth order for selected background characteristics. Overall, as expected, the proportion of births at each order is larger than the proportion at the next higher order. Twenty-nine percent of all births are first-order births, 26 percent are second-order births, 18 percent are third-order births, and 28 percent are births of order four or higher.

Over 70 percent of births to mothers age 15–19 are of order one; by contrast, over 70 percent 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 19 percent in urban areas and 30 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-tribe women. By work status, 34–36 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. This finding may be partly explained by the fact that working women come disproportionately from rural areas, where fertility is relatively high. For women living in households with a low standard of living, the proportion of births of order four or higher is 37 percent, compared with only 12 percent for women living in households with a high standard of living.

Table 4.10 shows how the percent distribution of births by birth order varies among the various states of India. The proportion of births that are of order four or higher ranges from 7 percent in Kerala to 47 percent in Meghalaya. In all of the seven states with a total fertility rate of 3.0 or higher, at least 30 percent of recent births are of order four or higher. In the two states with the lowest level of fertility (Goa and Kerala), only 7–8 percent of births are of order four or higher.

4.7 Birth Intervals

A birth interval, defined as the length of time between two successive live births, indicates the pace of childbearing. Short birth intervals may 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 4.11 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 India, 13 percent of births occur within 18 months of a previous birth and 28 percent occur within 24 months. Thirty-eight percent of births occur after an interval of three years or more.

Table 4.9 Birth order

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

Background characteristic	Birth order				Total percent	Number of births
	1	2	3	4+		
Mother's current age						
15–19	73.3	22.9	3.5	0.4	100.0	4,209
20–29	27.5	30.8	21.8	20.0	100.0	22,147
30–39	4.5	10.3	13.3	71.9	100.0	5,658
40–49	0.3	2.2	4.6	92.9	100.0	483
Residence						
Urban	35.4	29.6	15.8	19.2	100.0	7,215
Rural	27.1	24.7	18.2	29.9	100.0	25,282
Mother's education						
Illiterate	21.5	21.4	18.9	38.2	100.0	19,132
Literate, < middle school complete	31.9	29.0	19.5	19.6	100.0	5,832
Middle school complete	41.7	33.7	15.3	9.3	100.0	2,948
High school complete and above	48.5	35.1	11.9	4.6	100.0	4,580
Religion						
Hindu	29.7	26.3	17.9	26.2	100.0	25,730
Muslim	24.2	22.3	16.3	37.3	100.0	5,140
Christian	35.2	29.9	16.1	18.8	100.0	755
Sikh	32.8	30.8	20.6	15.8	100.0	451
Jain	36.2	41.1	16.5	6.2	100.0	76
Buddhist/Neo-Buddhist	34.4	26.2	22.1	17.3	100.0	199
Other	22.9	24.4	25.0	27.7	100.0	87
No religion	17.4	19.7	15.9	47.0	100.0	24
Caste/tribe						
Scheduled caste	26.6	24.1	17.9	31.5	100.0	6,505
Scheduled tribe	24.1	23.5	18.5	34.0	100.0	3,091
Other backward class	29.7	26.4	17.7	26.2	100.0	10,431
Other	31.2	27.0	17.2	24.5	100.0	12,086
Mother's work status						
Working in family farm/business	22.0	22.5	19.9	35.6	100.0	4,203
Employed by someone else	23.4	23.4	19.4	33.8	100.0	4,808
Self-employed	25.3	23.1	16.1	35.5	100.0	1,102
Not worked in past 12 months	31.7	27.1	17.0	24.3	100.0	22,373
Standard of living index						
Low	22.9	21.9	18.4	36.7	100.0	11,844
Medium	30.0	26.5	17.8	25.7	100.0	15,131
High	39.7	33.1	15.5	11.7	100.0	5,125
Total	29.0	25.8	17.7	27.5	100.0	32,496

Note: Total includes 5, 33, 383, 9, and 397 births with missing information on mother's education, religion, caste/tribe, mother's work status, and the standard of living index, respectively, which are not shown separately.

Table 4.10 Birth order by state

Percent distribution of births during the three years preceding the survey by birth order, according to state, India, 1998–99

State	Birth order				Total percent
	1	2	3	4+	
India	29.0	25.8	17.7	27.5	100.0
North					
Delhi	31.5	29.1	17.8	21.6	100.0
Haryana	29.0	29.3	16.8	24.9	100.0
Himachal Pradesh	35.8	30.9	19.3	14.0	100.0
Jammu & Kashmir	25.8	23.9	18.1	32.2	100.0
Punjab	31.7	28.6	21.2	18.5	100.0
Rajasthan	24.7	22.5	18.0	34.8	100.0
Central					
Madhya Pradesh	25.1	22.2	17.7	35.0	100.0
Uttar Pradesh	21.7	20.3	18.1	39.9	100.0
East					
Bihar	23.2	22.1	17.4	37.3	100.0
Orissa	29.0	28.1	18.4	24.5	100.0
West Bengal	34.5	29.0	16.6	19.9	100.0
Northeast					
Arunachal Pradesh	27.2	26.6	16.5	29.7	100.0
Assam	31.0	25.2	16.3	27.5	100.0
Manipur	28.6	24.3	16.7	30.4	100.0
Meghalaya	19.8	20.2	13.5	46.5	100.0
Mizoram	29.1	25.0	23.2	22.7	100.0
Nagaland	20.8	19.6	16.4	43.2	100.0
Sikkim	37.2	20.9	14.7	27.3	100.0
West					
Goa	45.9	29.3	17.0	7.8	100.0
Gujarat	31.2	27.9	20.1	20.8	100.0
Maharashtra	33.0	27.9	21.1	18.0	100.0
South					
Andhra Pradesh	36.4	32.2	16.5	15.0	100.0
Karnataka	36.1	30.3	14.9	18.8	100.0
Kerala	40.0	39.0	14.3	6.7	100.0
Tamil Nadu	42.9	34.0	14.0	9.1	100.0

The median closed birth interval in India is 31 months. The median closed birth interval for women age 15–19 is 24 months, which is substantially less than the median interval of 36 months for women age 30–39. The relatively short birth interval for women age 15–19 at the time of the survey may result partly from a selection effect: Only women who have had two or more births are included in the table, and women age 15–19 with more than one birth 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 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.

Table 4.11 Birth interval

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

Demographic/ background characteristic	Months since previous birth						Total percent	Median open birth interval ¹	Median closed birth interval ²	Number of births
	< 12	12–17	18–23	24–35	36–47	48+				
Mother's current age										
15–19	4.0	21.2	23.5	36.7	12.2	2.5	100.0	10.0	24.3	1,193
20–29	2.6	11.0	17.2	36.2	19.5	13.5	100.0	20.3	29.3	26,305
30–39	2.0	7.1	11.9	30.2	20.8	28.0	100.0	29.5	35.5	11,183
40–49	3.3	7.1	11.9	24.8	17.5	35.5	100.0	38.4	37.3	1,215
Residence										
Urban	2.2	11.0	16.2	31.8	17.7	21.0	100.0	25.1	30.9	8,017
Rural	2.5	9.8	15.6	34.8	20.0	17.2	100.0	22.3	30.8	31,878
Mother's education										
Illiterate	2.6	9.9	15.0	34.7	20.2	17.6	100.0	22.4	31.0	26,674
Literate, < middle school complete	2.1	10.3	17.6	35.2	18.7	16.1	100.0	24.0	29.6	6,779
Middle school complete	2.2	10.1	19.0	33.8	17.3	17.6	100.0	22.6	29.6	2,728
High school complete and above	1.9	10.9	15.0	29.5	18.4	24.3	100.0	24.3	32.5	3,706
Religion										
Hindu	2.4	9.7	15.5	34.2	20.0	18.1	100.0	23.0	31.1	31,277
Muslim	2.8	11.3	16.3	34.3	17.6	17.6	100.0	21.9	29.7	6,777
Christian	1.7	9.5	18.0	33.3	18.8	18.8	100.0	22.6	30.9	824
Sikh	3.1	14.5	17.9	32.2	17.5	14.8	100.0	26.7	28.2	529
Jain	2.7	12.0	12.2	25.9	22.7	24.6	100.0	19.8	33.3	75
Buddhist/Neo-Buddhist	0.6	10.8	18.0	39.4	15.1	16.2	100.0	21.8	29.6	230
Other	1.7	11.9	11.7	41.7	19.4	13.6	100.0	23.9	30.1	115
No religion	6.8	6.3	17.1	35.1	12.7	22.0	100.0	24.6	27.6	31
Caste/tribe										
Scheduled caste	2.6	9.8	14.9	35.2	20.5	17.1	100.0	21.4	30.7	8,106
Scheduled tribe	2.8	10.5	16.0	35.7	19.4	15.6	100.0	22.5	29.9	4,133
Other backward class	2.2	9.6	15.9	34.3	19.8	18.2	100.0	23.2	31.1	12,686
Other	2.5	10.5	16.1	33.3	18.7	18.9	100.0	23.9	30.7	14,384
Standard of living index										
Low	2.6	9.5	15.1	35.0	20.0	17.8	100.0	22.4	31.0	16,073
Medium	2.4	10.2	16.3	34.7	19.6	16.7	100.0	22.8	30.4	18,212
High	2.2	11.3	15.8	29.7	18.4	22.6	100.0	24.9	31.7	5,149
Order of previous birth										
1	2.5	11.0	16.4	32.8	18.6	18.7	100.0	21.4	30.7	14,325
2	2.1	9.4	16.2	35.2	19.9	17.2	100.0	22.3	30.8	9,713
3	1.8	9.4	15.7	35.3	20.3	17.4	100.0	24.4	31.0	6,102
4+	3.2	9.8	14.3	34.6	20.2	17.9	100.0	25.1	30.8	9,756
Sex of previous birth										
Male	2.4	9.9	15.6	34.1	20.0	18.0	100.0	24.1	31.1	19,526
Female	2.5	10.3	15.8	34.4	19.2	17.9	100.0	21.8	30.6	20,369

Contd...

Table 4.11 Birth interval (contd.)

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

Demographic/ background characteristic	Months since previous birth						Total percent	Median open birth interval ¹	Median closed birth interval ²	Number of births
	< 12	12–17	18–23	24–35	36–47	48+				
Survival of previous birth										
Living	1.9	8.8	15.5	34.8	20.3	18.8	100.0	23.0	31.6	35,278
Dead	6.9	20.1	17.7	30.0	13.9	11.4	100.0	21.8	25.2	4,618
Total	2.5	10.1	15.7	34.2	19.6	17.9	100.0	22.9	30.8	39,896

Note: Table includes only second- and higher-order births except for the median open birth interval, which is based on all births. The interbirth interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth. Total includes 10, 38, 587, and 461 births with missing information on mother's education, religion, caste/tribe, and the standard of living index, respectively, which are not shown separately.

¹Median number of months between the date of interview and the most recent birth

²Median number of months between the most recent birth and the previous birth

The median birth interval is shorter if the previous child was a girl than if it was a boy, but the difference is only 0.5 months. This pattern may result from the shorter duration of breastfeeding for girls, which is indicative of son preference (see Table 7.12). Birth intervals are much shorter if the previous child died (25 months) than if the previous child survived (32 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. Very few women in India use temporary methods of contraception, however, so that the main effect is probably through prematurely terminated breastfeeding.

Birth intervals are virtually the same in urban areas and rural areas. Birth intervals are somewhat longer for illiterate mothers and mothers with at least a high school education than for mothers with intermediate levels of education. The median interval between births is slightly shorter for Muslim and Sikh mothers than for Hindu and Christian mothers. Birth intervals show little variation by caste/tribe or the standard of living. The median open birth interval (the interval between the most recent birth and the time of the survey) is 23 months. The median open birth interval rises dramatically with age from only 10 months for teenage mothers to 38 months for mothers in their forties. For women in all other subgroups (except for Sikh women), the median open birth interval varies between only 20 months and 25 months.

Table 4.12 shows how birth intervals vary among the states of India. The median closed birth interval ranges from 27.5 months in Nagaland to 38.1 months in Kerala. States with a median closed birth interval of 33 months or longer are Kerala, Goa, Delhi, and West Bengal. In Kerala, 36 percent of births have an interval since the preceding birth of at least 48 months (compared with a national average of 18 percent of births).

Table 4.12 Birth interval by state

Percent distribution of births during the five years preceding the survey by interval since previous birth, according to state, India, 1998–99

State	Months since previous birth						Total percent	Median open birth interval ¹	Median closed birth interval ²
	< 12	12–17	18–23	24–35	36–47	48+			
India	2.5	10.1	15.7	34.2	19.6	17.9	100.0	22.9	30.8
North									
Delhi	3.2	12.0	13.1	26.4	20.4	24.9	100.0	24.6	33.6
Haryana	2.1	11.0	16.3	34.4	20.1	16.1	100.0	22.6	30.0
Himachal Pradesh	1.3	13.4	17.3	36.0	16.6	15.3	100.0	24.4	29.4
Jammu & Kashmir	1.8	8.6	14.5	33.8	20.4	21.0	100.0	23.2	32.5
Punjab	3.6	14.7	17.4	32.0	16.6	15.5	100.0	26.1	28.0
Rajasthan	3.1	11.0	15.9	36.3	19.3	14.4	100.0	21.5	29.5
Central									
Madhya Pradesh	3.2	9.4	15.8	36.1	19.9	15.5	100.0	22.2	30.2
Uttar Pradesh	3.2	11.1	14.8	33.7	20.6	16.6	100.0	20.8	30.4
East									
Bihar	2.4	8.2	14.6	34.4	21.2	19.2	100.0	22.2	32.3
Orissa	1.9	9.1	13.8	31.6	21.6	21.9	100.0	24.0	32.9
West Bengal	1.6	8.0	13.4	31.9	20.5	24.5	100.0	25.1	33.6
Northeast									
Arunachal Pradesh	1.5	13.0	15.8	35.2	20.3	14.2	100.0	28.8	29.9
Assam	2.1	10.3	15.7	34.9	19.2	17.7	100.0	26.3	30.6
Manipur	0.1	11.0	15.7	35.5	18.7	18.8	100.0	22.2	31.8
Meghalaya	1.2	12.8	17.9	36.9	16.3	14.9	100.0	19.6	28.5
Mizoram	0.5	11.3	21.1	35.5	15.8	15.7	100.0	22.5	28.4
Nagaland	0.7	11.4	20.0	40.5	17.3	10.1	100.0	19.8	27.5
Sikkim	2.0	11.7	15.9	30.4	17.3	22.6	100.0	22.7	32.6
West									
Goa	0.6	8.7	13.7	30.8	16.5	29.6	100.0	25.8	34.8
Gujarat	1.8	12.3	17.8	35.9	16.6	15.6	100.0	20.7	29.0
Maharashtra	1.7	9.0	19.9	36.0	17.8	15.5	100.0	23.2	29.0
South									
Andhra Pradesh	2.4	10.1	14.8	35.0	19.1	18.5	100.0	24.2	31.1
Karnataka	1.1	9.9	19.3	35.5	18.4	15.8	100.0	24.8	29.7
Kerala	1.2	8.4	11.7	24.4	18.1	36.2	100.0	25.3	38.1
Tamil Nadu	1.7	11.3	17.3	33.0	16.5	20.3	100.0	25.4	30.5

Note: Table includes only second- and higher-order births except for the median open birth interval, which is based on all births. The interbirth interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth.

¹Median number of months between the date of interview and the most recent birth

²Median number of months between the most recent birth and the previous birth

4.8 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 4.13 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

Table 4.13 Median age at first birth

Median age at first birth among women age 20–49 years by current age and selected background characteristics, India, 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	21.3	20.6	20.3	20.3	20.3	NC	20.6
Rural	19.7	19.0	18.8	19.0	18.9	19.2	19.1	19.0
Education								
Illiterate	18.5	18.2	18.3	18.6	18.6	18.9	18.5	18.5
Literate, < middle school complete	19.8	19.4	19.2	19.4	19.4	19.7	19.5	19.4
Middle school complete	NC	20.8	20.7	20.8	20.5	20.5	NC	20.7
High school complete and above	NC	23.5	23.1	23.2	23.2	23.2	NC	23.3
Religion								
Hindu	NC	19.5	19.3	19.3	19.2	19.5	19.6	19.4
Muslim	19.8	19.2	18.8	18.9	18.8	18.8	19.1	18.9
Christian	NC	23.1	22.1	21.9	22.6	21.3	NC	22.2
Sikh	NC	21.3	21.4	21.5	21.7	22.5	NC	21.5
Jain	NC	22.5	20.7	21.0	(21.1)	20.9	NC	21.2
Buddhist/Neo-Buddhist	NC	19.4	18.4	18.7	19.6	18.5	19.5	19.1
Other	NC	19.5	18.6	19.9	19.3	20.0	19.9	19.5
No religion	NC	(19.6)	(19.2)	(20.7)	*	*	NC	19.7
Caste/tribe								
Scheduled caste	19.8	18.9	18.5	18.6	18.6	18.8	18.9	18.7
Scheduled tribe	19.4	18.8	18.6	18.9	18.9	19.1	18.9	18.8
Other backward class	NC	19.5	19.3	19.3	19.1	19.4	19.5	19.3
Other	NC	20.1	19.9	19.9	19.8	20.0	NC	20.0
Standard of living index								
Low	18.7	18.3	18.3	18.7	18.7	18.8	18.5	18.5
Medium	NC	19.6	19.2	19.1	19.0	19.4	19.5	19.3
High	NC	22.0	21.3	21.1	20.7	20.5	NC	21.2
Total	NC	19.6	19.3	19.4	19.3	19.5	19.6	19.4

Note: Total includes women with missing information on education, religion, caste/tribe, and the standard of living index, who are not shown separately.
 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

age by which half of all mothers in the group have had a first birth. If the median age at first birth 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 India as a whole appears to have increased slightly in recent years, from 19.3 years for women age 30–34 to 19.6 years for women age 25–29. Among all women age 25–49, the median age at first birth is 1.6 years higher in urban areas than in rural areas. The median increases especially sharply between the 30–34 and 25–29 age cohorts in urban areas and between the 25–29 and 20–24 age cohorts in rural areas. The median age at first birth is almost five years higher for women who have completed at least high school than for illiterate women. The median is 0.5 year higher for

Table 4.14 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 and residence, India, 1998–99											
Current age	Age at last birth								Total percent	Median age at last birth	Number of women
	No birth	< 20	20–24	25–29	30–34	35–39	40–44	45–49			
URBAN											
40–44	3.1	3.1	23.9	36.8	23.3	8.7	1.1	NA	100.0	28.0	3,135
45–49	3.1	2.7	18.1	36.6	25.3	12.1	2.0	0.2	100.0	28.8	2,473
40–49	3.1	2.9	21.3	36.7	24.2	10.2	1.5	0.1	100.0	28.4	5,608
RURAL											
40–44	2.7	3.8	19.1	33.6	24.2	13.9	2.7	NA	100.0	29.0	7,387
45–49	2.9	3.3	13.9	27.5	29.6	15.8	6.2	0.7	100.0	30.7	5,706
40–49	2.8	3.6	16.8	31.0	26.6	14.7	4.2	0.3	100.0	29.8	13,092
TOTAL											
40–44	2.8	3.6	20.5	34.6	23.9	12.4	2.2	NA	100.0	28.7	10,521
45–49	2.9	3.1	15.2	30.3	28.3	14.7	4.9	0.6	100.0	30.2	8,179
40–49	2.9	3.4	18.2	32.7	25.9	13.4	3.4	0.2	100.0	29.3	18,701
NA: Not applicable											

Hindus than for Muslims. Christians, Sikhs, and Jains all have a median age at first birth that is considerably higher than that of either Hindus or Muslims. By caste/tribe, women from other backward classes have a median age at first birth that is about half a year higher than that of scheduled-caste women or scheduled-tribe women, and women belonging to none of these caste/tribe groups have a median that is more than one year higher than that of schedule-caste women or scheduled-tribe women. The median age at first birth increases steadily with standard of living and is almost three years higher for women living in households with a high standard of living than for women living in households with a low standard of living.

For older women the age at last childbirth is an indicator of cessation of childbearing. Table 4.14 presents the distribution of ever-married women age 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. More than half of women (54 percent) had their last birth by age 30, and 80 percent by age 35. The median age at last birth in India for women age 40–49 is 29.3 years (28.7 for women age 40–44 and 30.2 for women age 45–49).

Table 4.15 shows how median age at first and last birth (for women with at least one birth) varies among states. The median age at first birth ranges from 17.7 in Andhra Pradesh to 22.8 in Goa. States with a median age at first birth of 21 years or higher are Goa, Mizoram, Sikkim, Punjab, Delhi, Manipur, Nagaland, Arunachal Pradesh, and Kerala. The median age at last birth ranges from 27.0 in Andhra Pradesh to 35.7 in Meghalaya. States with a median age at last birth below 28 years are Andhra Pradesh, Maharashtra, Tamil Nadu, Karnataka, and Kerala.

Table 4.15 Median age at first and last birth by state			
Median age at first birth and median age at last birth for women age 40–49 who have had at least one birth, by state, India, 1998–99			
State	Median age at first birth for women with at least one birth	Median age at last birth for women with at least one birth	Difference
India	19.2	29.1	9.9
North			
Delhi	21.3	28.9	7.6
Haryana	20.4	29.4	9.0
Himachal Pradesh	20.0	28.2	8.3
Jammu & Kashmir	19.5	30.3	10.9
Punjab	21.5	29.2	7.6
Rajasthan	19.5	30.7	11.2
Central			
Madhya Pradesh	18.5	29.9	11.3
Uttar Pradesh	19.0	32.5	13.4
East			
Bihar	18.8	31.6	12.9
Orissa	19.1	29.0	9.9
West Bengal	19.0	28.6	9.6
Northeast			
Arunachal Pradesh	21.1	30.5	9.4
Assam	19.1	28.7	9.6
Manipur	21.3	33.0	11.6
Meghalaya	20.7	35.7	14.9
Mizoram	22.1	31.4	9.3
Nagaland	21.3	34.1	12.8
Sikkim	21.7	32.1	10.4
West			
Goa	22.8	30.2	7.5
Gujarat	20.1	28.1	8.1
Maharashtra	18.8	27.1	8.4
South			
Andhra Pradesh	17.7	27.0	9.3
Karnataka	18.5	27.7	9.1
Kerala	21.1	27.9	6.8
Tamil Nadu	19.6	27.6	8.1

The difference between the median age at first birth and the median age at last birth provides a rough estimate of the typical reproductive age span. Among women age 40–49 in India, this estimated reproductive age span is the difference between 19.2 and 29.1, or 9.9 years. Thus, reproduction in India begins at a fairly early age and is concentrated in a span of about 10 years. The difference between the median age at last birth and median age at first birth ranges from only 6.8 years in Kerala to 14.9 years in Meghalaya. In addition to Meghalaya, states with a span of 12 or more years are Uttar Pradesh, Bihar, and Nagaland.

4.9 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 following a birth if they are not at risk of conception because they are amenorrhoeic, are abstaining from sexual relations, or both.

Table 4.16 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 childbirth. These distributions are based on current status information, i.e., on the proportion of births occurring within the 36 months before the survey whose mothers were amenorrhoeic, abstaining, or 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. 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.

Ninety-four percent of mothers are still amenorrhoeic within the first month after a birth, and 82 percent are still amenorrhoeic two months after a birth. The proportion amenorrhoeic gradually decreases as the number of months since the last birth increases. Half of mothers are still amenorrhoeic eight months after a birth, but the proportion then drops off fairly rapidly and is only 9 percent 24 months after a birth. The proportion of mothers abstaining from sexual intercourse within the first month after a birth is almost the same as the proportion amenorrhoeic at this same duration, but at later durations the proportion abstaining is substantially lower than the proportion amenorrhoeic. Twenty percent of women still abstain from sexual intercourse 8 months after a birth, and 12 percent are still abstinent 12 months after a birth. Overall, when amenorrhoea and abstinence are considered together, half of mothers are still insusceptible to pregnancy nine months after a birth.

The median and mean durations of insusceptibility are 10 and 12 months, respectively. The median duration of amenorrhoea (almost 9 months) is almost three times as high as the median duration of abstinence (just over 3 months). The table indicates that women in India remain insusceptible to conception for almost one year after a birth, primarily due to the effect of postpartum amenorrhoea.

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 an increasing proportion 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. Women who report that they are menopausal or that they have had a hysterectomy are also included in this category. Women who are pregnant or postpartum amenorrhoeic are assumed not to be menopausal.

Table 4.16 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, India, 1998–99				
Months since birth	Percentage of births whose mothers are:			Number of births
	Amenorrhoeic	Abstaining	Insusceptible	
< 1	94.3	95.5	99.1	469
1	92.8	82.5	97.5	1,010
2	82.3	60.2	90.4	1,139
3	73.6	44.1	80.5	1,087
4	70.7	36.2	77.4	1,040
5	64.6	30.8	70.2	1,049
6	56.0	22.1	62.2	1,024
7	56.4	20.7	62.3	968
8	49.0	19.6	55.9	863
9	44.9	13.1	50.5	841
10	40.8	13.9	47.2	755
11	38.4	15.5	43.4	724
12	35.9	11.8	42.2	827
13	33.0	9.0	37.3	1,016
14	25.0	9.7	30.2	1,075
15	22.8	6.8	25.2	1,029
16	18.6	6.3	21.9	1,072
17	15.4	5.9	19.7	1,002
18	11.6	5.3	15.8	959
19	11.2	5.3	15.3	795
20	8.8	4.6	11.9	747
21	8.7	3.6	10.8	756
22	11.4	4.5	14.0	726
23	9.9	5.8	14.2	701
24	8.5	4.8	12.0	750
25	4.5	4.2	7.8	947
26	3.4	2.9	5.9	966
27	3.0	3.0	5.6	988
28	3.4	2.3	5.0	939
29	2.5	2.8	5.1	1,015
30	3.5	2.9	5.9	1,019
31	2.4	3.3	5.2	891
32	1.3	2.0	3.0	796
33	3.1	2.6	5.0	744
34	2.0	3.6	5.4	793
35	2.5	2.5	4.8	762
Median ¹	8.6	3.3	9.8	NA
Mean	10.7	6.2	12.2	NA
Prevalence/incidence mean	10.3	5.6	11.8	NA

Note: Median and mean durations are based on current status. Insusceptible is defined as amenorrhoeic, abstaining, or both.
NA: Not applicable
¹Based on a three-period moving average of percentages

Table 4.17 presents data on menopause for women age 30–49 in the whole country and individual states. In India, 19 percent of women age 40–41 have already reached menopause, and the incidence of menopause increases rapidly after age 41. By age 48–49, two-thirds of women are in menopause. The onset of menopause appears to occur somewhat later in urban areas than in rural areas.

Table 4.17 Menopause by state								
Percentage of currently married women age 30–49 years who are in menopause by age and state, India, 1998–99								
State	Age							Total
	30–34	35–39	40–41	42–43	44–45	46–47	48–49	
India–Urban	2.2	7.0	15.1	23.1	35.4	50.0	67.3	16.1
India–Rural	3.5	8.5	20.6	28.1	40.9	55.6	66.4	18.3
India–Total	3.1	8.0	19.0	26.5	39.3	53.9	66.6	17.7
North								
Delhi	1.5	3.4	11.4	20.9	31.9	35.4	73.4	11.8
Haryana	1.7	4.8	10.7	23.3	37.0	43.6	66.7	14.6
Himachal Pradesh	0.9	5.0	9.6	22.4	32.1	46.0	72.0	15.0
Jammu & Kashmir	2.1	6.6	16.7	31.9	33.9	52.4	62.9	15.6
Punjab	1.4	4.4	20.8	20.6	35.4	52.5	63.3	15.2
Rajasthan	2.3	4.6	13.5	19.9	35.1	39.3	61.2	13.1
Central								
Madhya Pradesh	2.9	7.3	15.1	23.5	32.6	44.8	51.9	14.2
Uttar Pradesh	2.1	7.3	20.2	31.3	42.3	58.5	68.8	17.8
East								
Bihar	2.9	9.2	23.6	35.2	51.1	60.7	75.8	21.7
Orissa	1.7	5.3	19.5	23.8	31.7	50.6	62.4	15.6
West Bengal	1.5	4.3	12.8	22.1	34.9	46.1	48.4	12.8
Northeast								
Arunachal Pradesh	1.0	3.8	6.9	*	(8.2)	*	*	6.1
Assam	1.6	6.2	22.5	30.4	43.6	55.7	73.4	17.0
Manipur	0.8	4.8	9.6	14.4	21.8	(31.8)	(48.9)	10.7
Meghalaya	1.4	2.9	(4.1)	(13.9)	(21.7)	*	*	10.8
Mizoram	1.1	2.3	7.6	10.1	(8.1)	(9.2)	*	5.4
Nagaland	2.9	1.5	(7.6)	(20.1)	(39.4)	*	*	11.6
Sikkim	2.1	5.8	12.2	7.8	28.8	*	(68.9)	11.6
West								
Goa	1.7	4.7	15.0	17.0	27.6	40.9	66.1	16.1
Gujarat	3.1	10.7	24.0	27.5	42.3	55.5	62.7	19.9
Maharashtra	4.3	7.8	16.6	21.5	40.5	62.9	64.8	16.9
South								
Andhra Pradesh	12.8	22.1	37.6	35.9	55.0	65.4	82.2	31.4
Karnataka	1.6	10.6	22.7	26.6	45.8	58.3	76.1	20.2
Kerala	1.2	3.7	8.2	12.5	21.1	37.4	53.0	11.6
Tamil Nadu	2.0	4.5	12.6	26.1	30.5	49.8	69.7	16.0

Note: Percentage menopausal is defined as the percentage of currently married women who are not pregnant, not amenorrhoeic, and reported that their last menstrual 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
*Percentage not shown; based on fewer than 25 unweighted cases

There is a surprising amount of variability among the states in the proportion of women who are menopausal at each age. At age 48–49, this proportion ranges from 48 percent in West Bengal to 82 percent in Andhra Pradesh. At age 35–39, it ranges from 2 percent in Nagaland to 22 percent in Andhra Pradesh. Since menopause is a heavily biologically-influenced characteristic, the wide variations by state are somewhat unexpected. However, it is interesting to note that in both NFHS-1 and NFHS-2, Andhra Pradesh had much higher reported levels of menopause than any other state.

Table 4.18 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, India, 1998–99

Desire for children	Number of living children ¹					Total
	0	1	2	3	4+	
URBAN						
Desire for additional child						
Wants another soon ²	68.8	21.0	4.7	1.9	1.2	11.6
Wants another later ³	13.4	40.9	6.7	2.9	1.4	11.5
Wants another, undecided when	6.3	3.9	1.1	0.7	0.5	1.8
Undecided	0.4	2.0	0.9	0.7	0.6	0.9
Up to God	1.3	0.8	0.6	0.5	1.0	0.7
Wants no more	2.0	24.2	43.5	30.7	36.1	32.2
Sterilized	0.7	4.6	40.1	60.1	54.1	37.9
Declared infecund	6.8	2.7	2.4	2.2	5.0	3.3
Missing	0.3	0.1	0.1	0.1	0.1	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,811	3,972	6,465	4,711	4,929	21,888
Preferred sex of additional child⁴						
Boy	22.5	33.2	57.9	66.2	73.0	36.4
Girl	4.6	19.0	15.5	12.9	6.2	13.5
Doesn't matter	56.2	34.3	16.8	13.0	9.9	36.5
Up to God	16.7	13.5	9.8	7.9	10.8	13.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more ⁴	1,632	2,615	817	261	153	5,478
RURAL						
Desire for additional child						
Wants another soon ²	71.9	30.5	11.0	5.2	2.5	16.0
Wants another later ³	12.1	45.1	14.5	6.9	2.9	13.9
Wants another, undecided when	5.7	5.2	2.2	1.1	0.7	2.3
Undecided	0.6	0.8	1.1	0.8	0.9	0.9
Up to God	2.0	2.0	1.5	1.4	2.3	1.8
Wants no more	0.9	8.8	27.0	27.3	40.9	25.9
Sterilized	0.9	4.8	40.2	54.6	44.5	35.4
Declared infecund	5.7	2.6	2.4	2.6	5.2	3.6
Missing	0.1	0.1	0.1	0.1	0.1	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	5,809	9,659	14,371	13,469	18,273	61,761
Preferred sex of additional child⁴						
Boy	38.6	42.6	60.6	75.7	71.9	49.8
Girl	1.9	14.9	14.2	8.4	6.8	10.3
Doesn't matter	39.1	27.7	13.7	6.7	9.4	25.0
Up to God	20.5	14.8	11.4	9.2	11.9	15.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more ⁴	5,282	7,812	4,001	1,816	1,111	20,023

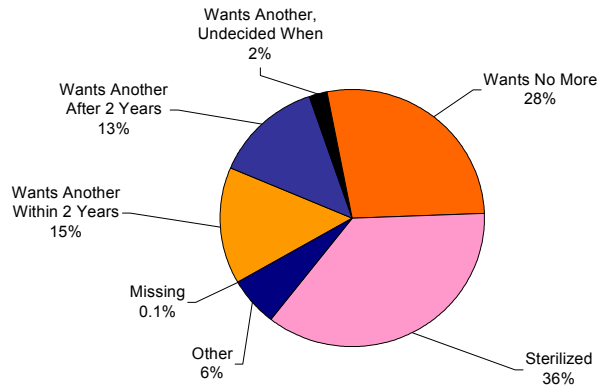
Table 4.18 Fertility preferences (contd.)						
Percent distribution of currently married women by desire for children and preferred sex of additional child, according to number of living children and residence, India, 1998–99						
Desire for children	Number of living children ¹					Total
	0	1	2	3	4+	
TOTAL						
Desire for additional child						
Wants another soon ²	71.1	27.7	9.0	4.4	2.2	14.8
Wants another later ³	12.4	43.9	12.1	5.9	2.6	13.3
Wants another, undecided when	5.9	4.8	1.9	1.0	0.7	2.2
Undecided	0.6	1.2	1.0	0.8	0.8	0.9
Up to God	1.8	1.7	1.2	1.2	2.0	1.5
Wants no more	1.2	13.3	32.1	28.2	39.9	27.5
Sterilized	0.9	4.8	40.2	56.0	46.5	36.1
Declared infecund	6.0	2.6	2.4	2.5	5.2	3.5
Missing	0.1	0.1	0.1	0.1	0.1	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	7,620	13,631	20,836	18,359	23,202	83,649
Preferred sex of additional child⁴						
Boy	34.8	40.3	60.2	74.5	72.0	46.9
Girl	2.5	15.9	14.4	9.0	6.8	11.0
Doesn't matter	43.1	29.4	14.3	7.5	9.4	27.5
Up to God	19.6	14.5	11.1	9.0	11.8	14.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women wanting more ⁴	6,914	10,427	4,818	2,077	1,264	25,501
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						

4.10 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 4.18 and Figure 4.5 show future fertility preferences of currently married women. Overall, 28 percent of currently married women say that they do not want any more children, an additional 36 percent cannot have another child because either the wife or the husband has been sterilized, and 4 percent of women say that they cannot get pregnant (that is, they are ‘declared infecund’). Thirty percent of the women say they would like to have another child (15 percent within two years, 13 percent after waiting at least two years, and 2 percent undecided when). 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

Figure 4.5
Fertility Preferences Among Currently Married Women



Note: Percents add to more than 100 due to rounding

NFHS-2, India, 1998-99

or the woman says she wants no more children), compared with 72 percent of women with two living children and 86 percent or more of women with four or more living children. Two percent of the women say that the decision about having any (more) children is up to God. Overall, 77 percent of women want to either space their next birth or do not want any more children. This proportion is 82 percent in urban areas and 75 percent in rural areas.

The desire to have a child within two years drops rapidly with the number of living children, from 71 percent for women without any living children to 9 percent or less for women with two or more living children. Forty-four percent of women with one living child (41 percent in urban areas and 45 percent in rural areas) would like to wait at least two years before having the next child. And yet, as will be seen in the next chapter, very few women in India use any temporary method of contraception. These findings suggest 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.

Forty-seven percent of women who want another child say they want the next child to be a boy, only 11 percent say they want the child to be a girl, and the rest say that the sex of the child does not matter (28 percent) or that it is up to God (15 percent). Irrespective of their number of living children, women are much more likely to express a desire for a son than for a daughter, and the proportion of women expressing a desire specifically for a son generally 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 (3 percent), but 43 percent say it does not matter whether they have a son or a daughter. Even among this group, one in every three women say they would like their first child to be a boy.

Table 4.19 shows how fertility preferences vary by state. The proportion of currently married women who want to have another child at any time in the future ranges from 20 percent

Table 4.19 Fertility preferences by state

Percent distribution of currently married women by desire for children, according to state, India, 1998–99

State	Wants another soon ¹	Wants another later ²	Wants another, undecided when	Undecided	Up To God	Wants no more	Sterilized	Declared infecund	Missing	Total percent
India	14.8	13.3	2.2	0.9	1.5	27.5	36.1	3.5	0.1	100.0
North										
Delhi	9.9	10.2	2.2	1.1	1.5	45.6	28.6	0.7	0.1	100.0
Haryana	15.4	9.6	0.5	0.3	0.2	32.8	40.8	0.4	0.1	100.0
Himachal Pradesh	10.9	8.9	0.1	0.6	0.0	26.2	52.4	0.8	0.0	100.0
Jammu & Kashmir	11.1	12.4	0.9	0.9	1.5	38.6	30.7	3.8	0.0	100.0
Punjab	11.8	9.1	0.3	0.2	0.3	46.6	30.9	0.7	0.1	100.0
Rajasthan	17.3	14.6	1.4	1.1	1.3	27.6	32.3	4.3	0.1	100.0
Central										
Madhya Pradesh	17.1	16.5	2.2	0.7	0.8	23.4	38.0	1.2	0.1	100.0
Uttar Pradesh	17.0	17.8	2.0	1.2	3.6	38.1	15.6	4.5	0.2	100.0
East										
Bihar	17.3	15.8	6.3	0.8	3.8	30.2	20.1	5.6	0.0	100.0
Orissa	17.3	15.3	0.6	0.6	0.8	27.7	35.6	2.0	0.0	100.0
West Bengal	10.5	13.4	0.6	0.8	0.5	39.2	33.8	1.0	0.1	100.0
Northeast										
Arunachal Pradesh	15.2	18.8	3.3	9.9	1.3	26.3	20.7	4.1	0.4	100.0
Assam	15.4	12.8	1.6	1.1	6.2	43.0	16.7	2.6	0.6	100.0
Manipur	13.8	21.9	1.2	8.2	0.6	36.5	15.5	2.2	0.0	100.0
Meghalaya	8.3	33.4	4.3	6.6	2.3	32.0	6.5	6.5	0.1	100.0
Mizoram	10.4	22.3	2.8	4.3	1.4	12.4	45.4	1.2	0.0	100.0
Nagaland	13.2	14.8	3.8	12.7	1.3	35.0	12.3	6.9	0.0	100.0
Sikkim	6.9	12.5	1.2	1.2	0.4	51.2	24.7	1.6	0.3	100.0
West										
Goa	17.4	12.0	1.3	0.8	0.6	32.8	28.2	6.9	0.0	100.0
Gujarat	15.1	11.2	1.4	1.1	0.6	20.1	45.3	5.2	0.0	100.0
Maharashtra	9.8	9.5	4.9	1.0	0.3	19.8	52.2	2.5	0.1	100.0
South										
Andhra Pradesh	17.0	7.5	1.6	0.5	0.7	10.5	57.0	5.1	0.1	100.0
Karnataka	12.8	11.7	1.2	1.0	0.3	15.3	52.2	5.4	0.0	100.0
Kerala	14.3	12.0	1.8	1.0	0.6	17.1	51.0	2.1	0.0	100.0
Tamil Nadu	13.5	11.8	0.2	0.3	0.4	23.0	45.9	4.7	0.1	100.0

¹Wants next birth within 2 years²Wants to delay next birth for 2 or more years

in Himachal Pradesh and Punjab to 46 percent in Meghalaya. A majority of women who want another child would like to wait at least two years before having that child in Jammu and Kashmir, West Bengal, and five states in the Northeast Region (Arunachal Pradesh, Manipur, Meghalaya, Mizoram, and Sikkim). The proportion who want no more children, including those who are sterilized or whose husbands are sterilized, ranges from 39 percent in Meghalaya to 79 percent in Himachal Pradesh. The proportion of women who believe that decisions pertaining to childbearing are 'up to God' is 6 percent in Assam, 4 percent in Bihar and Uttar Pradesh, and 2 percent or less in other states.

Table 4.20 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, India, 1998–99

Background characteristic	Number of living children ¹					Total
	0	1	2	3	4+	
Age						
15–24	0.4	6.5	52.4	65.2	79.8	26.2
25–34	2.4	27.4	77.3	83.9	84.2	72.2
35–49	13.4	62.5	88.2	91.6	88.2	85.6
Residence						
Urban	2.7	28.8	83.6	90.9	90.2	70.0
Rural	1.9	13.6	67.2	81.8	85.4	61.3
Education						
Illiterate	2.6	13.4	59.8	79.7	84.7	62.7
Literate, < middle school complete	2.5	17.0	78.2	88.9	91.7	68.3
Middle school complete	0.6	15.5	80.7	90.7	91.9	60.1
High school complete and above	1.3	28.4	87.1	93.9	93.1	62.9
Religion						
Hindu	2.1	19.1	73.8	85.2	87.9	64.4
Muslim	2.3	10.0	51.3	72.8	80.0	56.5
Christian	3.2	14.2	80.3	83.2	80.2	62.5
Sikh	0.8	24.4	88.7	93.6	96.1	75.4
Jain	(0.0)	(26.5)	85.9	92.5	100.0	73.5
Buddhist/Neo-Buddhist	(0.1)	23.2	79.1	96.2	95.5	78.0
Other	(0.0)	13.3	56.6	77.3	85.0	57.2
No religion	*	*	*	(63.7)	41.0	39.8
Caste/tribe						
Scheduled caste	2.1	14.7	63.4	83.6	87.6	62.1
Scheduled tribe	3.2	11.2	55.8	75.1	82.3	55.8
Other backward class	1.8	14.8	72.4	83.9	86.3	62.7
Other	2.1	23.8	78.5	87.1	87.3	67.0
Standard of living index						
Low	2.6	13.6	61.5	78.8	83.3	59.2
Medium	1.8	15.0	71.2	84.3	87.1	63.5
High	2.0	29.6	85.1	92.3	92.4	70.6
Number of living sons²						
0	2.1	17.1	46.8	50.1	57.0	19.5
1	NA	23.4	76.4	80.8	83.1	66.0
2	NA	NA	82.6	92.9	90.8	89.3
3+	NA	NA	NA	89.6	87.9	88.2
Number of living daughters²						
0	2.1	23.4	82.6	89.6	87.8	40.9
1	NA	17.1	76.4	92.9	90.0	71.5
2	NA	NA	46.8	80.8	91.1	78.8
3+	NA	NA	NA	50.1	83.1	79.6
Total	2.1	18.1	72.3	84.2	86.5	63.6

Note: Women who have been sterilized or whose husbands have been sterilized are considered to want no more children. Total includes women with missing information on education, religion, caste/tribe, and the standard of living index, who are not shown separately.

NA: Not applicable

() Based on 25–49 unweighted cases

*Percentage not shown; based on fewer than 25 unweighted cases

¹Includes current pregnancy, if any

²Excludes pregnant women

Table 4.20 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 want no more children. Already by age 25–34, 72 percent of women want no more children. The proportion who want no more children is somewhat higher among urban women (70 percent) than among rural women (61 percent). For mothers, the desire to stop childbearing tends to increase steadily with the level of education within each parity, although that progression does not show up clearly in the percentages for all women taken together. The proportion who want no more children is higher among Hindus (64 percent) and Christians (63 percent) than among Muslims (57 percent), but the desire to stop childbearing is particularly strong among Buddhists, Sikhs, and Jains. By caste/tribe, the proportion who want no more children is highest for women in the ‘other’ category (67 percent) and lowest for scheduled-tribe women (56 percent). The proportion who want no more increases with the standard of living, from 59 percent for women living in households with a low standard of living to 71 percent for women living in households with a high standard of living. The proportion who want no more children is highest for women with two living sons (89 percent) and is very low for women with no living sons (20 percent). Differences associated with the number of living daughters are also large but not as large as differences associated with the number of living sons, indicating a preference for sons. The proportion who want no more children is highest for women with three or more living daughters (80 percent) and lowest for women with no living daughters (41 percent). Despite the existence of son preference, it is interesting to note that 47 percent of women with two daughters and no sons do not want to have a third child. Overall, the table shows that, in every socioeconomic subgroup, a majority of women with two or more living children want no more children. It also shows that within each subgroup, the proportion who want no more children rises sharply with the number of living children.

4.11 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 often had to be repeated to ensure that the meaning was understood.

Table 4.21 shows that almost half (47 percent) of ever-married women in India consider two to be the ideal number of children, and 72 percent consider two or three to be ideal. Only 21 percent have an ideal number that differs from two or three children. Seven percent were unable to give a numeric response to the question. Among all women who gave a numeric response, the average number of children considered ideal is 2.7, ranging from 2.4 for women who have no children to 3.3 for women who have four or more children.

Table 4.21 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 and residence, India, 1998–99						
Ideal number of children	Number of living children ¹					Total
	0	1	2	3	4+	
URBAN						
0	0.1	0.1	0.0	0.1	0.2	0.1
1	17.0	21.6	6.7	3.7	1.4	8.5
2	63.5	64.6	76.9	52.7	35.0	58.8
3	10.2	8.6	10.1	32.1	25.9	18.1
4	2.8	1.7	2.7	5.4	20.3	7.1
5	0.5	0.3	0.3	0.8	3.1	1.1
6+	0.2	0.0	0.1	0.3	2.3	0.6
Non-numeric response	5.6	3.1	3.2	4.9	11.8	5.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	2,005	4,271	6,796	5,010	5,287	23,370
Mean ideal number ²	2.0	1.9	2.1	2.4	3.0	2.3
Number of women giving numeric response	1,893	4,139	6,578	4,765	4,666	22,041
RURAL						
0	0.1	0.1	0.0	0.1	0.3	0.1
1	5.8	7.0	3.1	2.0	0.7	3.0
2	52.1	57.4	61.6	36.7	21.4	42.8
3	24.2	21.2	21.4	40.2	25.9	27.1
4	8.5	6.8	7.5	12.0	28.6	14.7
5	1.8	1.4	1.2	1.7	6.5	3.0
6+	0.7	1.0	0.6	1.0	4.7	2.0
Non-numeric response	6.8	5.0	4.6	6.4	11.9	7.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	6,576	10,456	15,212	14,341	19,243	65,829
Mean ideal number ²	2.5	2.4	2.4	2.8	3.4	2.8
Number of women giving numeric response	6,130	9,933	14,515	13,422	16,956	60,956

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 4.21, however, that this is not so for many women in India. Among women with four or more living children, for example, 51 percent state that fewer than four children would be ideal. Similarly, among women with three living children, 43 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 4.21 Ideal and actual number of children (contd.)						
Percent distribution of ever-married women by ideal number of children, and mean ideal number of children, by number of living children and residence, India, 1998–99						
Ideal number of children	Number of living children ¹					Total
	0	1	2	3	4+	
TOTAL						
0	0.1	0.1	0.0	0.1	0.2	0.1
1	8.4	11.2	4.2	2.4	0.9	4.5
2	54.8	59.5	66.3	40.8	24.3	47.0
3	20.9	17.6	17.9	38.1	25.9	24.7
4	7.2	5.4	6.0	10.3	26.8	12.7
5	1.5	1.1	0.9	1.5	5.8	2.5
6+	0.6	0.8	0.5	0.8	4.2	1.6
Non-numeric response	6.5	4.4	4.2	6.0	11.9	7.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	8,581	14,727	22,009	19,352	24,531	89,199
Mean ideal number ²	2.4	2.3	2.3	2.7	3.3	2.7
Number of women giving numeric response	8,023	14,072	21,093	18,187	21,622	82,996
¹ Includes current pregnancy, if any						
² Means are calculated excluding women who gave non-numeric responses.						

Table 4.22 shows the mean ideal number of children for ever-married women by age according to selected background characteristics. The mean ideal family size increases gradually from 2.5 children for women age 15–24 to 2.9 children for women age 45–49. Ideal family size is 2.3 children in urban areas and 2.8 children in rural areas. The average ideal number of children ranges from 2.1 for women with at least a high school education to 2.9 for illiterate women. Among religious groups, it ranges from 2.2 for Sikh and Jain women to 3.1 for Muslim women. By caste/tribe, the ideal ranges from 2.5 children for the ‘other’ category to 3.0 children for scheduled-tribe women. The ideal number of children does not vary much by the work status of the woman. The ideal family size ranges from 2.3 children for women living in households with a high standard of living to 2.9 children for women living in households with a low standard of living. Women whose husbands are illiterate have a much higher ideal number of children (3.0) than women whose husbands have at least completed higher secondary school (2.2).

Table 4.23 shows how ideal family size varies by state. The mean ideal number of children ranges from 2.0 in Tamil Nadu to 4.7 in Meghalaya. A majority of states have a mean ideal family size between 2.0 and 2.7 children. Meghalaya, Mizoram, and Nagaland all have a mean ideal number of children of 4.0 or higher. Other states with a mean ideal family size of more than 3.0 children are Manipur, Bihar, Arunachal Pradesh, and Uttar Pradesh.

Table 4.22 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, India, 1998–99

Background characteristic	Current age							Total
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	
Residence								
Urban	2.2	2.2	2.2	2.3	2.4	2.4	2.5	2.3
Rural	2.6	2.6	2.7	2.8	2.9	3.0	3.1	2.8
Education								
Illiterate	2.8	2.8	2.9	3.0	3.0	3.1	3.2	2.9
Literate, < middle school complete	2.3	2.3	2.4	2.5	2.5	2.6	2.7	2.5
Middle school complete	2.2	2.2	2.2	2.2	2.3	2.4	2.4	2.2
High school complete and above	2.1	2.0	2.0	2.0	2.1	2.1	2.2	2.1
Religion								
Hindu	2.5	2.4	2.5	2.6	2.7	2.8	2.9	2.6
Muslim	2.8	2.8	3.0	3.1	3.3	3.4	3.6	3.1
Christian	2.4	2.6	2.5	2.6	2.8	2.8	3.1	2.7
Sikh	2.2	2.1	2.1	2.2	2.3	2.4	2.5	2.2
Jain	*	(1.9)	2.1	2.0	2.1	(2.3)	2.6	2.2
Buddhist/Neo-Buddhist	(2.2)	2.2	2.2	2.3	2.5	2.6	2.6	2.3
Other	(2.8)	2.6	2.6	3.2	2.8	3.4	(3.3)	2.9
No religion	*	(3.8)	(3.4)	(4.3)	(5.5)	*	*	4.0
Caste/tribe								
Scheduled caste	2.6	2.5	2.7	2.7	2.9	2.9	3.1	2.7
Scheduled tribe	2.8	2.8	3.0	3.2	3.2	3.2	3.4	3.0
Other backward class	2.5	2.5	2.6	2.6	2.7	2.8	2.9	2.6
Other	2.5	2.4	2.4	2.5	2.6	2.7	2.8	2.5
Work status								
Working in family farm/business	2.5	2.6	2.7	2.9	2.9	3.0	3.2	2.8
Employed by someone else	2.5	2.5	2.6	2.6	2.7	2.7	2.7	2.6
Self-employed	2.6	2.5	2.5	2.6	2.7	2.6	2.9	2.6
Not worked in past 12 months	2.5	2.5	2.5	2.6	2.7	2.8	3.0	2.6
Standard of living index								
Low	2.7	2.7	2.8	3.0	3.0	3.0	3.2	2.9
Medium	2.5	2.5	2.6	2.7	2.8	2.9	3.0	2.7
High	2.2	2.1	2.1	2.2	2.3	2.4	2.6	2.3
Husband's education								
Illiterate	2.7	2.8	2.9	3.0	3.1	3.1	3.2	3.0
Literate, < primary school complete	2.6	2.6	2.7	2.8	2.9	2.9	3.1	2.8
Primary school complete	2.5	2.5	2.7	2.7	2.7	2.8	2.9	2.7
Middle school complete	2.5	2.5	2.5	2.6	2.7	2.7	2.9	2.6
High school complete	2.4	2.3	2.4	2.5	2.5	2.6	2.6	2.5
Higher secondary complete and above	2.3	2.2	2.2	2.2	2.3	2.4	2.5	2.2
Total	2.5	2.5	2.6	2.7	2.7	2.8	2.9	2.7

Note: Means are calculated excluding women who gave non-numeric responses. Total includes women with missing information on education, religion, caste/tribe, work status, the standard of living index, and husband's education, who are not shown separately.

() Based on 25–49 unweighted cases

*Mean not shown; based on fewer than 25 unweighted cases

Table 4.23 Ideal number of children by state								
Mean ideal number of children reported by ever-married women, according to current age and state, India, 1998–99								
State	Current age							Total
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	
India	2.5	2.5	2.6	2.7	2.7	2.8	2.9	2.7
North								
Delhi	2.3	2.2	2.2	2.4	2.4	2.5	2.5	2.4
Haryana	2.1	2.3	2.4	2.5	2.6	2.8	3.1	2.5
Himachal Pradesh	2.0	2.1	2.1	2.1	2.2	2.3	2.4	2.2
Jammu & Kashmir	2.4	2.5	2.5	2.7	2.8	2.8	2.9	2.7
Punjab	2.1	2.1	2.2	2.2	2.3	2.4	2.5	2.3
Rajasthan	2.5	2.6	2.7	2.8	3.0	3.0	3.2	2.8
Central								
Madhya Pradesh	2.7	2.7	2.9	3.0	3.0	3.1	3.3	2.9
Uttar Pradesh	2.9	2.9	3.1	3.2	3.3	3.4	3.5	3.1
East								
Bihar	2.9	3.0	3.2	3.4	3.4	3.5	3.7	3.3
Orissa	2.5	2.5	2.6	2.7	2.8	2.8	3.0	2.7
West Bengal	2.2	2.1	2.3	2.4	2.5	2.5	2.9	2.4
Northeast								
Arunachal Pradesh	2.9	3.0	3.1	3.2	3.5	3.7	3.5	3.2
Assam	2.6	2.6	2.8	2.9	3.1	3.3	3.3	2.9
Manipur	(2.9)	3.2	3.4	3.6	3.8	3.9	4.1	3.6
Meghalaya	(4.6)	4.4	4.3	4.9	5.0	4.8	5.5	4.7
Mizoram	(3.2)	3.5	3.7	4.1	4.3	4.5	4.8	4.0
Nagaland	(3.7)	3.5	3.7	3.8	4.3	4.6	4.9	4.0
Sikkim	(2.0)	1.9	2.1	2.2	2.5	2.5	2.8	2.2
West								
Goa	*	2.3	2.1	2.1	2.3	2.6	2.6	2.3
Gujarat	2.4	2.4	2.4	2.4	2.6	2.6	2.6	2.5
Maharashtra	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.3
South								
Andhra Pradesh	2.2	2.1	2.3	2.4	2.6	2.8	3.0	2.4
Karnataka	2.2	2.2	2.1	2.2	2.2	2.3	2.3	2.2
Kerala	2.9	2.4	2.4	2.4	2.6	2.7	2.7	2.5
Tamil Nadu	2.0	2.0	2.0	2.0	2.0	2.1	2.2	2.0

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

4.12 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 4.24 shows the mean ideal number of sons and daughters, the percentage who desire more sons than

Table 4.24 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, India, 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	0.4	22.6	2.5	76.9	72.7	22,027
Rural	1.5	1.0	0.3	37.0	2.1	88.1	82.8	60,911
Education								
Illiterate	1.6	1.1	0.3	41.7	2.0	90.2	84.8	47,104
Literate, < middle school complete	1.2	0.9	0.4	27.7	2.2	83.2	78.7	16,289
Middle school complete	1.0	0.8	0.4	21.5	2.1	80.0	75.6	7,135
High school complete and above	0.8	0.7	0.5	14.6	3.0	71.0	67.0	12,401
Religion								
Hindu	1.3	0.9	0.3	33.6	2.0	85.3	80.1	68,574
Muslim	1.6	1.1	0.4	34.4	2.8	85.3	82.2	9,582
Christian	1.2	1.0	0.5	20.0	5.2	77.6	74.1	2,036
Sikh	1.2	0.8	0.3	30.1	0.8	86.7	76.1	1,393
Jain	1.0	0.8	0.4	18.3	1.5	81.1	75.7	326
Buddhist/Neo-Buddhist	1.1	0.9	0.3	25.1	2.1	83.2	78.2	654
Other	1.6	1.2	0.2	32.5	3.9	93.5	89.0	259
No religion	2.0	1.9	0.1	22.1	15.6	87.1	89.3	42
Caste/tribe								
Scheduled caste	1.5	1.0	0.3	37.9	1.8	87.3	82.1	15,232
Scheduled tribe	1.6	1.2	0.2	38.0	3.6	91.5	86.6	7,313
Other backward class	1.3	0.9	0.4	32.5	1.9	83.7	79.4	27,169
Other	1.3	0.9	0.3	30.0	2.3	83.6	78.2	32,455
Work status								
Working in family farm/business	1.5	1.0	0.3	39.6	2.1	89.2	83.0	11,861
Employed by someone else	1.3	0.9	0.4	30.8	2.6	82.8	78.0	16,051
Self-employed	1.3	1.0	0.3	30.7	3.4	83.1	78.6	4,153
Not worked in past 12 months	1.4	1.0	0.3	32.6	2.0	85.0	80.3	50,855
Standard of living index								
Low	1.5	1.1	0.3	38.4	2.3	89.0	84.1	26,517
Medium	1.4	1.0	0.3	34.3	2.0	85.7	80.7	38,378
High	1.0	0.8	0.4	22.5	2.5	77.5	72.8	17,067

Contd...

Table 4.24 Indicators of sex preference (contd.)								
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, India, 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					
Husband's education								
Illiterate	1.6	1.1	0.3	40.2	2.1	89.4	84.2	24,572
Literate, < primary school complete	1.4	1.0	0.3	34.9	2.7	87.5	82.7	7,395
Primary school complete	1.4	1.0	0.3	33.3	2.1	85.3	80.3	13,558
Middle school complete	1.3	0.9	0.3	33.7	2.0	86.1	80.9	11,348
High school complete	1.2	0.9	0.3	28.8	2.1	83.3	78.1	12,290
Higher secondary complete and above	1.0	0.8	0.4	23.0	2.5	76.6	72.4	13,545
Total	1.4	1.0	0.3	33.2	2.2	85.1	80.1	82,939
Note: Table excludes women who gave non-numeric responses to the questions on ideal number of children or ideal number of sons or daughters. Total includes 11, 73, 770, 18, 976, and 230 women with missing information on education, religion, caste/tribe, work status, the standard of living index, and husband's education, respectively, who are not shown separately.								

daughters, the percentage who desire more daughters than sons, the percentage who desire at least one son, and the percentage who desire at least one daughter, according to selected background characteristics. The table shows a consistent preference for sons over daughters. Overall, the average ideal family size of 2.7 children consists of 1.4 sons, 1.0 daughters, and 0.3 children of either sex.

Thirty-three percent of women want more sons than daughters, but only 2 percent want more daughters than sons. The indicator on the percentage who want at least one son and at least one daughter exhibits the weakest son preference. Eighty-five percent want at least one son among their children, and nearly as many (80 percent) want at least one daughter. One reason that a substantial proportion of women want to have at least one daughter despite having a preference for sons is to fulfil the Hindu religious obligation of *kanyadan* (giving a daughter away at the time of her marriage), which is one of the acts that enable the parents to acquire the highest level of merit (*punya*).

Son preference is relatively weak in urban areas, among literate women, among women with more education and whose husbands have more education, and among women living in households with a high standard of living. Son preference is somewhat weaker among Christian and Jain women than among women of other religions. Son preference does not vary much by caste/tribe or woman's work status.

Table 4.25 shows how son preference varies by state. According to these measures, son preference is evident in every state. Son preference tends to be stronger in the northern part of the country than elsewhere, especially in Uttar Pradesh, Rajasthan, Bihar, Haryana, Madhya Pradesh, Orissa, and Arunachal Pradesh. The weakest son preference is found in Meghalaya, Mizoram, Tamil Nadu, Kerala, Karnataka, and Goa. The proportion who want more sons than daughters

Table 4.25 Indicators of sex preference by state

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, according to state, India, 1998–99

State	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
	Sons	Daughters	Either sex				
India	1.4	1.0	0.3	33.2	2.2	85.1	80.1
North							
Delhi	1.2	0.9	0.3	23.1	2.6	85.5	82.0
Haryana	1.4	0.9	0.3	37.5	0.5	89.8	80.9
Himachal Pradesh	1.1	0.8	0.3	25.9	0.6	87.5	79.4
Jammu & Kashmir	1.4	1.0	0.3	38.0	2.7	87.6	82.5
Punjab	1.2	0.8	0.3	29.1	0.4	86.2	78.0
Rajasthan	1.6	1.1	0.1	47.5	1.3	95.7	89.4
Central							
Madhya Pradesh	1.5	1.0	0.3	42.5	2.9	87.8	82.4
Uttar Pradesh	1.8	1.1	0.2	53.3	1.4	94.1	89.3
East							
Bihar	1.9	1.3	0.1	47.9	2.1	97.2	93.6
Orissa	1.5	1.0	0.2	37.6	2.1	92.8	85.3
West Bengal	1.1	0.9	0.4	20.7	3.4	79.9	75.5
Northeast							
Arunachal Pradesh	1.8	1.3	0.1	41.9	2.5	93.5	90.5
Assam	1.6	1.2	0.1	38.2	2.9	94.5	91.0
Manipur	1.9	1.6	0.1	36.5	4.8	96.2	93.0
Meghalaya	2.3	2.2	0.2	20.9	16.9	94.7	93.6
Mizoram	2.0	1.9	0.1	26.0	19.0	97.6	97.1
Nagaland	2.0	1.7	0.3	32.7	6.3	91.6	88.7
Sikkim	1.1	0.9	0.3	22.4	3.1	83.4	77.6
West							
Goa	0.9	0.8	0.7	17.0	5.1	67.9	64.9
Gujarat	1.2	0.8	0.5	33.2	1.8	78.9	68.1
Maharashtra	1.2	0.9	0.3	27.1	1.9	84.5	79.3
South							
Andhra Pradesh	1.0	0.8	0.5	19.8	2.7	76.0	71.3
Karnataka	0.9	0.8	0.5	13.0	1.9	70.0	67.5
Kerala	1.0	0.8	0.7	14.6	5.2	72.6	70.7
Tamil Nadu	0.8	0.7	0.6	9.6	1.9	66.3	63.9

Note: Table excludes women who gave non-numeric responses to the questions on ideal number of children or ideal number of sons or daughters.

ranges from 10 percent in Tamil Nadu to 53 percent in Uttar Pradesh. In all states except Meghalaya and Mizoram, the proportion wanting more daughters than sons is 6 percent or lower. This proportion is 19 percent in Mizoram and 17 percent in Meghalaya.

4.13 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. It should be noted that the proportion unplanned is influenced not only by whether, and how effectively, couples use contraception, but also by the couple's ideal family size.

Table 4.26 shows the percent distribution of births during the three years preceding the survey and current pregnancies according to fertility planning status. Twenty-one 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). Twelve percent were wanted later and 9 percent were not wanted at all. The proportion of births that were unplanned is highest for births to women age 45–49 (47 percent) and lowest for births to women below age 20 (15 percent). Within the unplanned category, the proportion of births that were wanted later goes down and the proportion that were not wanted at all goes up with the age of the mother. The proportion of births that were unplanned is almost the same in urban areas and rural areas. By education, the proportion unplanned is slightly lower for births to women with at least a high school education (19 percent) than for births to women in the other education groups (21–23 percent). Among the religions, the proportion unplanned ranges from 15 percent for Sikhs to 28 percent for Buddhists. For the two largest religions, it is 20 percent for Hindus and 27 percent for Muslims. Scheduled-tribe women have a slightly lower proportion of unplanned births than women do in other caste/tribe groups. The proportion of pregnancies that are unplanned ranges from 19 percent for births to women living in households with a high standard of living to 22 percent for births to women living in households with a medium or low standard of living. Large variations in the planning status of births are seen by the birth order of the child. Unplanned pregnancies range from 14 percent for first-order births to 33 percent for births of order four or higher.

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 4.27 are calculated in the same way as the TFR except that unwanted births are excluded from the numerator. In this case, a birth is 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 at the time of the survey. 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.

Overall, the total wanted fertility rate of 2.13 is lower by 0.72 child (i.e., by 25 percent) than the total fertility rate of 2.85. This means that if unwanted births could be eliminated, the TFR would drop to the replacement level of fertility (approximately 2.1 children per woman). Women living in urban areas, literate women, Sikh, Jain, and Buddhist women, and women living in households with a high standard of living would have well under two children, on average, under these circumstances. The difference between the total fertility rate and the total wanted fertility rate is somewhat larger for rural women (0.79 children) than for urban women (0.54 children). The difference is also relatively large for illiterate women, Muslims, scheduled-caste women, and women living in households with a low standard of living.

Table 4.26 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, India, 1998–99

Background characteristic	Planning status of pregnancy				Total percent	Number of births and current pregnancies
	Wanted then	Wanted later	Not wanted at all	Missing		
Mother's age at birth¹						
< 20	84.4	13.8	1.5	0.3	100.0	8,972
20–24	81.0	13.5	5.2	0.2	100.0	15,217
25–29	76.1	10.3	13.3	0.3	100.0	9,203
30–34	68.1	7.3	24.3	0.2	100.0	3,674
35–39	58.9	5.4	35.1	0.5	100.0	1,262
40–44	52.3	4.5	41.9	1.2	100.0	289
45–49	53.1	4.8	42.1	0.0	100.0	46
Residence						
Urban	77.6	13.1	9.1	0.2	100.0	8,590
Rural	78.6	11.5	9.5	0.3	100.0	30,072
Mother's education						
Illiterate	78.5	9.7	11.4	0.3	100.0	22,596
Literate, < middle school complete	76.8	14.8	8.2	0.2	100.0	7,003
Middle school complete	76.5	16.9	6.4	0.3	100.0	3,539
High school complete and above	81.3	13.8	4.8	0.1	100.0	5,518
Religion						
Hindu	79.6	11.3	8.8	0.3	100.0	30,604
Muslim	72.4	14.3	13.0	0.2	100.0	6,122
Christian	77.2	15.8	6.7	0.3	100.0	890
Sikh	85.1	7.5	7.1	0.3	100.0	541
Jain	78.2	19.3	2.4	0.0	100.0	100
Buddhist/Neo-Buddhist	72.0	17.4	10.6	0.0	100.0	233
Other	71.1	21.6	3.8	3.5	100.0	106
No religion	65.6	20.6	13.8	0.0	100.0	28
Caste/tribe						
Scheduled caste	77.2	11.5	11.0	0.4	100.0	7,687
Scheduled tribe	81.6	10.2	7.7	0.4	100.0	3,726
Other backward class	79.1	11.8	8.9	0.2	100.0	12,435
Other	77.8	12.5	9.5	0.2	100.0	14,345
Standard of living index						
Low	77.9	10.9	10.9	0.4	100.0	13,970
Medium	78.2	12.1	9.4	0.2	100.0	18,111
High	80.5	13.1	6.2	0.2	100.0	6,095
Birth order²						
1	86.2	10.9	2.6	0.2	100.0	13,565
2	80.7	16.0	3.0	0.3	100.0	9,199
3	76.6	13.1	10.0	0.3	100.0	6,234
4+	66.4	8.7	24.7	0.3	100.0	9,664
Total	78.4	11.9	9.4	0.3	100.0	38,662

Note: Table includes only the two most recent births in the three years preceding the survey. Total includes 6, 39, 469, and 487 births with missing information on mother's education, religion, caste/tribe, and the standard of living index, respectively, which are not shown separately.

¹For current pregnancy, estimated maternal age at birth

²Includes current pregnancy, if any

Table 4.27 Wanted fertility rates		
Total wanted fertility rate and total fertility rate for the three years preceding the survey by selected background characteristics, India, 1998–99		
Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	1.73	2.27
Rural	2.28	3.07
Education		
Illiterate	2.54	3.47
Literate, < middle school complete	1.99	2.64
Middle school complete	1.81	2.26
High school complete and above	1.68	1.99
Religion		
Hindu	2.08	2.78
Muslim	2.54	3.59
Christian	2.07	2.44
Sikh	1.62	2.26
Jain	1.70	1.90
Buddhist/Neo-Buddhist	1.57	2.13
Other	1.70	2.33
No religion	3.21	3.91
Caste/tribe		
Scheduled caste	2.26	3.15
Scheduled tribe	2.30	3.06
Other backward class	2.15	2.83
Other	2.00	2.66
Standard of living index		
Low	2.42	3.37
Medium	2.13	2.85
High	1.70	2.10
Total	2.13	2.85
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 4.4. Total includes women with missing information on education, religion, caste/tribe, and the standard of living index, who are not shown separately.		

Table 4.28 shows how the total wanted fertility rate varies by state. Total wanted fertility ranges from a very low level of 1.47 children per woman in Goa to 3.83 in Meghalaya. Among the major states, total wanted fertility is highest in Uttar Pradesh, at 2.83 children per woman. The difference between the total fertility rate and the total wanted fertility rate ranges from 0.15 child in Kerala to 1.21 children in Rajasthan. Besides Rajasthan, the difference is more than one child in Uttar Pradesh and Sikkim. Both the TFR and the wanted TFR decreased between NFHS-1 and NFHS-2, but the difference between the two rates has remained virtually unchanged.

Table 4.28 Wanted fertility rates by state

Total wanted fertility rate and total fertility rate for the three years preceding the survey by state, India, 1998–99

State	Total wanted fertility rate	Total fertility rate
India	2.13	2.85
North		
Delhi	1.72	2.40
Haryana	2.10	2.88
Himachal Pradesh	1.50	2.14
Jammu & Kashmir	1.74	2.71
Punjab	1.55	2.21
Rajasthan	2.57	3.78
Central		
Madhya Pradesh	2.40	3.31
Uttar Pradesh	2.83	3.99
East		
Bihar	2.58	3.49
Orissa	1.90	2.46
West Bengal	1.78	2.29
Northeast		
Arunachal Pradesh	1.74	2.52
Assam	1.75	2.31
Manipur	2.50	3.04
Meghalaya	3.83	4.57
Mizoram	2.66	2.89
Nagaland	2.98	3.77
Sikkim	1.65	2.75
West		
Goa	1.47	1.77
Gujarat	2.08	2.72
Maharashtra	1.87	2.52
South		
Andhra Pradesh	1.88	2.25
Karnataka	1.56	2.13
Kerala	1.81	1.96
Tamil Nadu	1.71	2.19

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.