

## CHAPTER 3

### FERTILITY

#### 3.1 Introduction

In the SADHS, data were collected on current and completed fertility. Utilising the birth histories of women interviewed during the survey, this chapter provides direct estimates of current levels, trends and differentials in fertility. During the interviews the women were requested to provide information on the total number of sons and daughters they had given birth to that were still living with them, the number living elsewhere and the number who had died. Interviewers obtained a birth history for each woman, including details on each live birth separately, according to the month and year of birth, sex and survival status. In the case of children who had died, their age at death was also recorded. The fertility indicators reported here are based on the answers provided by women aged 15-49 years regarding their reproductive histories.

#### 3.2 Fertility Levels

The total fertility rate (TFR) and age-specific fertility rates (ASFRs) are a common measure of recent fertility. The TFR is defined as the number of children a woman would have by the end of her childbearing years if she were to pass through these years bearing children at the prevailing age-specific rates. Table 3.1 shows the age-specific and other aggregate fertility measures calculated from the 1998 SADHS data for the three-year period prior to the survey (roughly 1995- early 1998). The TFR for South Africa, derived from the survey data was 2.9. Using data from the 1996 population census, indirect methods yielded a slightly higher TFR level of 3.3 for 1996, two years before the SADHS. (Udjo, 1999). Another study utilising indirect methods and the same Census data, estimated the TFR at 3.1 (Dorrington *et al.*, 1999).

Fertility in urban areas (TFR=2.3) is substantially lower than in rural areas (TFR=3.9). This lower fertility in urban areas is apparent at all ages. Peak childbearing occurs between the ages of 20 and 34. Rural women continue to bear children at later ages than urban women. The derived crude birth rate is only 22 births per 1 000 population.

Age group	Residence		Total
	Urban	Non-urban	
15-19	56	99	76
20-24	113	178	139
25-29	123	174	143
30-34	88	149	109
35-39	53	111	74
40-44	18	50	29
45-49	1	24	9
TFR women 15-49	2.25	3.92	2.90
TFR women 15-44	2.25	3.80	2.85
General fertility rate	79	133	100
Crude birth rate	19.2	25.4	21.9

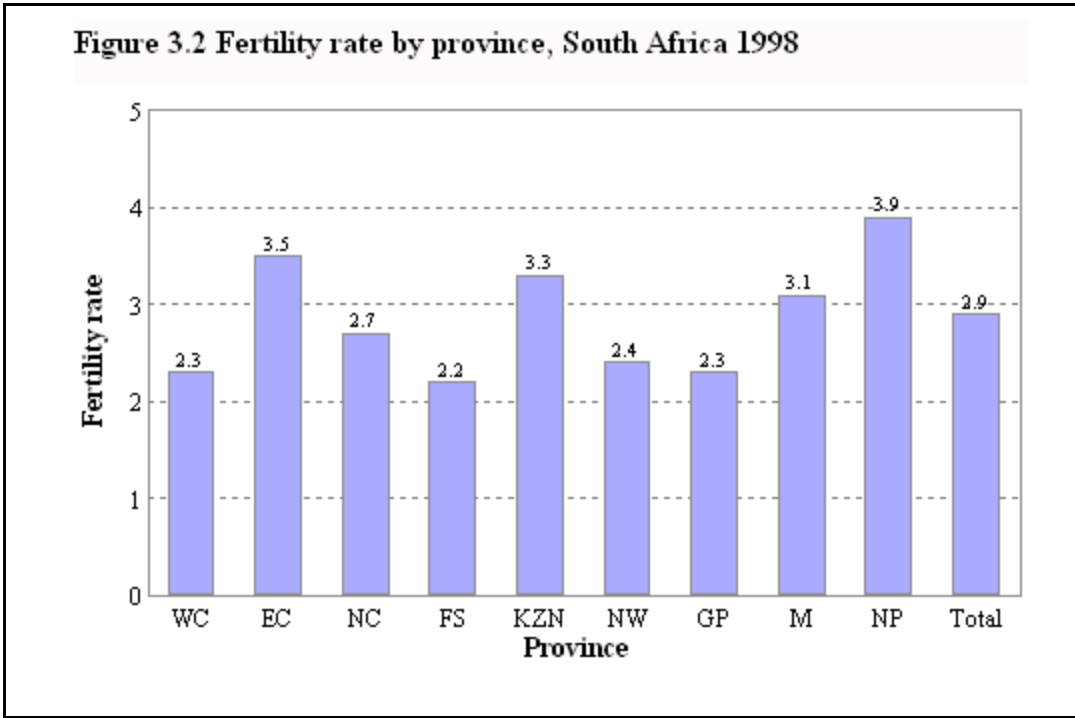
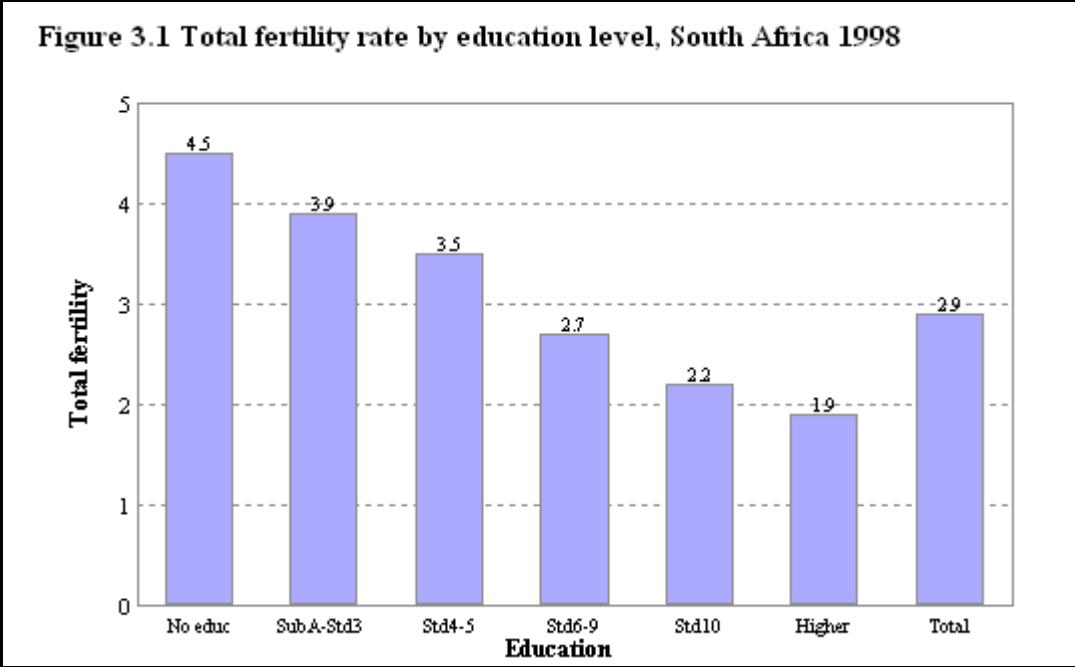
### 3.3 Fertility Differentials

Differentials in fertility are shown in Table 3.2. The SADHS data indicate a strong negative linear association between education and fertility. Whereas women with no education had a TFR of 4.5, those who have completed Standard 10 have 2.2 children on average (see Figure 3.1). The Northern Province has the highest TFR (3.9), while Free State has the lowest (2.2) (see Figure 3.2). The TFR for African women is 3.1, for coloured women 2.5 and 1.9 for white women.

Unfortunately, despite attempts to design the sample so as to over sample Asian households, the sample of Asian women was too small to allow a reliable estimate of the TFR. Table 3.2 also allows for the assessment of differential trends in fertility over time. The mean number of children ever born to women aged 40-49 is a measure of past fertility. By comparing current (total) fertility with past (completed) fertility, it is clear that substantial declines in fertility occurred among all sub-groups of the population. For instance, among urban African women there was a decline from 3.5 to 2.4.

<u>Table 3.2 Fertility by background characteristics</u>			
Total fertility rate for the three years preceding the survey, percentage currently pregnant and mean number of children ever born to women age 40-49, by selected background characteristics, South Africa 1998			
Background characteristic	Total fertility rate <sup>†</sup>	Percentage currently pregnant	Mean number of children ever born to women age 40-49
<b>Residence</b>			
Urban	2.3	2.7	3.2
Non-urban	3.9	4.7	4.7
<b>Province</b>			
Western Cape	2.3	3.2	3.0
Eastern Cape	3.5	3.4	4.0
Northern Cape	2.7	3.6	3.6
Free State	2.2	3.6	3.6
KwaZulu-Natal	3.3	4.3	4.0
North West	2.4	3.2	3.7
Gauteng	2.3	2.2	3.2
Mpumalanga	3.1	4.6	4.5
Northern	3.9	4.6	4.9
<b>Education</b>			
No education	4.5	3.3	4.9
Sub A - Std 3	3.9	4.8	4.4
Std 4 - Std 5	3.5	4.0	4.1
Std 6 - Std 9	2.7	3.0	3.2
Std 10	2.2	3.5	2.4
Higher	1.9	3.8	2.5
<b>Population group</b>			
African	3.1	3.7	4.1
Afr. urban	2.4	2.8	3.5
Afr. non-urban	4.0	4.7	4.9
Coloured	2.5	3.5	3.2
White	1.9	2.5	2.5
Total	2.9	3.5	3.7
Note: The number of Asian women interviewed was too small to provide a reliable measure of the total fertility rate. <sup>†</sup> Women age 15-49 years			

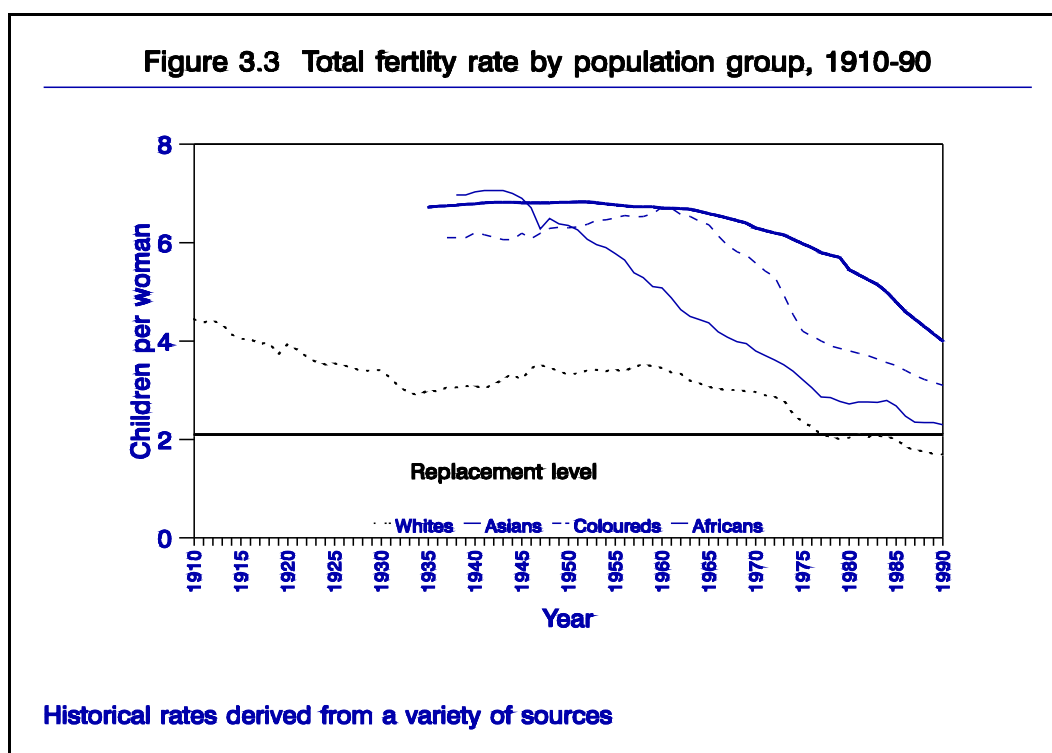
Less than 4 percent of women reported they were pregnant at the time of the survey. Although this underestimates the proportion of pregnant women, as many women in the early stages of pregnancy would not have known that they were pregnant, the differentials in pregnancy status closely follow the differentials in current fertility.



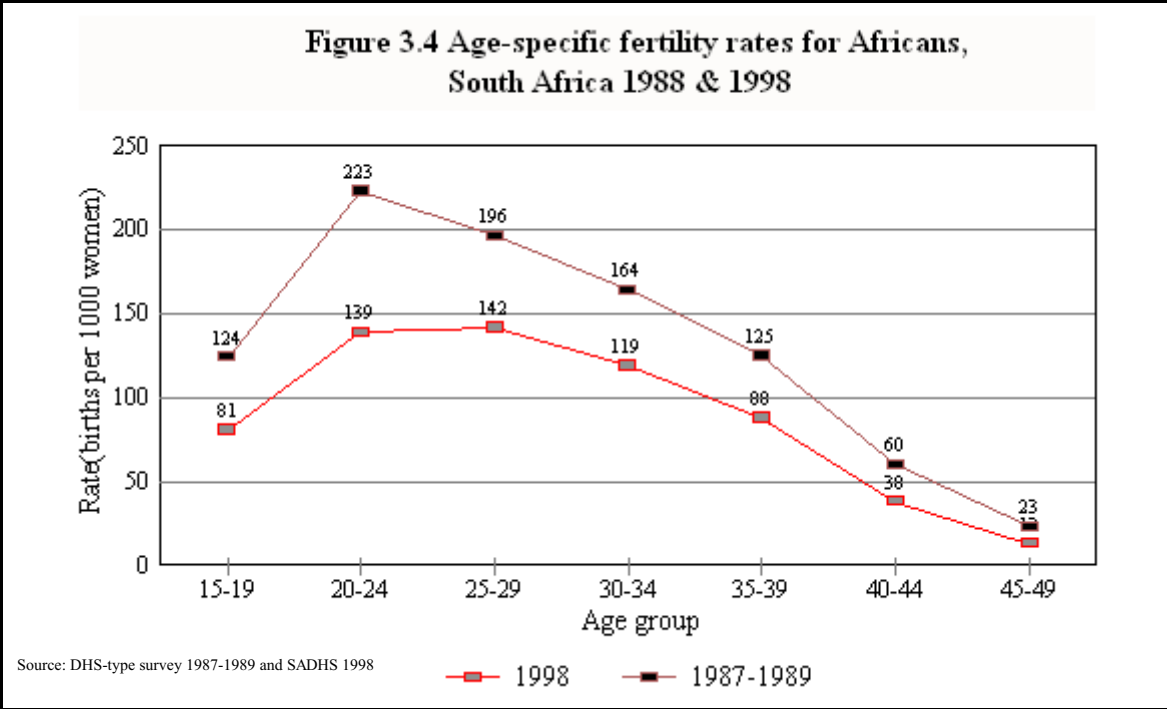
### 3.4 Fertility Trends

Adequate historical demographic statistics are only available for certain sections of the population. For the white population, birth statistics are available from 1910 and for the Indian and coloured population from about the 1940s. For the African population incomplete birth registration statistics created a vacuum in our knowledge of demographic trends. Fertility rates for the African population were calculated with the aid of census statistics by Sadie (1970). In addition, the Human Sciences Research Council (HSRC) conducted a number of small-scale surveys from the 1960s to the 1980s, the results of which were used to estimate fertility levels (Mostert and Malherbe, 1974; Lötter and van Tonder, 1976; Van Tonder, 1985). Probably the most comprehensive source of information on fertility patterns before the 1998 SADHS was a large DHS-type survey conducted in 1987-1989 (Mostert, 1990). This collection of vital statistics, analytical work and surveys provide reasonably accurate pointers to historical fertility trends (see Figure 3.3) for different population groups.

The data in Figure 3.3 show that fertility among whites started to decline during the 19th century and then remained at a level of between 3 and 4 for more than six decades before declining below 3 towards the late 1960s. Thereafter the decline continued to below the replacement level. In 1990 the TFR was 1.7. The fertility of the Asian segment of the population started its decline in the 1950s, largely due to increasing age at marriage and the use of contraception. By 1990, the fertility of this population (TFR of 2.3) was nearing the replacement level. The fertility of the coloured population gradually increased in the two decades before the 1960s. Thereafter, the introduction of modern contraception heralded a decline which continues to the present. The fertility of the African population was at a high level during the middle of this century (a TFR of nearly 7). After 1960, African fertility started to decline, slowly at first, but subsequently gained momentum. By the mid-1980s, African fertility was about 4.5, and by 1990 it had declined to an estimated level of around 4.0.



The fertility of the white population in South Africa mirrors fertility trends in the more developed world, where the transition from high to low fertility has been completed. The Asian and the coloured population have almost completed their fertility transition. The most interesting fertility transition taking place in South Africa at present is that of the African population. Besides the fact that Africans constitute the majority of the South African population, and therefore determine overall fertility levels, their fertility behaviour may also predict the path of future fertility trends in other African countries. Therefore it is useful to examine trends in African fertility by comparing the results of the 1998 SADHS with a large-scale DHS-type survey conducted in the period 1987-1989 (Mostert 1990). In both surveys similar methodologies were utilised. The age-specific fertility rates (ASFRs) for the three years preceding the surveys are shown in Figure 3.4. Whereas the calculated total fertility rate for the African population was 4.6 in the first survey, it was 3.1 in 1998.



Fertility trends can also be examined by looking at rates reported for previous times in the birth histories of women interviewed in the SADHS. Such rates were calculated for four-year periods prior to the survey and are presented in Table 3.3. They also show a decline in fertility over the past 12-15 years, although a much gradual one than implied by comparing external data sources.

**Table 3.3 Trends in fertility**

Age-specific fertility rates for four-year periods preceding the survey, South Africa 1998

Age group	0-3	4-7	8-11	12-15	16-19
15-19	78	93	90	116	104
20-24	136	156	170	196	190
25-29	138	159	162	183	183
30-34	108	134	128	153	[143]
35-39	72	89	99	[122]	-
40-44	30	42	[57]	-	-
45-49	10	[12]	-	-	-

Note: Age-specific fertility rates per 1,000 women. Estimates enclosed in brackets are truncated.

### **3.5 Children Ever Born and Living**

The distribution of women by the number of children ever born to them is shown in Table 3.4 for all women and currently married women. In addition, the table gives the mean number of children ever born to women in each five-year age group as well as the mean number of living children. It is clear that most women have had at least one birth by age 35. Women in their late thirties have given birth to an average of 3.2 children. The results also show that 5 percent of women in the age group 45-49 have never given birth, while a quarter of women in this age group have given birth to 6 children or more. In the age group 45-49 the mean number of children ever born is 4.0; of whom 3.6 were still living.

Differences in the findings for currently married women compared to all women are mainly found among the younger women. For example, nearly 80 percent of married women aged 20-24 have given birth, compared to 60 percent of all women in the same age category. Nearly 4 percent of currently married women aged 40 and older have never given birth, which can be regarded as a rough measure of primary infertility in the population, since voluntary childlessness is uncommon in most African societies.

Table 3.4 Children ever born and living

Percent distribution of all women and currently married women by number of children ever born and mean number ever born and living children, by age of woman, South Africa 1998

Age group	Number of children ever born (CEB)											Total	Number of women	Mean no. of CEB	Mean no. of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	86.8	12.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	2,249	0.14	0.13
20-24	41.7	40.8	14.4	2.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	100.0	2,075	0.79	0.74
25-29	18.4	33.2	29.3	12.7	4.4	1.4	0.5	0.0	0.0	0.0	0.0	100.0	1,857	1.58	1.50
30-34	6.8	18.3	31.2	21.0	13.9	4.7	2.5	1.1	0.2	0.2	0.0	100.0	1,654	2.49	2.34
35-39	4.9	11.6	22.7	21.5	16.2	10.7	6.9	3.2	1.5	0.5	0.4	100.0	1,636	3.23	2.99
40-44	4.7	11.0	19.8	19.7	15.1	12.5	9.2	4.0	1.8	0.9	1.4	100.0	1,294	3.52	3.18
45-49	5.2	9.9	14.7	15.7	17.2	12.5	9.6	5.9	3.7	1.8	3.6	100.0	970	4.03	3.57
Total	29.5	21.1	18.2	12.0	8.0	4.8	3.2	1.5	0.7	0.3	0.5	100.0	11,735	1.94	1.79
CURRENTLY MARRIED WOMEN															
15-19	63.4	33.0	2.1	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	73	0.42	0.40
20-24	20.4	43.4	27.6	7.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	100.0	465	1.25	1.17
25-29	11.6	25.6	34.9	18.2	6.2	2.5	1.0	0.0	0.1	0.0	0.1	100.0	900	1.94	1.83
30-34	3.7	12.5	31.3	23.2	17.6	5.8	3.8	1.7	0.3	0.3	0.0	100.0	1,008	2.83	2.66
35-39	3.5	8.0	22.7	21.8	17.7	11.9	7.5	3.9	2.0	0.5	0.5	100.0	1,114	3.47	3.25
40-44	3.6	8.8	19.3	19.7	15.7	13.2	10.0	4.5	2.2	1.1	1.8	100.0	865	3.74	3.37
45-49	4.1	6.8	14.5	14.5	18.3	14.5	9.8	6.4	4.3	2.2	4.6	100.0	652	4.34	3.89
Total	7.5	15.6	25.1	18.6	13.6	8.3	5.5	2.8	1.4	0.6	1.0	100.0	5,077	2.98	2.75

### **3.6 Birth Intervals**

The birth interval is a notable factor in the survival of infants. A baby born soon after a previous child is at an increased risk of poor health. As a general rule, births with an interval of less than 24 months are classified as high-risk births. Table 3.5 presents the percent distribution of births in the five years before the survey by interval since the previous birth, according to selected background characteristics.

Fourteen percent of second and higher order births take place within 24 months of the previous birth. More than 20 percent of births to women with a tertiary qualification take place less than 24 months after the previous birth, a higher proportion than found in any other educational category. Among white women short intervals are even more common, as 30 percent of births take place within 24 months of the previous birth.

Table 3.5 shows that 53 percent of second and third births occurred at an interval of more than 48 months. This suggests that many South African women have an early first birth, many while still teenagers, but postpone the birth of a second child for a considerable period of time.

The median birth interval was 47 months, a very long interval when compared to other sub-Saharan countries. Urban women have substantially longer birth intervals than rural women (54 months as opposed to 43 months). A significant difference in birth interval was also found when comparing the survival status of the previous baby. Where the previous baby has died, the interval is 17 months less than when the previous sibling survived.



Table 3.5 Birth intervals

Percent distribution of births in the five years preceding the survey by number of months since previous birth, according to selected background characteristics, South Africa 1998.

Characteristic	Number of months since previous birth					Total	Median no. of months since previous birth	Number of births
	7 - 17	18 - 23	24 - 35	36 - 47	48+			
<b>Age of mother</b>								
15-19	*	*	*	*	*	100.0	28.4	15
20-29	7.3	11.0	22.4	20.7	38.6	100.0	40.7	1,312
30-39	4.0	6.6	17.5	16.8	55.1	100.0	53.0	1,586
40+	5.7	4.7	15.3	15.6	58.8	100.0	60.5	416
<b>Birth order</b>								
2-3	4.8	7.9	17.2	17.2	52.9	100.0	49.7	1,997
4-6	6.4	8.4	20.4	18.4	46.5	100.0	45.6	1,082
7+	8.3	9.3	31.7	24.8	25.9	100.0	36.1	251
<b>Sex of previous baby</b>								
Male						100.0	47.1	1,745
Female	5.9	8.3	18.2	18.4	49.3	100.0	47.0	1,585
<b>Survival of previous baby</b>	5.3	7.9	20.6	17.9	48.3	100.0		
Living						100.0	47.9	3,122
Dead	4.4	7.8	19.2	18.6	49.9	100.0	30.6	208
	22.9	13.2	21.2	10.8	31.8			
<b>Residence</b>								
Urban						100.0	53.7	1,557
Rural	4.3	6.8	15.3	17.1	56.5	100.0	42.9	1,773
	6.7	9.3	22.8	19.0	42.1			
<b>Province</b>								
Western Cape						100.0	58.5	251
Eastern Cape	4.1	6.6	11.3	16.9	61.0	100.0	40.3	519
Northern Cape	7.9	10.6	24.1	17.6	39.8	100.0	53.9	64
Free State	4.2	4.2	13.5	17.4	60.8	100.0	54.9	169
KwaZulu-Natal	3.8	4.0	17.2	16.5	58.5	100.0	45.0	749
North West	7.6	9.0	19.7	18.8	45.0	100.0	52.4	212
Gauteng	3.7	6.4	17.3	16.9	55.7	100.0	53.7	614
Mpumalanga	2.9	7.4	14.2	17.5	58.0	100.0	46.7	247
Northern	5.4	8.5	18.7	19.2	48.2	100.0	41.5	504
	5.8	8.5	26.7	19.8	39.1			
<b>Education</b>								
No education						100.0	43.5	404
Sub A-Std 3	6.6	6.8	23.0	21.4	42.1	100.0	42.2	561
Std 4-Std 5	4.9	8.5	23.6	20.6	42.4	100.0	51.2	594
Std 6-Std 9	4.9	7.8	17.3	16.3	53.6	100.0	47.0	1,239
Std 10	5.3	8.9	19.2	17.5	49.1	100.0	58.3	372
Higher	5.0	6.5	14.6	14.0	59.9	100.0	41.3	159
	11.1	9.2	14.7	22.6	42.4			
<b>Population group</b>								
African						100.0	47.1	2,795
African urban	5.3	8.0	20.1	17.9	48.8	100.0	55.9	1,130
African rural	3.0	5.9	15.6	15.6	59.9	100.0	42.4	1,665
Coloured	6.8	9.4	23.2	19.4	41.2	100.0	58.2	290
White	2.9	5.7	11.0	15.7	64.7	100.0	35.4	149
Asian	13.6	16.6	20.6	21.6	27.6	100.0	39.1	71
	8.1	9.2	16.4	32.8	33.5			
<b>Total</b>						100.0	47.1	3,330
	5.6	8.1	19.3	18.2	48.8			

Note: An asterisk indicates a figure is based on fewer than 25 respondents and has been suppressed.

### 3.7 Age at First Birth

Table 3.6 shows the percent distribution of women by the age at the birth of their first child and the median age at first birth. The median age at first birth was approximately 21 years for most age cohorts. Forty-eight percent of women in the age group 30-34 interviewed by the SADHS had given birth before turning 20. However, there are indications that this trend is changing. For instance, 40 percent of respondents aged 20-24 and 25-29 had given birth before reaching age 20, eight percentage points lower than that of the older cohort of women. Teenage childbearing is discussed further in Chapter 9.

**Table 3.6 Age at first birth**

Percent distribution of women 15-49 years by age at first birth, according to current age, South Africa 1998

Current age	Women with no births	Age at first birth						Total	Number of women	Median age at first birth
		<15	15-17	18-19	20-21	22-24	25+			
15-19	86.8	0.6	8.8	3.8	NA	NA	NA	100.0	2,249	a
20-24	41.7	1.6	18.7	19.8	13.2	5.0	NA	100.0	2,075	a
25-29	18.4	2.9	16.9	20.6	17.8	15.6	7.8	100.0	1,857	20.9
30-34	6.8	3.6	21.0	23.4	16.6	14.3	14.3	100.0	1,654	20.2
35-39	4.9	2.8	19.0	20.6	18.7	19.1	14.9	100.0	1,636	20.7
40-44	4.7	3.1	15.2	21.2	20.9	17.6	17.2	100.0	1,294	21.0
45-49	5.2	2.7	15.3	23.2	16.8	19.3	17.4	100.0	970	21.0

Note: NA = Not applicable.

a = Half or more of women in these age groups had not given birth before entering the age group, making the calculation of a median age at birth unfeasible.

Table 3.7 shows the median age at first birth for the age cohorts 25-29 to 45-49 by selected background characteristics. No median age at first birth is provided for the age group 15-24 since a substantial proportion of women in this age cohort had not yet given birth at the time of the survey. The results show that median age at first birth is higher for women in urban areas than for women in rural areas. Similarly, age at first birth increases with higher levels of education. For example, in the age cohort 30-34, women without any formal education have their first birth around age 19, compared with age 26 for women with secondary or higher education.

There is considerable regional variation in age at first birth. Age at first birth is lowest in Mpumalanga (19.5) and highest in the Western Cape (21.8 years). Age at first birth also varies by population group. Whites have the highest age at first birth (23.8), followed by Asians (22.3) and coloureds (21.2). African women recorded the lowest age at first birth (20.3 years).

**Table 3.7 Median age at first birth by background characteristics**

Median age at first birth among women 25-49, by current age and selected background characteristics, South Africa 1998

Background characteristic	Current age					Women age 25-49
	25-29	30-34	35-39	40-44	45-49	
<b>Residence</b>						
Urban	21.9	20.9	21.2	21.3	21.0	21.3
Non-urban	20.0	19.5	20.0	20.6	21.0	20.1
<b>Province</b>						
Western Cape	23.4	21.4	21.9	21.2	21.9	21.8
Eastern Cape	20.8	20.5	20.9	21.5	21.9	21.1
Northern Cape	20.7	20.5	20.8	21.9	20.0	20.8
Free State	21.0	20.1	20.5	21.4	20.6	20.7
KwaZulu-Natal	20.6	20.5	20.7	21.1	22.2	20.9
North West	20.8	20.1	21.3	20.9	19.7	20.7
Gauteng	21.7	20.2	21.3	21.0	20.6	21.0
Mpumalanga	19.7	19.0	20.0	19.3	19.2	19.5
Northern	19.6	19.2	19.3	20.2	20.8	19.7
<b>Education</b>						
No education	19.5	18.6	19.8	20.3	20.3	19.8
Sub A - Std 3	19.5	18.9	19.8	20.2	20.8	19.8
Std 4 - Std 5	19.0	19.3	19.9	20.2	20.0	19.7
Std 6 - Std 9	20.5	20.1	20.5	20.9	20.6	20.5
Std 10	23.2	22.1	22.6	23.2	24.2	22.7
Higher	a	25.8	24.5	24.9	24.8	24.9
<b>Population group</b>						
African	20.6	19.8	20.3	20.6	20.5	20.3
Afr. urban	21.2	20.1	20.6	20.8	19.9	20.6
Afr. non-urban	19.9	19.4	19.9	20.5	21.1	20.0
Coloured	22.0	21.0	21.5	20.8	20.5	21.2
White	24.4	24.7	24.0	23.5	22.8	23.8
Asian	24.2	21.7	20.9	22.2	22.6	22.3
<b>Total</b>	20.9	20.2	20.7	21.0	21.0	20.8

Note: The medians for cohorts 15-19 and 20-24 could not be determined because half of the women had not had a birth before reaching the lowest age of the age group.

a = Omitted because less than 50 percent in the age group had given birth by age 20