

**17**

# DHS COMPARATIVE STUDIES

## Childbearing Attitudes and Intentions



DEMOGRAPHIC  
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SURVEYS

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**Demographic and Health Surveys  
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**Childbearing Attitudes  
and Intentions**

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# Preface

One of the most significant contributions of the DHS program is the creation of an internationally comparable body of data on the demographic and health characteristics of populations in developing countries. The *DHS Comparative Studies* series and the *DHS Analytical Reports* series examine these data across countries in a comparative framework, focusing on specific topics.

The objectives of DHS comparative research are: to describe similarities and differences between countries and regions, to highlight subgroups with specific needs, to provide information for policy formulation at the international level, and to examine individual country results in an international context. While *Comparative Studies* are primarily descriptive, *Analytical Reports* utilizes a more analytical approach.

The comparative analysis of DHS data is carried out primarily by staff at the DHS headquarters in Calverton, Maryland. The topics covered are selected by staff in conjunction with the DHS Scientific Advisory Committee and USAID.

The *Comparative Studies* are based on a variable number of data sets reflecting the number of countries for which data were available at the time the report was prepared. Each report provides detailed tables and graphs for countries in four regions: sub-Saharan Africa, the Near East and North Africa, Asia, and Latin America and the Caribbean. Survey-related issues such as questionnaire comparability, survey procedures, data quality, and methodological approaches are addressed in each report, as necessary. Where appropriate, data from previous DHS surveys are used to evaluate trends over time.

*Comparative Studies* published under the current phase of the DHS program (DHS-III) are, in some cases, updates and expansions of reports published earlier in the series. Other reports, however, will cover new topics that reflect the expanded substantive scope of the DHS program.

It is anticipated that the availability of comparable information for a large number of developing countries will have long-term usefulness for analysts and policymakers in the fields of international population and health.

Martin Vaessen  
Project Director

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## Executive Summary

Based on national surveys in 28 developing countries, this study examines women's statements on their ideal family size, whether they desire more children, and if so, how long they would prefer to wait before the next birth. Levels of unwanted childbearing and the demographic implications of reproductive childbearing are also examined. The significance of this study for population policy and family planning programs is that it permits assessing the potential demographic impact of fertility regulation and indicates levels of unwanted fertility.

The research reported here indicates that a preference for smaller families is spreading widely in developing countries. While the average number of children desired among ever-married women across 15 sub-Saharan African countries is 5.8, it is considerably lower in other regions of the world, ranging from approximately 2.5 to 4.0 children. Preferences for smaller families are typically stronger in cities than in rural areas, among women with some education, and for women who have been exposed to the mass media in general. The desire for smaller families is outpacing the decline of actual fertility. One result is that the level of unwanted childbearing is rising.

An estimated 19 percent of women in the Asian, Latin American and North African countries represented reported their last birth as unwanted, while 7 percent were in that category in the sub-Saharan countries. If women outside of sub-Saharan Africa had only the number of children that they wanted, their fertility rate would be 2.8 rather than 3.9. Within sub-Saharan Africa, the fertility rate would drop from an average of 6.0 to 5.1, a significant effect but still a very high level. In Bangladesh, which has had a comprehen-

sive family planning program, the number of children desired has fallen to a level close to two; in neighboring Pakistan, an economically and culturally similar country without such a program and government support, the number desired has remained above four. This suggests that such programs with their extensive use of the media can generate demand as well as simply provide services.

In general, there is a significant downward trend in the number of children desired over the past 10 to 15 years in all of the countries in which more than one survey has been conducted. In the great majority of countries, the proportion of women who say that they want no more children has increased by 10 to 15 percentage points.

The length of preferred birth intervals was investigated with three different approaches which yielded a wide range of estimates from 2.5 to 4 years. The preferred birth interval has increased in length significantly in the countries included in both the earlier and later phases of the DHS.

A majority of women outside of sub-Saharan Africa, except in Egypt and Pakistan, say that they have discussed the desired number of children with their husbands. Among countries in sub-Saharan Africa, there is a great deal of variation, with only 11 percent of women in Senegal saying they have discussed the number of children desired with their husband compared to 62 percent in Kenya. Compared to women in other regions, a high proportion of women in sub-Saharan Africa do not know the number of children their partner desires. When the husband's view differs, almost invariably he is perceived to want more rather than fewer children than his wife.



# 1 Introduction

The subject of reproductive preferences is of fundamental importance for population policy and for family planning programs. Whether couples want to cease childbearing or delay the next pregnancy determines the demand for family planning and the potential impact on the rate of reproduction. The spread of a small-family norm has accelerated rapidly in some parts of the developing world (in much of Asia, Latin America, and North Africa) and is beginning to emerge in a few sub-Saharan African countries such as Kenya and Zimbabwe. Most of the countries in which fertility has remained at its traditional high level are in sub-Saharan Africa and the Middle East.

In this comparative report, the authors examine women's statements of their ideal family size, whether they desire more children and, if so, how long they would prefer to wait before the next birth. Levels of unwanted childbearing and the demographic implications of current reproductive preferences are also examined. Derived mainly from 28 surveys conducted in the second round of the Demographic and Health Surveys (DHS) program, this report is a sequel to the earlier comparative analysis of reproductive preferences based on DHS-I data (Westoff, 1991). For those countries represented in both rounds of the DHS or included in the World Fertility Survey (WFS), trends in childbearing attitudes are analyzed. Also included are estimates of the ideal number of children for never-married women; these data have not been represented in earlier reports.

## 2 Measures of Attitudes

Researchers have now accumulated perhaps five decades of experience in the measurement of reproductive attitudes and intentions (Lightbourne and MacDonald, 1982; Lightbourne, 1985; Bhushan and Hill, 1995). There is little question that the subject remains the "soft" area of measurement in demographic research. The main conclusion of the methodological research that has been conducted is that the reliability of the various measures of preference is comparatively low at the individual level but high at the aggregate level. This generalization was reaffirmed in the 1986

DHS experimental study in the Dominican Republic, in which reinterviews were conducted some 10-12 weeks after the initial interview (Westoff, Goldman and Moreno, 1990). In other research, the predictive validity of preferences was established by demonstrating the strong relationship between reproductive preferences and the contraceptive prevalence rate across a large number of countries (Westoff, 1990). The evidence is mounting that despite low individual reliability, measures of reproductive attitudes are very useful for demographic research.

### 3 Number of Children Desired

Perhaps the most common measure of reproductive preferences is the number of children desired or the "ideal" number of children. The question asked of childless women in the DHS is: "If you could choose exactly the number of children to have in your whole life, how many would that be?"<sup>1</sup> Women with children are asked the same question prefaced by: "If you could go back to the time you did not have any children . . ."

<sup>1</sup> The same question was asked of all women in the WFS.

#### 3.1 INTERNATIONAL VARIATIONS IN THE NUMBER DESIRED

There is a wide range in the average number of children desired (Table 3.1). Within sub-Saharan Africa it ranges from a low of 3.9 for ever-married women in Kenya to a high of 8.5 in Niger. The average for ever-married women across the 15 sub-Saharan African countries is 5.8.

Table 3.1 Number of children desired, by marital status and number of living children

Mean number of children desired by women, by number of living children and marital status, Demographic and Health Surveys, 1990-94

Country	Date of survey	Number of living children <sup>a,b</sup>							Marital status			Percent giving non-numeric response <sup>b</sup>	Number of women
		0	1	2	3	4	5	6+	Ever-married	Never-married	Total		
<b>Sub-Saharan Africa</b>													
Burkina Faso	1993	5.5	5.6	5.6	5.7	6.1	6.4	6.4	5.9	5.0	5.7	26	6,354
Cameroon	1991	6.6	6.6	6.8	7.3	7.6	7.7	8.3	7.2	5.0	6.8	11	3,871
Ghana	1993	4.4	4.0	4.4	4.6	4.9	5.3	5.5	4.7	3.4	4.4	8	4,562
Kenya	1993	3.9	3.5	3.5	3.6	3.9	4.0	4.5	3.9	3.2	3.7	6	7,540
Madagascar	1992	6.1	5.0	5.1	5.3	5.7	6.5	7.3	5.9	4.6	5.5	8	6,260
Malawi	1992	4.5	4.5	4.8	5.2	5.6	6.0	6.4	5.3	4.1	5.1	14	4,849
Namibia	1992	4.4	4.1	4.3	5.3	5.9	6.6	8.5	5.7	4.4	5.0	9	5,421
Niger	1992	7.3	7.6	8.2	8.5	9.0	9.4	9.8	8.5	6.3	8.2	14	6,503
Nigeria	1990	5.5	5.5	5.7	6.1	6.1	7.0	7.2	6.2	4.9	5.8	66	8,781
Rwanda	1992	3.9	4.0	4.1	4.4	4.5	4.6	4.7	4.4	4.0	4.2	1	6,551
Senegal	1992-93	5.9	5.8	5.9	6.1	6.5	6.7	6.5	6.2	4.9	5.9	18	6,310
Sudan	1989-90	5.1	5.0	5.5	5.7	5.8	6.5	7.2	5.9	U	U	47	5,860 <sup>b</sup>
Tanzania	1991-92	5.8	5.6	5.9	6.1	6.5	7.1	7.4	6.3	5.2	6.1	14	9,238
Zambia	1992	5.7	5.4	5.4	6.1	6.2	6.6	7.2	6.1	4.9	5.8	7	7,060
Zimbabwe	1994	3.9	3.8	4.1	4.4	5.1	5.3	6.1	4.7	3.3	4.3	1	6,128
<b>Near East/North Africa</b>													
Egypt	1992	2.4	2.5	2.5	2.8	3.0	3.2	3.5	2.9	U	U	19	9,864 <sup>b</sup>
Jordan	1990	4.2	3.9	4.0	4.2	4.4	4.3	4.9	4.4	U	U	31	6,461 <sup>b</sup>
Morocco	1992	3.1	3.0	3.2	3.5	4.0	4.4	4.9	3.8	2.8	3.4	4	9,256 <sup>b</sup>
Turkey	1993	2.1	2.1	2.2	2.5	2.5	2.8	3.3	2.4	U	U	2	6,519 <sup>b</sup>
<b>Asia</b>													
Bangladesh	1994	2.2	2.2	2.4	2.5	2.7	2.7	3.0	2.5	U	U	7	9,640 <sup>b</sup>
Indonesia	1991	2.4	2.5	2.8	3.3	3.7	4.1	4.6	3.1	U	U	112	2,909 <sup>b</sup>
Pakistan	1990-91	3.9	3.9	3.6	3.8	4.2	4.2	4.6	4.1	U	U	61	6,611 <sup>b</sup>
Philippines	1993	2.9	2.7	2.9	3.3	3.8	4.1	4.6	3.5	2.8	3.2	11	5,029 <sup>b</sup>
<b>Latin America/Caribbean</b>													
Bolivia	1994	2.5	2.3	2.5	2.7	2.8	3.0	3.2	2.7	2.1	2.5	9	8,603
Colombia	1990	2.2	2.2	2.5	3.0	3.1	3.8	3.9	2.8	2.2	2.6	1	8,489
Dominican Republic	1991	2.6	2.7	3.0	3.5	3.6	3.8	4.0	3.2	2.7	3.1	2	7,320
Paraguay	1990	3.2	3.2	3.5	4.2	4.7	5.4	6.8	4.3	3.1	3.9	12	5,827
Peru	1991-92	2.2	2.1	2.4	2.7	2.8	3.0	3.3	2.6	2.2	2.5	21	5,882

U = Unknown (not available)

<sup>a</sup> Includes current pregnancy

<sup>b</sup> Ever-married women

In other regions of the world, the number of children desired is considerably lower. There is an interesting large difference in the mean number desired for Bangladesh (2.5) and for Pakistan (4.1), two countries with many cultural similarities. There has been an aggressive and comprehensive family planning program effort in Bangladesh, which appears to have influenced reproductive preferences as well as contraceptive behavior. No such effort has been mounted in Pakistan.

In all of the countries that included never-married women in the survey, the mean number of children desired for that group is lower than that for ever-married women. This may indicate a downward trend in reproductive preferences or perhaps that the never-married women, who are younger on average than the ever-married women, have not yet been exposed to the rationalization of unwanted births at the higher parities. It is evident from the distributions by parity for ever-married women that the mean number of children desired increases at the higher parities. This probably reflects some combination of rationalization of unwanted births as wanted as well as the self-selection of women who want larger families into these higher parities.

In several of the countries, reproductive preferences have not yet crystallized in a numeric sense. A common response to the question on the desired number of children in such countries is: "It's up to God." This type of reaction was very common in Nigeria, where two-thirds of the women gave nonnumeric responses. Other countries that show high proportions of nonnumeric responses are Pakistan (61 percent) and Sudan (47 percent). This high figure in Pakistan may imply that the difference in the mean number desired between that country and Bangladesh is actually greater than is evident from the numerical calculation. These high proportions of nonnumeric responses are exceptions, however, and the large majority of countries show a rate of nonnumeric responses below 15 percent.

### **3.2 COVARIATES OF DESIRED NUMBER OF CHILDREN**

Urban residence is universally associated with a smaller family norm. In some sub-Saharan African countries, the difference is considerable (Table 3.2). In Burkina Faso, Senegal and Madagascar, the mean number of children desired in urban areas is 4.3, compared with an average of 6.2 in rural areas. Large differences are common through

out the region. Although an urban-rural difference persists in the other regions, it is much smaller. Only in Bolivia is there no apparent difference between urban and rural areas.

The education of women is strongly associated with the number of children desired (Table 3.2). Without exception, women with no formal education want the most children, and women with more than a primary education want the fewest children. The reasons for this strong association still remain largely a matter of conjecture. There are probably many causal connections, including exposure to modern secular values that compete with traditional attitudes toward childbearing, the greater autonomy that more educated women have in marital relationships, and the greater likelihood of more educated women being in the labor force. There may also be some self-selection mechanisms involved, in the sense that some women with more education may have wanted fewer children even without that education. Some of the characteristics that lead some women to acquire more education may be the same ones that make women more receptive to family planning and the idea of smaller families. Whatever the exact connections, the strength and consistency of the association is impressive (Martin, 1995).

Another strong association with the number of children desired is evident with exposure to the mass media (Table 3.2). An index of such exposure has been constructed that summarizes whether a woman listens to the radio, watches television or reads newspapers or magazines with some frequency. This index ranges from zero, indicating no exposure to any of these media, to three, if she reports exposure to all three media. With only two exceptions (Jordan and Paraguay), women with a score of zero exposure want the most children on average. All that this index measures crudely is the occurrence of such exposure. There is no information about the content of the exposure; it could be music, advertisements, soap operas, films, news, government announcements or political speeches. Whatever the mixture, there seems to be an association between media exposure and reproductive attitudes. Perhaps this reflects a window on modern or western values related to consumer behavior or individualism, or on whatever constellation of values competes with traditional attitudes toward childbearing.

Because these three covariates—residence, education and media exposure—are themselves interrelated, a multivariate analysis is needed to assess the independence

**Table 3.2 Number of children desired, by residence, education, and media exposure**

Mean number of children desired by ever-married women, by residence, education, and exposure to mass media, Demographic and Health Surveys, 1990-94

Country	Residence		Education			Exposure to mass media				Number of women
	Urban	Rural	None	Primary	Secondary	None	Any one	Any two	All three	
<b>Sub-Saharan Africa</b>										
Burkina Faso	4.3	6.2	6.1	4.6	3.6	6.3	5.7	4.2	3.7	5,499
Cameroon	6.3	7.9	8.9	6.5	5.0	8.4	6.6	5.4	a	3,151
Ghana	3.7	4.8	5.5	4.3	3.8	5.1	4.4	3.9	3.4	3,672
Kenya	2.9	3.9	4.9	3.7	3.0	4.2	3.7	3.4	2.9	5,260
Madagascar	4.3	6.2	7.6	5.9	4.2	6.6	5.3	4.4	3.7	4,581
Malawi <sup>b</sup>	4.6	5.1	5.4	4.9	4.0	5.3	5.0	4.5	a	4,088
Namibia	4.3	6.6	6.8	6.2	4.2	6.9	6.5	5.8	3.5	2,636
Niger	7.0	8.7	8.6	7.1	5.0	8.8	8.4	7.1	5.3	5,821
Nigeria	5.3	6.6	7.0	6.1	4.8	6.8	6.4	5.3	a	7,268
Rwanda	3.7	4.4	4.6	4.2	3.7	U	U	U	U	4,450
Senegal	4.3	6.2	5.7	4.6	4.0	6.6	5.4	4.5	4.1	4,732
Sudan	5.3	6.3	6.8	5.5	4.6	6.8	5.5	a	a	5,860
Tanzania	5.7	6.6	7.4	5.8	4.4	6.9	6.2	5.2	4.7	6,977
Zambia	5.5	6.7	7.1	6.3	4.8	6.8	6.3	5.5	4.8	5,269
Zimbabwe	3.9	5.1	6.2	4.9	3.6	5.4	4.7	4.2	3.7	4,480
<b>Near East/North Africa</b>										
Egypt	2.6	3.1	3.1	2.8	2.5	3.2	3.0	2.9	2.5	9,864
Jordan	4.4	4.6	5.3	4.3	4.2	4.2	4.3	4.5	4.4	6,461
Morocco	3.3	4.3	4.1	3.1	2.7	4.4	4.1	3.7	2.8	5,639
Turkey	2.3	2.5	2.8	2.3	2.0	2.9	2.6	2.5	2.2	6,519
<b>Asia</b>										
Bangladesh	2.4	2.5	2.6	2.5	2.2	2.6	2.5	2.3	2.1	9,640
Indonesia	3.0	3.2	3.5	3.1	2.8	3.5	3.1	3.0	2.8	22,909
Pakistan	3.7	4.3	4.3	4.0	3.5	4.4	4.1	3.8	3.4	6,611
Philippines	3.3	3.6	5.0	3.7	3.2	4.2	3.7	3.5	3.3	9,511
<b>Latin America/Caribbean</b>										
Bolivia	2.7	2.7	2.8	2.7	2.6	2.8	2.6	2.6	2.7	5,981
Colombia	2.7	3.1	3.4	3.0	2.5	3.2	3.0	2.8	2.6	5,395
Dominican Republic	3.1	3.5	3.5	3.4	3.0	3.3	3.2	3.2	3.4	5,167
Paraguay	3.8	4.9	5.5	4.6	3.7	4.7	5.0	4.4	4.0	3,911
Peru	2.6	2.8	3.1	2.8	2.5	2.9	2.8	2.6	2.6	9,824

U = Unknown (not available)

<sup>a</sup> All three media-exposure questions not included

<sup>b</sup> Estimates for (rural-urban) residence were based on all women. These were taken from the country report (1992) because the variable is not available in the data set.

and relative strength of each variable.<sup>2</sup> It is of interest to determine whether media exposure in particular influences the number of children desired, independent of residence and education, because media exposure is the more practical policy instrument.

### 3.3 DESIRED NUMBER OF CHILDREN AMONG MEN

The analysis of reproductive preferences in this report is based exclusively on the responses of women. Another DHS comparative report (Ezeh, Seroussi, and

<sup>2</sup> Such an analysis is planned for a future DHS publication.

Raggers, 1995) focuses on the responses of men in similar surveys conducted in 15 countries. The reader is referred to that report for details, but it is relevant to note here that, contrary to expectation, the average number of children desired by married men<sup>3</sup> is indistinguishable from the number desired by married women, except in the four countries of francophone Africa (Burkina Faso, Cameroon, Niger and Senegal), where it is considerably higher.

### 3.4 TRENDS IN THE NUMBER OF CHILDREN DESIRED

There have been appreciable reductions in the average number of children desired by women over the 10-15 years separating the WFS from the most recent DHS (Table 3.3 and Figure 3.1). The greatest decline recorded here is for Kenya, where the mean number of children desired dropped by 46 percent, from 7.2 in 1977-78 to 3.9 in 1993. At the opposite extreme, the number of children desired in Pakistan remained virtually unchanged over the same time period. Again the contrast with Bangladesh, which shows a 39-percent decline in the number desired, is revealing. The WFS was conducted in that country in 1975-76, before the extensive government family planning program got under way, at which time the number of children desired was the same as in Pakistan. This further suggests that the program in Bangladesh had an effect on reproductive preferences, rather than simply satisfying existing demand.<sup>4</sup> The low level of the desired number in Bangladesh (2.5) places it on a par with Turkey and Peru.

<sup>3</sup> These are national samples of married men in general. A few surveys included only the husbands of the women who were interviewed.

<sup>4</sup> The trend in Pakistan is clouded by the very high proportion of women (61 percent) who gave a nonnumeric response (typically, "It's up to Allah") in the DHS to the question on the number of children desired. The fact that this reflects interviewer training differences is clear from the small proportion (3 percent) so classified in the Pakistan WFS. However, the lack of any downward trend in Pakistan is plausible, given the likelihood that women offering such responses are typically at the high end of the preference continuum.

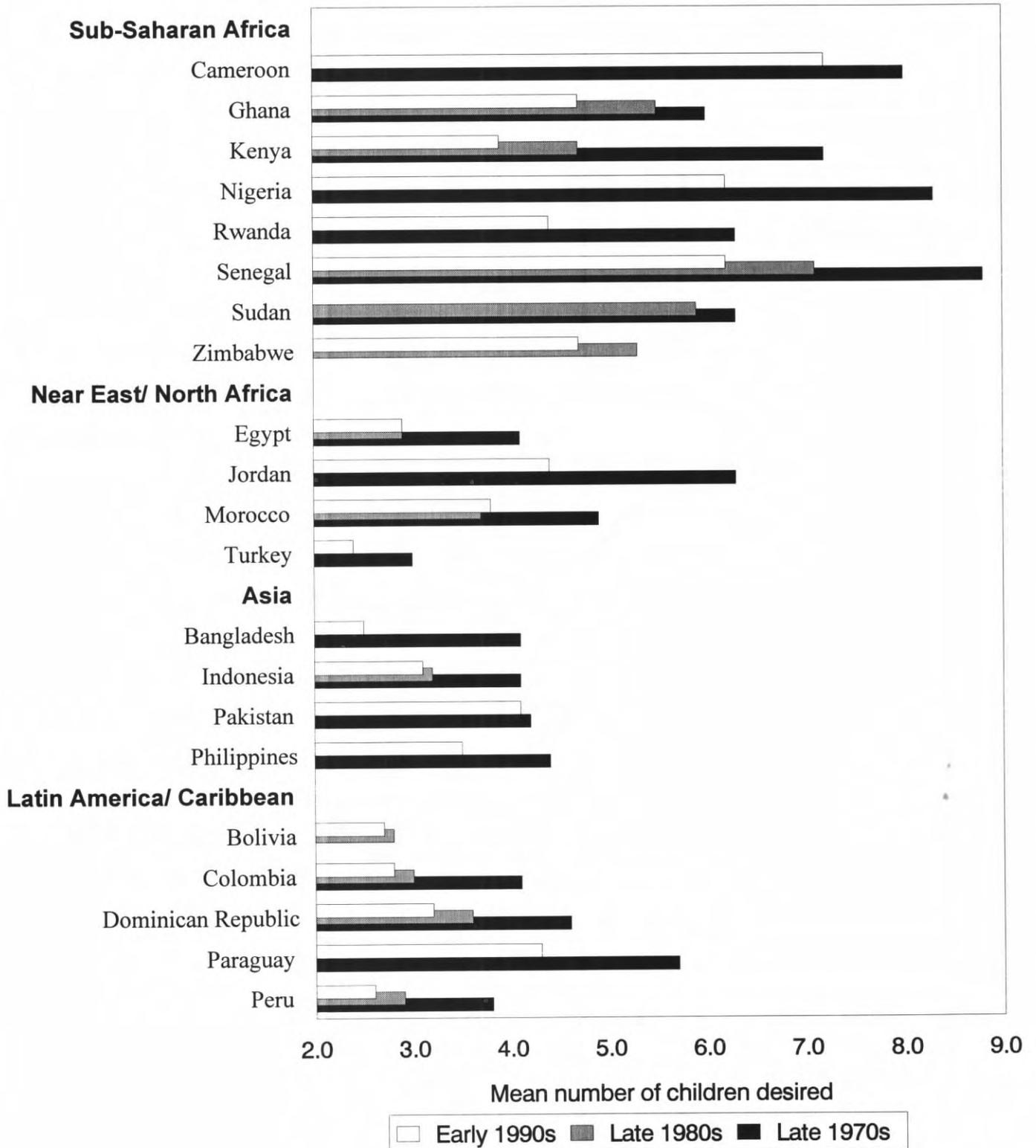
Table 3.3 Trends in number of children desired

Trends in mean number of children desired among ever-married women from late 1970s to early 1990s, World Fertility Survey and Demographic and Health Surveys

Country	WFS	DHS-I	DHS-II or DHS-III	Percent decline from earliest to latest survey
<b>Sub-Saharan Africa</b>				
Cameroon	8.0	U	7.2	10
Ghana	6.0	5.5	4.7	22
Kenya	7.2	4.7	3.9	46
Nigeria	8.3	U	6.2	25
Rwanda	6.3	U	4.4	30
Senegal	8.8	7.1	6.2	30
Sudan	6.3	5.9	U	6
Zimbabwe	U	5.3	4.7	11
<b>Near East/North Africa</b>				
Egypt	4.1	2.9	2.9	29
Jordan	6.3	U	4.4	30
Morocco	4.9	3.7	3.8	22
Turkey	3.0	U	2.4	20
<b>Asia</b>				
Bangladesh	4.1	U	2.5	39
Indonesia	4.1	3.2	3.1	24
Pakistan	4.2	U	4.1	2
Philippines	4.4	U	3.5	20
<b>Latin America/Caribbean</b>				
Bolivia	U	2.8	2.7	4
Colombia	4.1	3.0	2.8	32
Dominican Republic	4.6	3.6	3.2	30
Paraguay	5.7	U	4.3	25
Peru	3.8	2.9	2.6	32

U = Unknown (no information)

Figure 3.1 Trends in the mean number of children desired, from late 1970s to early 1990s, World Fertility Survey and Demographic and Health Surveys



## 4 Reproductive Intentions

### 4.1 MEASUREMENT

The ideal number of children or the number desired is aimed at measuring the social norms that govern reproduction. Although highly correlated, the reproductive intentions of women are assessed in order to represent the individual's personal attitude toward the more short-term future, an approach with more predictive utility. Does she want to have another child soon or does she wish to postpone the next birth for some time? Or does she want no more children at all? The standard DHS questions on reproductive intentions (for nonpregnant women)<sup>5</sup> are:

"Now I have some questions about the future. Would you like to have (a/another) child or would you prefer not to have any (more) children?"

Respondents who replied that they would like to have another child were then asked:

"How long would you like to wait from now before the birth of (a/another) child?"<sup>6</sup>

Women are classified as wanting the next child soon, wanting to wait two or more years, or wanting no more children at all. There is no information on how intensely motivated the woman might be to realize such intentions.

### 4.2 INTERNATIONAL DIFFERENCES IN REPRODUCTIVE INTENTIONS

As is evident in the earlier comparative report for countries in DHS-I, there are clear regional differences in reproductive intentions in the countries included in DHS-II (Table 4.1). In sub-Saharan Africa, an average of 27 percent reply that they want no more children, compared with 59 percent in the other regions of the developing world. Kenya is an exception in sub-Saharan Africa, with 52 percent wanting to terminate childbearing; in the other regions, Pakistan and Paraguay show the lowest proportions in this category: 40 and 44 percent, respectively.

Conversely, the women of sub-Saharan Africa show comparatively high proportions who want their next child soon (an average of 26 percent) or who wish to delay the next birth for two years or longer (37 percent). The corresponding estimates for countries in the other regions are an average of 14 and 19 percent, respectively. The concentration of sub-Saharan African women in the spacing intention category is well known but undoubtedly reflects a weaker motivation than the desire to avoid any further childbearing.

As would be expected, the proportion of women who want no more children rises progressively with the number of children (Table 4.2). The regions differ markedly, however, in the steepness of that ascent. In the Latin American countries, there is a significant proportion of women with one child who want no more children (22 percent on average). This percentage climbs to an average of 60 percent for those with two children. In contrast, only 13 percent of sub-Saharan African women with two children wish to terminate childbearing. The most extreme case is Niger, where only 30 percent of women with six or more children say they want no more. The average for women at this parity in all of the sub-Saharan African countries included here is twice that proportion. Thus, in this region it is not until the interval between five and six or more children that half of the women, on average, wish to terminate childbearing. This halfway mark is reached sooner in Kenya, Madagascar and Zimbabwe.

The contrast between Bangladesh and Pakistan is consistent with the earlier observations. Among Bangladeshi women with three children, 80 percent want no more, compared with 36 percent in Pakistan. The curve for Bangladesh is very similar to that for Egypt, while that for Pakistan bears more resemblance to the curve for Jordan, Madagascar and Zimbabwe.

### 4.3 COVARIATES OF INTENTION TO TERMINATE CHILDBEARING

The association of the (standardized) proportion of women who want no more children with rural-urban residence, education and media exposure is shown in Table 4.3.

<sup>5</sup> A different phrasing of these questions is used for pregnant women.

<sup>6</sup> Women who have difficulty with this question are asked: "How old would you like your youngest child to be when your next child is born?"

**Table 4.1 Reproductive intentions of currently married women**

Percentage distribution of currently married women according to reproductive intentions, Demographic and Health Surveys, 1990-94

Country	Want a child within 2 years <sup>a</sup>	Want a child after 2 years	Want no more children <sup>b</sup>	Others <sup>c</sup>	Total	Number of women
<b>Sub-Saharan Africa</b>						
Burkina Faso	27	44	19	9	100	5,326
Cameroon	38	35	14	13	100	2,868
Ghana	17	39	34	10	100	3,204
Kenya	13	26	52	10	100	4,629
Madagascar	25	30	41	5	100	3,736
Malawi	21	37	25	16	100	3,492
Namibia	27	30	34	9	100	2,259
Niger	36	45	9	9	100	5,561
Nigeria	33	33	15	18	100	6,880
Rwanda	16	42	37	5	100	3,785
Senegal	31	39	20	10	100	4,450
Sudan	34	32	25	9	100	5,400
Tanzania	28	41	23	7	100	6,038
Zambia	27	41	24	8	100	4,457
Zimbabwe	21	36	38	5	100	3,788
<b>Near East/North Africa</b>						
Egypt	12	17	67	4	100	9,153
Jordan	15	26	53	6	100	6,168
Morocco	18	24	52	6	100	5,118
Turkey	10	14	70	6	100	6,270
<b>Asia</b>						
Bangladesh	14	24	57	5	100	8,980
Indonesia	14	25	54	7	100	21,109
Pakistan	25	18	40	17	100	6,364
Philippines	9	19	63	9	100	8,961
<b>Latin America/Caribbean</b>						
Bolivia	8	12	72	7	100	5,334
Colombia	13	16	64	7	100	4,449
Dominican Republic	15	17	65	3	100	4,083
Paraguay	20	29	44	8	100	3,574
Peru	8	13	72	7	100	8,741

<sup>a</sup> Includes those who want more but are not sure of timing

<sup>b</sup> Includes sterilized women

<sup>c</sup> Includes those who are undecided about whether they want any more children, who have declared themselves to be infecund or who did not respond to the question

**Table 4.2 Women who want no more children, by present number of children**

Percentage of currently married women who want no more children, by number of living children, Demographic and Health Surveys, 1990-94

Country	Number of living children <sup>a</sup>							Total	
	0	1	2	3	4	5	6+	Unstan- dardized	Stan- dardized <sup>b</sup>
<b>Sub-Saharan Africa</b>									
Burkina Faso	1	2	5	12	22	32	56	19	17
Cameroon	--	1	5	8	12	21	40	14	11
Ghana	1	3	17	31	48	55	79	34	31
Kenya	--	7	26	47	65	71	84	52	41
Madagascar	1	6	18	40	52	58	79	41	34
Malawi	2	6	12	18	34	45	60	25	23
Namibia	8	15	35	35	39	41	46	34	31
Niger	1	3	4	6	8	12	30	9	9
Nigeria	1	3	5	9	17	24	44	15	14
Rwanda	1	2	13	25	45	54	75	37	28
Senegal	1	1	4	9	17	28	53	20	14
Sudan	1	3	11	16	23	36	49	25	19
Tanzania	2	3	8	12	25	35	60	23	19
Zambia	1	3	8	11	24	34	62	24	18
Zimbabwe	3	6	20	31	51	61	80	38	33
<b>Near East/North Africa</b>									
Egypt	2	9	59	81	89	91	93	67	60
Jordan	2	6	24	38	54	67	79	53	36
Morocco	1	7	29	52	67	79	88	52	43
Turkey	2	21	81	91	91	93	91	70	69
<b>Asia</b>									
Bangladesh	3	9	58	80	86	91	85	57	58
Indonesia	6	12	51	73	81	86	90	54	56
Pakistan	2	4	17	36	52	63	73	40	32
Philippines	1	14	49	75	84	86	89	63	56
<b>Latin America/Caribbean</b>									
Bolivia	8	31	69	83	89	90	90	72	66
Colombia	3	23	62	86	89	94	92	64	64
Dominican Republic	5	14	58	87	96	96	97	65	63
Paraguay	4	14	36	53	57	67	71	44	42
Peru	4	29	73	85	89	90	90	72	67

-- Less than 0.5 percent

<sup>a</sup> Includes current pregnancy

<sup>b</sup> Percentages are standardized on the number of living children (including current pregnancy) in Indonesia, 1987

**Table 4.3 Women who want no more children, by residence, education, and media exposure**

Percentage (standardized) distribution of currently married women who want no more children by residence, education, and exposure to mass media, Demographic and Health Surveys, 1990-94

Country	Residence		Education			Exposure to mass media			
	Urban	Rural	None	Primary	Secondary	None	Any one	Any two	All three
<b>Sub-Saharan Africa</b>									
Burkina Faso	25	15	16	21	37	15	17	23	39
Cameroon	14	10	9	12	17	9	12	17	a
Ghana	38	28	24	33	38	25	32	35	46
Kenya	51	38	31	40	48	34	40	47	53
Madagascar	52	30	26	33	44	27	38	46	60
Malawi	30	22	22	23	43	22	24	27	a
Namibia	46	22	24	25	41	20	23	27	54
Niger	12	8	9	9	17	8	8	11	17
Nigeria	17	13	12	16	22	11	13	20	a
Rwanda	35	27	29	26	35	U	U	U	U
Senegal	18	13	13	17	28	13	13	17	24
Sudan	23	16	16	21	28	16	20	a	a
Tanzania	26	17	17	21	29	17	18	28	37
Zambia	21	16	19	16	27	15	18	20	28
Zimbabwe	43	29	27	31	42	28	30	38	46
<b>Near East/North Africa</b>									
Egypt	65	54	56	62	62	52	59	59	63
Jordan	38	30	35	35	38	41	37	34	37
Morocco	52	35	40	52	59	36	38	45	58
Turkey	69	67	66	68	72	61	67	68	70
<b>Asia</b>									
Bangladesh	64	67	57	58	62	56	59	62	70
Indonesia	60	54	61	55	58	52	56	57	59
Pakistan	43	27	29	35	48	27	36	40	44
Philippines	58	54	38	56	57	47	54	56	58
<b>Latin America/Caribbean</b>									
Bolivia	66	69	70	69	65	68	70	68	62
Colombia	65	62	72	63	66	65	63	64	65
Dominican Republic	65	61	66	64	63	63	63	65	59
Paraguay	47	36	49	41	47	39	40	39	45
Peru	67	68	74	69	67	70	68	69	66

U = Unknown (not available)

<sup>a</sup> All three media exposure questions not included

Note: Percentages are standardized on the number of living children (including current pregnancy) in Indonesia, 1987

The reason for the standardization<sup>7</sup> is that the likelihood of wanting no more children increases with the actual number of children, and the more educated women are more likely to want no more but have fewer children. Thus, when the unadjusted percentages are examined, the true direction of the association is distorted. For example, in Zimbabwe, the

percentage of women with no education who want no more children is 46, dropping to 43 for women with primary schooling and to 27 percent for those with secondary or higher education. When standardized, the corresponding percentages are 27, 31 and 42. The direction of the relationship is reversed when the number of children, in effect, is held constant. Less distortion occurs with rural-urban residence and media exposure.

<sup>7</sup> The percentages are standardized on the number of living children (including current pregnancy) in Indonesia, 1987. This standard population is arbitrary and was selected only because it was the population used for this purpose in the DHS-I report.

With few exceptions, women living in cities are more likely to want no more children than women in the country. The association with education, again with some

exceptions, follows the example of Zimbabwe above, with the percentage who want no more increasing with level of education. The main exceptions are in Latin America, where the fertility transition is more advanced and small differences exist between educational categories. This weak association was also observed for the Latin American countries in DHS-I, but the African countries in Table 4.3 show a stronger and more systematic pattern than in DHS-I. The relationship with media exposure follows the same pattern as with education, again with the exception of the Latin American countries.

#### 4.4 TRENDS IN INTENTION TO TERMINATE CHILDBEARING

The change in the proportion<sup>8</sup> of women who want no more children over the 10-15 years since the WFS is shown in Table 4.4. In all but two (Pakistan and Zimbabwe) of the 19 countries for which trends can be assessed from the major surveys, the intention to terminate childbearing has increased. In most of the countries, the absolute increase has ranged between 10 and 15 percentage points. The most dramatic rise in this statistic is in Kenya, where the increase has been from 17 percent who want no more in 1977-78 to 52 percent in 1993. Ghana also shows a considerable increase, from 12 to 34 percent.

#### 4.5 PERCEPTION OF PARTNER'S ATTITUDES

One index of the erosion of traditional supports for high fertility is whether the very subject of the number of children desired is ever explicitly discussed in the household. Two questions were included in DHS-II about such behavior:<sup>9</sup>

"Have you and your husband/partner ever discussed the number of children you would like to have?"

and

<sup>8</sup> Because only fecund women in the WFS were asked whether they wanted more children, the comparison is limited to fecund women in union in both surveys. The definition of fecundity differs in the two surveys.

<sup>9</sup> Neither of these questions on wife-husband communication was asked of women who were sterilized or women whose husbands were sterilized, because the subject is no longer relevant. The implication is that in countries where sterilization is common, such as in the Latin American countries, the amount of discussion or agreement is probably underestimated.

"Do you think your husband/partner wants the *same* number of children that you want, or does he want *more* or *fewer* than you want?"

Table 4.4 Trends in desire for no more children

Trends in the percentage of fecund women in union who want no more children, from the late 1970s to the early 1990s, World Fertility Survey and Demographic and Health Surveys

Country	WFS	DHS-I	DHS-II or DHS-III	Absolute increase from earliest to latest survey
<b>Sub-Saharan Africa</b>				
Cameroon	3	U	15	12
Ghana	12	22	34	22
Kenya	17	49	52	35
Nigeria	5	U	14	9
Rwanda	19	U	36	17
Senegal	7	17	19	12
Sudan	17	23	U	6
Zimbabwe	U	32	31	-1
<b>Near East/North Africa</b>				
Egypt	53	64	68	15
Jordan	42	U	54	12
Morocco	42	48	53	11
Turkey	57	U	72	15
<b>Asia<sup>a</sup></b>				
Indonesia	39	50	52	13
Pakistan	43	U	39	-4
Philippines	54	U	64	10
<b>Latin America/Caribbean</b>				
Colombia	61	70	66	5
Dominican Republic	52	64	66	14
Paraguay	32	U	45	13
Peru	61	73	75	14

U = Unknown (no information)

<sup>a</sup> Although Bangladesh participated in the WFS and DHS, the questions on fertility intention in the two surveys are not comparable

In most of the countries outside of sub-Saharan Africa, the topic has evidently arisen in the majority of marriages (Table 4.5). In Peru, where fertility is falling rapidly, 87 percent of women report having discussed the number of children with their husbands. The comparison of Bangladesh and Pakistan is again revealing, with 76 percent reporting such discussions in Bangladesh and 34 percent in Pakistan.

The pattern is quite varied in sub-Saharan Africa, although on the whole, such communication is far less frequent than in the other regions. There is very little discus-

sion of this topic reported in Burkina Faso, Niger and Senegal—all lower than 20 percent report ever having discussed the desired number of children. Kenya again stands out, with 62 percent of women reporting discussion of the topic with their partner. Madagascar and Rwanda are the other two countries in the region where more than half have discussed it.

**Table 4.5 Discussion with husband of desired number of children**

Percent of currently married women who have or have not ever discussed the desired number of children with their husband, Demographic and Health Surveys, 1990-94

Country	Have discussed	Have not discussed
<b>Sub-Saharan Africa</b>		
Burkina Faso	15	85
Cameroon	28	72
Ghana	48	52
Kenya	62	38
Madagascar	57	43
Malawi	36	64
Namibia	49	51
Niger	17	83
Nigeria	23	77
Rwanda	52	48
Senegal	11	89
Sudan	U	U
Tanzania	27	73
Zambia	44	56
Zimbabwe	73	27
<b>Near East/North Africa</b>		
Egypt	46	54
Jordan	60	40
Morocco	66	35
Turkey	69	31
<b>Asia</b>		
Bangladesh	76	24
Indonesia	60	40
Pakistan	34	66
Philippines	79	21
<b>Latin America/Caribbean</b>		
Bolivia	76	24
Colombia	71	29
Dominican Republic	77	23
Paraguay	73	27
Peru	87	13

Note: Women who were sterilized or whose husbands were sterilized were not asked the question

U = Unknown (not available, question not asked)

The question of whether women thought that their husbands agreed with them on the desired number of children was asked of all women in union, regardless of whether they reported ever having discussed the topic with their partner (Table 4.6). It is no surprise, therefore, to find that substantial proportions of women in sub-Saharan Africa do not

**Table 4.6 Spousal agreement on number of children desired**

Percent distribution of currently married women by whether they want the same, more or fewer children than their husband, Demographic and Health Surveys

Country	Fertility preferences				Total
	Both want same	Husband wants more	Husband wants fewer	Don't know <sup>a</sup>	
<b>Sub-Saharan Africa</b>					
Burkina Faso	19	14	2	65	100
Cameroon	28	34	5	33	100
Ghana	49	12	5	34	100
Kenya	55	15	7	23	100
Madagascar	55	15	4	25	100
Malawi	38	16	15	31	100
Namibia	37	26	6	31	100
Niger	31	32	2	35	100
Nigeria	25	19	3	53	100
Rwanda	49	15	13	23	100
Senegal	15	24	2	60	100
Tanzania	23	25	11	40	100
Zambia	32	22	11	36	100
Zimbabwe	45	26	23	7	100
<b>Near East/North Africa</b>					
Egypt	60	17	10	14	100
Jordan	52	29	10	9	100
Morocco	65	18	10	7	100
Turkey	69	16	9	6	100
<b>Asia</b>					
Bangladesh	65	11	8	16	100
Indonesia	60	7	3	30	100
Pakistan	44	14	5	37	100
Philippines	63	16	18	3	100
<b>Latin America/Caribbean</b>					
Bolivia	60	17	9	14	100
Colombia	68	17	8	6	100
Dominican Republic	55	23	10	11	100
Paraguay	62	19	10	9	100
Peru	69	16	8	7	100

<sup>a</sup> Includes women who did not respond to the question

know whether they are in agreement.<sup>10</sup> Where they do offer an opinion, these women typically, though not universally, say that they both want the same number. If disagreement is reported, it is usually the husband who is perceived as wanting more children than the wife—an observation that holds for all countries except the Philippines. Pakistan and Indonesia stand out among the countries outside sub-Saharan Africa with relatively high proportions of women responding that they do not know whether or not their husband wants the same number. In Pakistan, where a survey of husbands of the women interviewed was also conducted, more than 60 percent agreed that the ideal number was "up to Allah."

The likelihood of discussion and agreement between spouses about the number of children may well be influenced by whether the woman's husband is shared with other wives. The extent of polygyny in sub-Saharan Africa is sufficient (Westoff, Blanc and Nyblade, 1994) to compare such communication patterns for women in monogamous and in polygynous unions. It is clear that discussion of the number of children is reported more frequently by women in monogamous unions (Table 4.7) and that there is greater consensus in such unions (Table 4.8). Where disagreement is reported, it is more likely that the husband is perceived as wanting more children than the wife, a perception that is consistently more common in polygynous unions. Whether these differences are directly caused by the type of union or by other associated social characteristics would require further analysis.

<sup>10</sup> The whole notion of discussion and agreement about reproductive matters is probably quite foreign to many women in traditional societies in sub-Saharan Africa, where fertility has not been rationalized as in more modern societies.

**Table 4.7 Spousal discussion of number of children by type of union**

Percent of women who have discussed the desired number of children with their husbands by whether the union is monogamous or polygynous, Demographic and Health Surveys, 1990-94

Country	Monogamous	Polygynous
<b>Sub-Saharan Africa</b>		
Burkina Faso	21	10
Cameroon	35	17
Ghana	53	38
Kenya	65	50
Malawi	36	35
Namibia	52	44
Niger	17	16
Nigeria	28	16
Rwanda	55	37
Senegal	14	7
Tanzania	29	20
Zambia	47	32
Zimbabwe	77	56

**Table 4.8 Spousal agreement on number of children by type of union**

Percent of women who report that they want the same number of children or that their husbands want more children by whether the union is monogamous or polygynous, Demographic and Health Surveys, 1990-94

Country	Both want same number		Husband wants more	
	Monogamous	Polygynous	Monogamous	Polygynous
<b>Sub-Saharan Africa</b>				
Burkina Faso	24	14	13	15
Cameroon	33	19	28	44
Ghana	52	41	12	13
Kenya	58	41	13	23
Malawi	40	32	15	21
Namibia	39	29	25	28
Niger	35	25	28	40
Nigeria	30	19	17	21
Rwanda	52	31	14	24
Senegal	18	11	21	26
Tanzania	25	17	23	32
Zambia	35	19	20	29
Zimbabwe	47	33	22	42

## 5 Preferred Birth Intervals

### 5.1 "BEST" LENGTH

To determine the norm governing the length of birth intervals, a question on the "best" length was included in 16 of the surveys in DHS-II:

"What do you think is the best number of months or years between the birth of one child and the birth of the next child?"

Virtually all responses to this question were two, three or four years, with a few countries showing some frequency at

five years (Table 5.1).<sup>11</sup> This question was asked of both ever-married and never-married women (where interviewed), but the comparison shows little difference.

There is little systematic variation across countries for this variable. Few women in any country think that an interval of less than 24 months is optimal. An interval between two and four years captures by far the highest frequency of response. Only in Turkey does a high proportion fall in the five-or-more-years category, with 15 percent indicating a preference for six or more years. The mean for ever-married women in the 16 countries is 29 months.

<sup>11</sup> The medians were calculated on the basis of all numerical responses, not just those reported in full years.

Table 5.1 Best length of birth interval

Percent distribution of women, according to "best" length-of-birth interval, Demographic and Health Surveys, 1990-94

Country <sup>a</sup>	Interval in months for ever-married women						Total	Median interval in months	
	<24	24	36	48	60	72+		Ever-married women	Never-married women
<b>Sub-Saharan Africa</b>									
Burkina Faso	2	21	57	15	4	1	100	30	30
Ghana	1	15	43	24	11	6	100	34	34
Kenya	3	21	38	19	15	5	100	32	32
Madagascar	6	39	34	13	6	2	100	26	24
Malawi	5	47	35	8	4	1	100	24	24
Namibia	18	47	19	7	5	5	100	23	22
Niger	3	49	41	5	1	--	100	24	26
Senegal	3	40	46	8	3	--	100	26	26
Tanzania	3	43	42	7	4	1	100	30	31
Zambia	10	57	26	5	2	--	100	23	24
<b>Near East/North Africa</b>									
Egypt	2	43	38	11	5	1	100	31	U
Morocco	4	31	28	21	9	7	100	30	U
Turkey	2	14	24	22	23	15	100	41	U
<b>Asia</b>									
Philippines	4	28	36	13	14	5	100	30	28
<b>Latin America/Caribbean</b>									
Dominican Republic	17	41	26	7	7	2	100	23	21
Peru	7	30	28	15	15	6	100	30	26

-- Less than 0.5 percent

U = Unknown (not available)

<sup>a</sup> The question was not asked in the countries excluded here.

## 5.2 PREFERRED LENGTH OF NEXT BIRTH INTERVAL

As indicated above, women who said that they wanted another child were asked how long they wanted to wait. To estimate the length of the interval preferred between births, the response to this question was added to the length of time that had elapsed since the birth of the last child (or to the time since marriage for women with no births). Thus, the length of this "open interval" plus the desired waiting time is one measure of the woman's preferred length of birth intervals. Because subfecund women can be expected to contribute longer open intervals than these women might have preferred, the calculation is limited to women classified as fecund as well as to those who want another child.<sup>12</sup>

The first observation (Table 5.2) is that these estimated lengths of preferred next-birth intervals are considerably longer than the intervals regarded as optimal ("best" interval length). They tend to exceed the average length of the "best" interval by a year or two, though there is some correlation between the two averages across countries. Of course, the two measures are based on different questions. The "best" interval may be a much more idealistic concept than the woman's own preference in her individual circumstances. It may also be true that some women, even though fecund, may have already waited longer than they would have preferred in retrospect, and negative responses were not possible. This is probably the main reason that this measure of preferred interval length is so much longer than the normative response based on the question about the "best" length of the interval. Another difference between the two questions is that the preferred next interval is based in part on the responses to the question about how long the woman would like to wait until the birth of the next child, which was asked only of women who want another child.<sup>13</sup>

The average woman who wants more children prefers a next-birth interval that ranges from a low of 35 months in Pakistan to a high of 67 months in Indonesia (see

Table 5.2). Peru also shows a median exceeding 5 years (64 months) and Zimbabwe exactly 5 years, while Niger, Nigeria and Jordan are the remaining countries along with Pakistan with a median below 40 months. Most countries with long preferred intervals show long open intervals (intervals since the last birth). The overall average time that women prefer between the last birth and the next birth for all 28 countries is four years.

The median preferred interval has increased in length in the 11 countries represented in both phases of the DHS by an average of seven months (Table 5.3). This reflects an increase in both components of the preferred interval (the length of time since the last birth because of greater regulation of fertility) as well as some increase in the actual preferred additional waiting time. On average, the length of the preferred interval increased from 47 to 54 months over a roughly 5-year period between surveys. Of this 7-month increase, 3 months are attributable to a longer open interval (the effect of increased fertility regulation) and 4 months to preferences for longer spacing between births. In the sub-Saharan African countries, almost all of an average 9-month increase is the result of a change in preference, as the length of the open interval increased only slightly. In the four Latin American countries, a 7-month overall increase was equally divided between the two components of change.

## 5.3 PREFERRED LENGTH OF LAST BIRTH INTERVAL

There is another approach to measuring the preferred length of birth intervals, and that is to focus on a woman's report of the planning status of her last birth. For each birth reported in the last five years, the woman was asked:

"At the time you became pregnant with (name), did you want to become pregnant *then*, did you want to wait until *later*, or did you want *no (more)* children at all?"

The length of the intervals for women who wanted the pregnancy *then* can be considered a measure of preference, although as with the measure of the preferred next interval, it does not admit the response that the woman wanted to become pregnant sooner than she did. The median dura-

<sup>12</sup> It is also true that fecund women could have longer intervals than they prefer simply by chance or for other reasons, for example, their husbands may be away.

<sup>13</sup> Restricting the "best" interval calculation to women who want another child does not alter the average of 29 months.

**Table 5.2 Preferred length of next birth interval for women who want another child**

Percent distribution of preferred length of next birth interval among fecund currently married women who want another child, according to length of interval, Demographic and Health Surveys, 1990-94

Country	Length of next birth interval in months							Percent total	Median length of interval in months	Median preferred length in months
	<24	24-35	36-47	48-59	60-71	72-83	84+			
<b>Sub-Saharan Africa</b>										
Burkina Faso	7	16	30	20	13	6	8	100	18	45
Cameroon	9	25	22	14	11	5	14	100	18	44
Ghana	4	9	17	21	16	13	19	100	19	58
Kenya	10	11	17	18	15	11	17	100	17	54
Madagascar	11	21	26	19	10	6	7	100	15	42
Malawi	5	28	27	17	10	5	7	100	11	41
Namibia	13	24	21	15	8	6	12	100	21	42
Niger	9	28	31	17	9	3	4	100	16	39
Nigeria	17	26	25	15	7	4	5	100	16	38
Rwanda	8	10	20	21	19	11	11	100	14	54
Senegal	9	22	27	18	11	6	7	100	16	42
Sudan	13	26	24	17	10	5	6	100	16	40
Tanzania	9	22	26	18	11	6	8	100	17	43
Zambia	11	26	27	17	8	4	7	100	15	42
Zimbabwe	8	10	15	16	17	11	22	100	23	60
<b>Near East/North Africa</b>										
Egypt	14	22	24	16	11	6	7	100	15	41
Jordan	19	23	24	14	10	5	5	100	12	38
Morocco	15	15	19	16	11	9	14	100	17	48
Turkey	14	11	14	15	15	12	19	100	16	54
<b>Asia</b>										
Bangladesh	13	10	14	13	18	13	19	100	18	59
Indonesia	8	8	11	12	17	14	31	100	24	67
Pakistan	21	27	22	16	6	4	3	100	14	35
Philippines	8	13	21	16	14	9	19	100	17	53
<b>Latin America/Caribbean</b>										
Bolivia	7	13	17	16	16	9	21	100	23	56
Colombia	10	12	15	15	15	9	25	100	25	58
Dominican Republic	14	18	20	12	14	8	14	100	17	46
Paraguay	9	14	18	15	15	9	19	100	22	53
Peru	6	10	15	13	16	11	30	100	26	64

**Table 5.3 Trends in length of birth interval**

Trends in the preferred length in months of next birth interval for fecund, currently married women in countries participating in two surveys, Demographic and Health Surveys, 1986-94

Country	Length of preferred next interval: DHS-I			Length of preferred next interval: DHS-II or DHS-III		
	Total	Open interval	Additional waiting time	Total	Open interval	Additional waiting time
<b>Sub-Saharan Africa</b>						
Ghana	49	18	31	58	19	39
Kenya	44	15	29	54	17	37
Senegal	36	18	18	42	16	26
Zimbabwe	49	20	29	60	23	37
<b>Near East/North Africa</b>						
Egypt	36	12	24	41	15	26
Morocco	42	19	23	48	17	31
<b>Asia</b>						
Indonesia	66	24	42	67	24	43
<b>Latin America/Caribbean</b>						
Bolivia	49	19	30	56	23	33
Colombia	53	23	30	58	25	33
Dominican Republic	39	15	24	46	17	29
Peru	57	20	37	64	26	38

tions of the last interbirth interval are displayed in Table 5.4<sup>14</sup> for each of the three planning-status categories. Our primary interest lies in the interval lengths preceding births reported as wanted *then*. The average for the 28 countries is 34 months, with little regional variation. As would be expected, the average for the births wanted *later* is considerably lower, 27 months.

The length of this preferred interval has increased in all of the nine countries that participated in both stages of the DHS and in which the planning-status question was

asked (Table 5.5). This is consistent with, but not as marked as, the trend in the length of the preferred next interval (as shown in Table 5.3).

The three measures described here yield rather different estimates of the preferred length of birth intervals. This is understandable, because these measures reflect different dimensions: an abstract ideal, preferences for the next interval, and reactions to the length of the last interval. Intervals between 2½ and 4 years cover most of the range.

<sup>14</sup> The calculations are confined to currently married women with at least two births (i.e., to women with an interbirth interval), whose last birth occurred in the past five years (only women with a birth in this period were asked the question on planning status).

**Table 5.4 Median length of last birth interval**

Median length in months of the last birth interval for currently married women with two or more births, by planning status of the last birth, Demographic and Health Surveys, 1990-94

Country	Planning status of last birth			Total
	Wanted then	Wanted later	Not wanted	
<b>Sub-Saharan Africa</b>				
Burkina Faso	36	32	37	34
Cameroon	32	27	31	31
Ghana	41	34	41	37
Kenya	33	27	31	30
Madagascar	29	24	29	29
Malawi	35	29	30	32
Namibia	35	27	36	34
Niger	32	25	32	30
Nigeria	31	27	36	30
Rwanda	35	29	31	32
Senegal	34	28	34	32
Sudan	32	26	34	30
Tanzania	33	30	34	33
Zambia	32	28	34	31
Zimbabwe	42	32	44	37
<b>Near East/North Africa</b>				
Egypt	32	22	34	32
Jordan	26	19	25	25
Morocco	33	27	33	33
Turkey	40	23	34	35
<b>Asia</b>				
Bangladesh	37	32	35	35
Indonesia	42	33	46	36
Pakistan	32	25	32	29
Philippines	32	24	31	29
<b>Latin America/Caribbean</b>				
Bolivia	33	25	30	31
Colombia	43	23	31	33
Dominican Republic	33	22	30	28
Paraguay	31	21	30	30
Peru	39	25	31	32

Note: Data are restricted to women with a birth in the last five years.

**Table 5.5 Trends in median length of last birth interval**

Trends in median length in months of last birth interval among currently married women with two or more births who wanted the last child at that time, Demographic and Health Surveys, 1986-94

Country	DHS-I	DHS-II or DHS-III
<b>Sub-Saharan Africa</b>		
Ghana	36	41
Kenya	30	33
<b>Near East/North Africa</b>		
Egypt	30	31
Morocco	31	33
<b>Asia</b>		
Indonesia	36	42
<b>Latin America/Caribbean</b>		
Bolivia	30	33
Colombia	34	43
Dominican Republic	32	33
Peru	35	39

## 6 Wanted and Unwanted Fertility

Another useful measure of reproductive preferences is the prevalence of unwanted fertility—the births that occur after the last wanted birth. This concept has been approached here with two measures: the proportion of women who have more children than they say they desire or consider ideal (Table 6.1) and the proportion of births in the past year that these women report as unwanted (Table 6.2).

### 6.1 CHILDBEARING BEYOND THE DESIRED NUMBER

Several patterns stand out in the measure of excess fertility, derived from the comparison of preferences and current parity (Table 6.1). As would be expected, in all countries the proportion of women who have more children

Table 6.1 Distribution of women who have more children than they desire

Percentage distribution of currently married women who have more children than they desire, by number of living children, Demographic and Health Surveys, 1990-94

Country	Number of living children <sup>a</sup>							All
	<3	3	4	5	6	7	8+	
<b>Sub-Saharan Africa</b>								
Burkina Faso	--	2	6	13	26	38	45	8
Cameroon	--	2	5	11	17	30	40	8
Ghana	0	10	14	41	48	78	71	17
Kenya	1	18	31	65	69	84	80	36
Madagascar	--	2	8	19	25	41	45	12
Malawi	--	4	10	20	31	41	49	11
Namibia	3	8	11	19	16	17	26	10
Niger	--	--	1	2	6	7	18	2
Nigeria	--	--	1	4	5	12	14	2
Rwanda	1	7	16	52	69	81	88	29
Senegal	--	2	7	15	27	39	56	12
Sudan	--	3	6	14	16	17	19	8
Tanzania	--	1	2	8	16	30	42	7
Zambia	1	2	5	16	21	48	45	12
Zimbabwe	--	7	10	36	39	59	65	17
<b>Near East/North Africa</b>								
Egypt	1	37	51	61	69	61	60	33
Jordan	--	9	14	43	42	50	52	27
Morocco	1	20	28	51	59	71	80	30
Turkey	4	57	78	91	91	91	88	36
<b>Asia</b>								
Bangladesh	--	51	74	89	85	85	81	36
Indonesia	--	19	30	46	45	53	51	16
Pakistan	--	4	7	22	26	26	26	10
Philippines	1	11	30	56	63	80	80	26
<b>Latin America/Caribbean</b>								
Bolivia	7	40	56	72	79	80	76	39
Colombia	4	30	58	66	76	80	87	28
Dominican Republic	2	22	50	65	67	72	80	25
Paraguay	1	9	19	29	28	45	32	13
Peru	6	49	68	84	88	92	88	43

-- Less than 0.5 percent

<sup>a</sup> Includes current pregnancy

than they want increases with the number of children. Very few women with fewer than three children report a lower ideal number. Among the sub-Saharan African countries, only in Kenya and Rwanda do the majority of women indicate that five children exceeds their desires. Even at the highest parity—eight or more children—less than half (47 percent) of the women in sub-Saharan Africa report a lower desired number. Overall, without regard to parity, an average of only 13 percent of sub-Saharan African women indicate any unwanted childbearing by this measure.

The picture in the other regions of the developing world is very different. By the fourth or fifth birth, the majority of women report excess fertility. Among women with three children in Turkey and in Bangladesh, 57 and 51 percent, respectively, are classified as having more children than wanted; Peru is close behind with 49 percent. The countries with the lowest proportion of women with excess fertility are Pakistan, Paraguay and Indonesia. On average, 28 percent of the women outside of sub-Saharan Africa have had more children than they say they want.

## 6.2 TREND IN UNWANTED CHILDBEARING

In Figure 6.1, the trend in the proportion of women who have more children than they desire is depicted for those countries in DHS-II that also participated in DHS-I and/or in the WFS. The trend is generally toward an increase in unwanted fertility. In Kenya, the increase is quite dramatic from the late 1970s to the last five years, when approximately one-third of women are classified as having more children than they want. A tabulation by the number of children (not shown) indicates that this measure for Kenyan women with eight or more children has increased from 17 percent to around 80 percent over that time span. Large relative increases are also evident for Rwanda, Ghana and Senegal, but there is no change in Nigeria and Sudan. Jordan and Morocco both show increases to levels roughly commensurate with Egypt and Turkey, in which the fertility transition began earlier. There is a large increase in Bangladesh but not apparently in Pakistan, although this may be an artifact of the procedures followed with nonnumeric responses in Pakistan. Very little change is evident in Latin America, where unwanted childbearing remains at a high level, except in Paraguay, which is at an earlier stage in the fertility transition.

There are two interacting components underlying the level of unwanted fertility: the number of children desired and the regulation of fertility. As the number wanted

decreases, the proportion unwanted will increase, depending on the ability to avoid pregnancy. Also, in countries that are passing through the fertility transition rapidly, such as Kenya, the norms of smaller families may be internalized by older women whose childbearing followed more traditional expectations. Such women may now respond in the more "modern" way to the question on the ideal number of children.

## 6.3 FERTILITY PLANNING STATUS

The other indicator of unwanted fertility that is included in the DHS is the woman's retrospective report of the planning status of her recent births (described above in connection with the preferred last-birth interval). The responses to this question are shown in Table 6.2 for women who had a birth in the past 12 months or who were currently pregnant.<sup>15</sup> By and large, the countries showing the highest proportions of unwanted fertility with this indicator are the same countries so indicated in Table 6.1. The level is lower, but this is to be expected considering that the time reference of 12 months would exclude earlier unwanted births to other women.

On average, only 7 percent of women in sub-Saharan Africa who had a birth in the past year reported it as unwanted, compared with 19 percent in the other countries. The fact that nearly one out of every five women with a birth in the past year reported it as never wanted is a finding with significant policy implications.

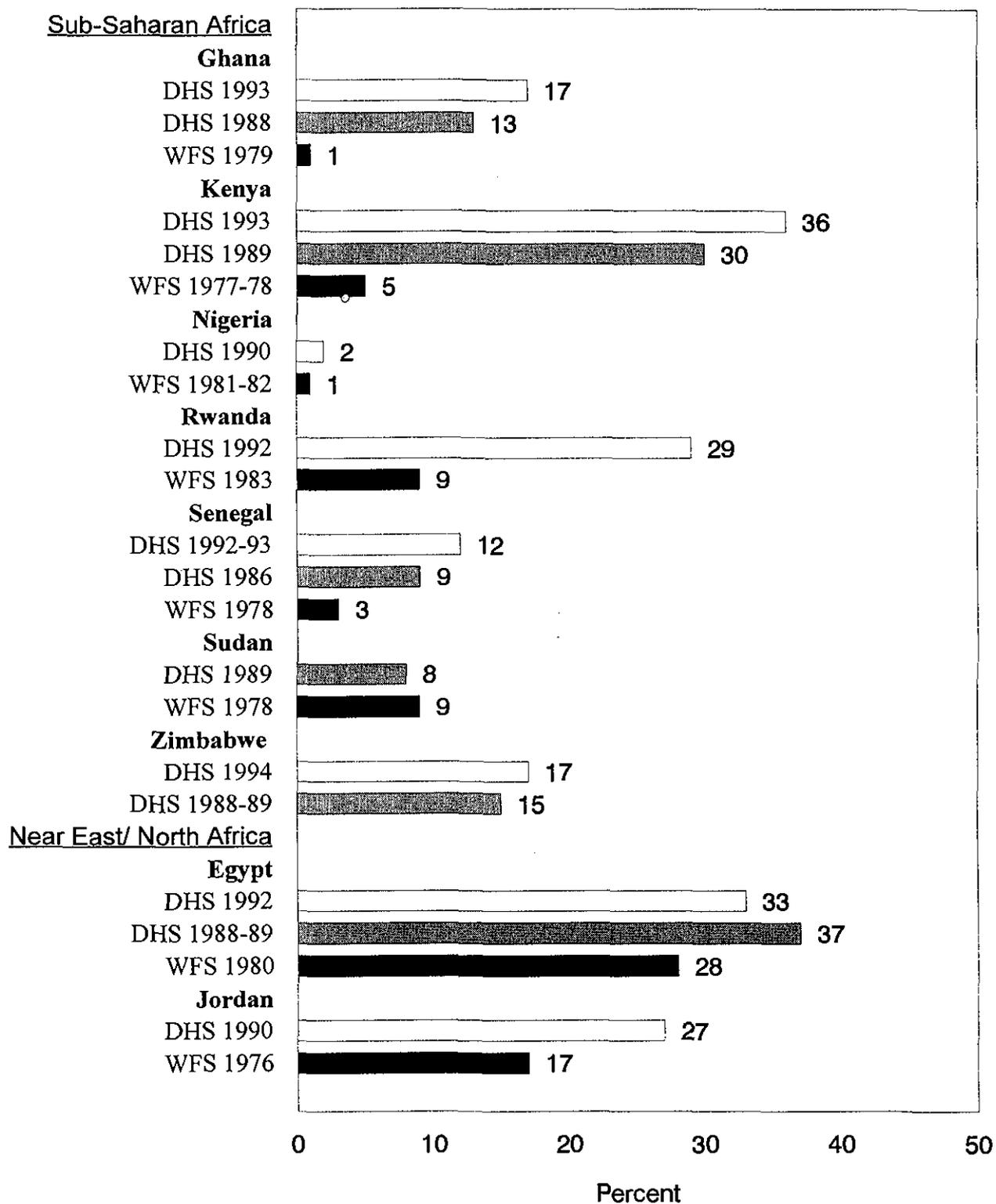
Although the women of sub-Saharan Africa have the lowest rate of unwanted fertility, they have the highest proportion of births that occurred sooner than they wanted, an average of 26 percent, compared with an average of 20 percent elsewhere.<sup>16</sup>

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<sup>15</sup> The "last 12 months" definition was used both to reflect the most recent time period and to represent women with a birth no more than once, as well as to fix a definite time period. If the entire experience of the past five years is included, the unit of observation becomes the birth rather than the woman, because individual women could contribute more than one birth. In the definition used here, the status of the birth or current pregnancy is filtered through the reproductive-intentions question; therefore, for the birth to be classified as unwanted, the woman had to report the event as unwanted and also report not wanting any additional children (otherwise it would be reclassified as mistimed rather than unwanted). If a woman reported a birth in the past 12 months and was also currently pregnant, priority was given to the status of the birth.

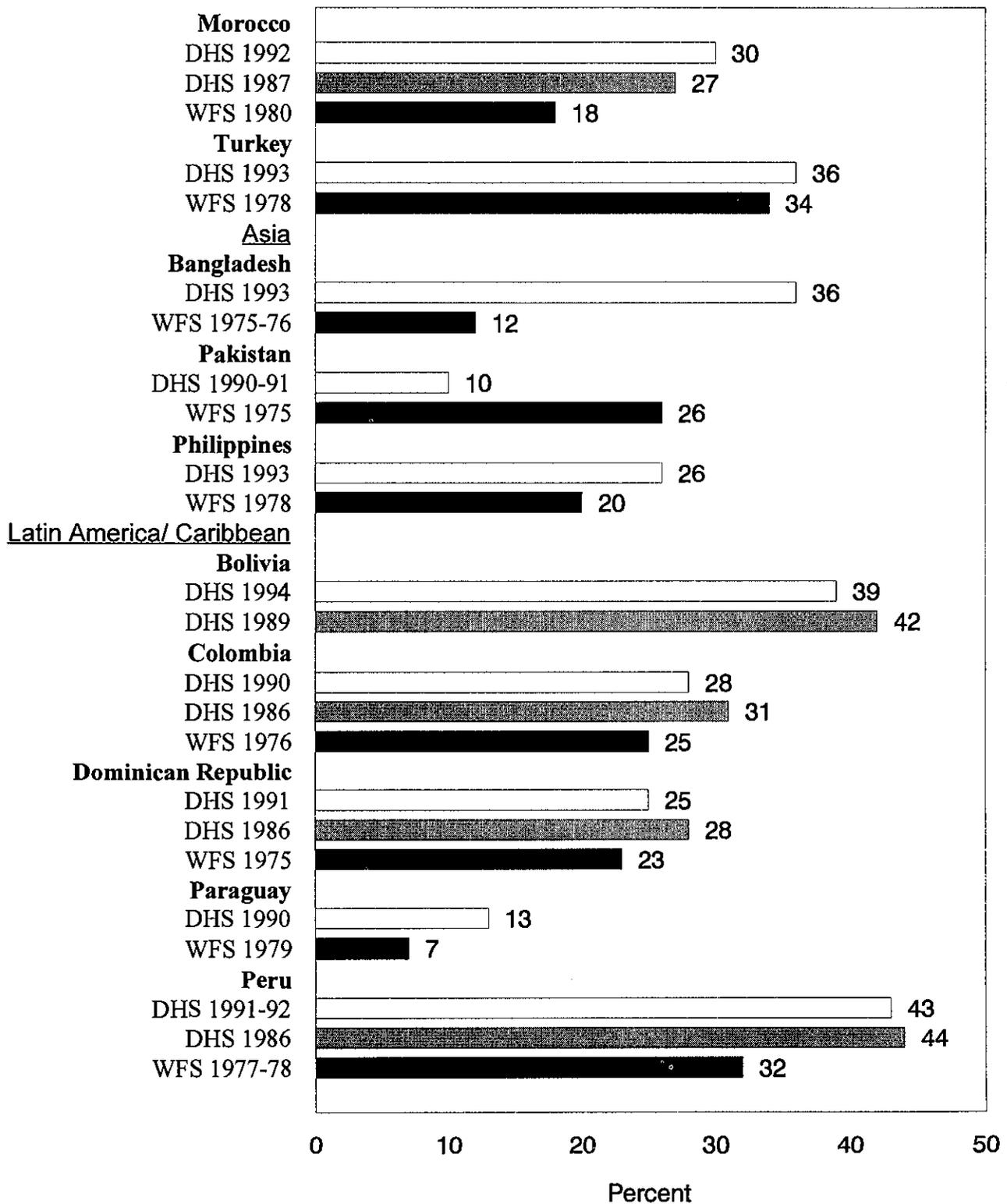
<sup>16</sup> It is possible that there is more rationalization of unwanted births as mistimed in Africa than elsewhere.

Figure 6.1 Trends in the percent of currently married women who have more children than they desire, from late 1970s to early 1990s, World Fertility Survey and Demographic and Health Surveys



Note: Number of living children; includes current pregnancy.

Figure 6.1—Continued



Note: Number of living children; includes current pregnancy.

Table 6.2 Fertility planning status preceding survey

Percent distribution of the fertility planning status of births (including current pregnancies) in the one year preceding the survey, Demographic and Health Surveys, 1990-1994

Country	Planning status of birth including current pregnancy <sup>a</sup>				Total
	Wanted then	Wanted later <sup>b</sup>	Not wanted	Missing	
<b>Sub-Saharan Africa</b>					
Burkina Faso	71	24	3	2	100
Cameroon	77	20	3	--	100
Ghana	57	35	7	1	100
Kenya	44	38	16	3	100
Madagascar <sup>c</sup>	60	24	15	1	100
Malawi	58	35	7	--	100
Namibia	71	19	7	3	100
Niger	84	13	1	2	100
Nigeria	86	10	2	2	100
Rwanda	44	37	16	3	100
Senegal	67	27	4	2	100
Sudan <sup>d</sup>	74	23	3	--	100
Tanzania	70	23	5	3	100
Zambia	61	32	5	2	100
Zimbabwe	56	36	8	0	100
<b>Near East/North Africa</b>					
Egypt	61	13	26	--	100
Jordan	63	24	13	--	100
Morocco	61	19	19	--	100
Turkey	64	15	21	--	100
<b>Asia</b>					
Bangladesh	64	23	13	--	100
Indonesia	76	17	7	--	100
Pakistan	75	12	10	4	100
Philippines	52	31	16	1	100
<b>Latin America/Caribbean</b>					
Bolivia	44	20	34	1	100
Colombia	58	19	23	--	100
Dominican Republic	55	28	17	1	100
Paraguay	73	20	6	--	100
Peru	39	24	36	1	100

-- Less than 0.5 percent

<sup>a</sup> The planning status of the birth was used in cases where a birth and a current pregnancy both occurred in the 12-month period.

<sup>b</sup> Births reported as not wanted are reclassified as "wanted later" if the mother wants more children.

<sup>c</sup> A category "not sure" had been added to the question in Madagascar into which 12 percent of the births were classified. Those births were redistributed to "wanted later" or "not wanted" based on the mothers' responses to the question on fertility intention.

<sup>d</sup> Excludes current pregnancies because the planning status of the pregnancy was not known (not asked in the survey).

## 6.4 WANTED AND TOTAL FERTILITY RATES

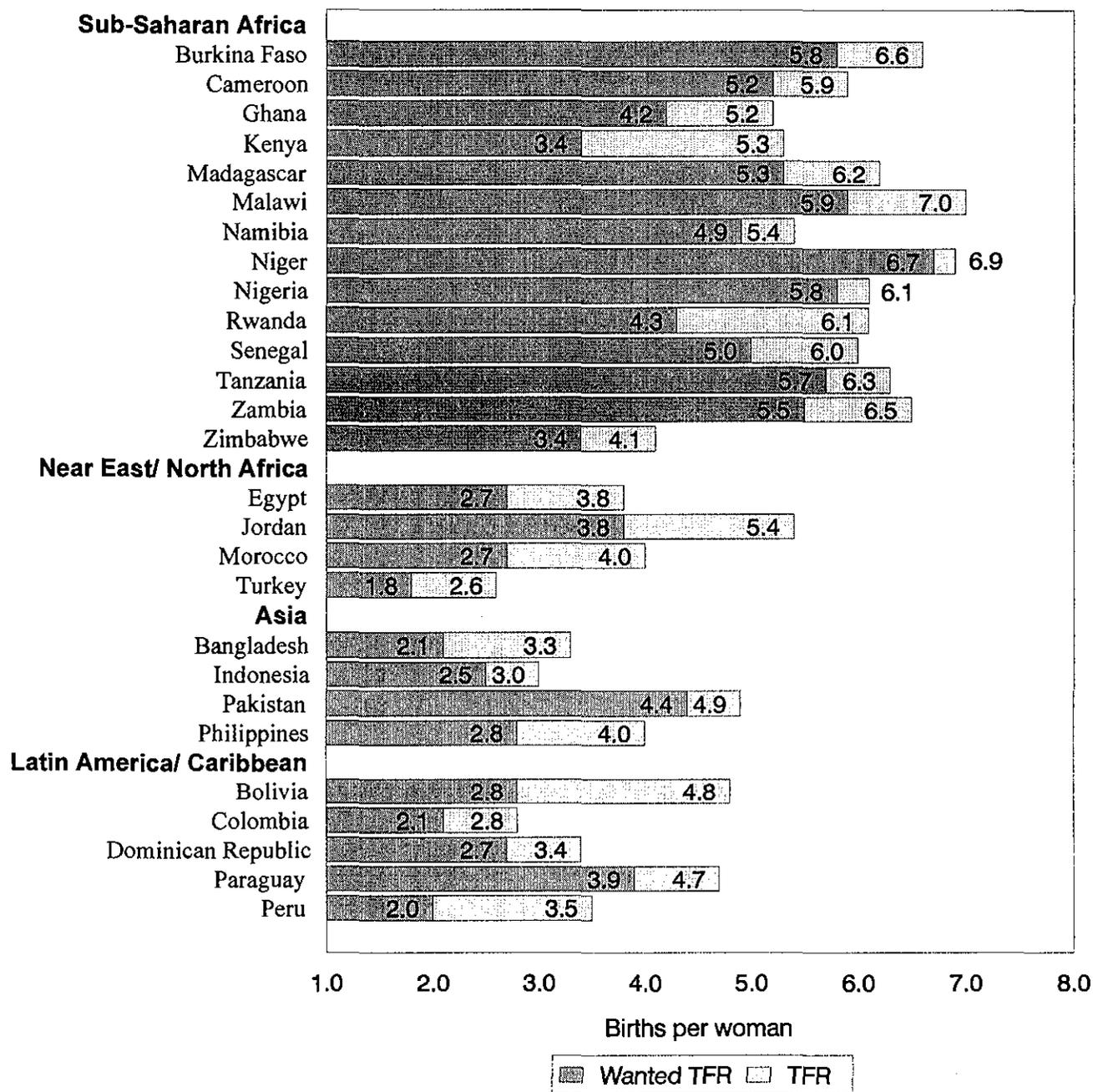
One of the principal reasons for measuring levels of unwanted fertility is to compare what the fertility rate would be if women's reproductive preferences prevailed over the observed fertility rate. The statistic used in the DHS currently is the Wanted Total Fertility Rate (WTFR), which was originally proposed by Lightbourne for use in the WFS. This rate is calculated in exactly the same way as the conventional Total Fertility Rate (TFR), except that the numerator is confined to births that are less than or equal to the number desired.<sup>17</sup> These rates for the countries in the DHS-II are displayed in Figure 6.2.

In sub-Saharan Africa, the observed TFR averages 5.6, compared with an average WTFR of 5.1. Kenya shows the greatest divergence in the two rates in this region, with a TFR of 5.3 and a WTFR of 3.4. The implication of this wide spread in Kenya is that there is a significant potential for fertility reduction. This is consistent with the earlier finding (Westoff and Bankole, 1995) of a very high level of unmet need for family planning in that country. Rwanda also shows a wide divergence between the two rates (a TFR of 6.1 and a WTFR of 4.3) and a high unmet need. The main picture in this region, however, is that there is a limited immediate potential for fertility decline.

In other countries, there is a much greater relative difference between the two rates, in part because the TFR is much lower than in sub-Saharan Africa. Many of these countries show a WTFR that is 30 percent or more lower than the TFR, notably Jordan, Morocco, Turkey, Bangladesh, Philippines, Bolivia and Peru. In the latter two countries, the WTFR is more than 40 percent below the TFR. If women's reproductive preferences were realized, fertility would decline significantly in most of these countries outside of sub-Saharan Africa.

<sup>17</sup> The measure is constructed by deleting any births that occurred in the past two years that exceed the woman's current ideal number of children and summing the age-specific rates that result. Nonnumeric responses to the question on the ideal number of children such as the "It's up to God" response, are considered wanted. The WTFR can never be greater than the TFR because births can only be subtracted. A two-year reference period was selected (unlike the longer periods published in the DHS First Country Reports) in order to ensure comparability with the earlier comparative report and to achieve greater contemporaneity.

Figure 6.2 Total fertility rate and wanted total fertility rate, Demographic and Health Surveys, 1990-1994



Note: Rates are based on the two years prior to the survey.

## 6.5 TRENDS IN WANTED AND TOTAL FERTILITY RATES

In most but not all countries in which trends in the WTFR can be assessed, it has declined more than the TFR (Table 6.3). This indicates that the demand for effective fertility regulation is outpacing its practice. The same pattern was observed in the earlier comparative report for the countries included in DHS-I (Westoff, 1991). In the countries in which this is not the case, the two rates show similar de-

lines. In Pakistan, the WTFR has remained essentially unchanged, while the TFR shows a significant decline; however, there is evidence that there was substantial under-reporting of births in the Pakistan DHS, which overestimates the decline (Curtis and Arnold, 1994).<sup>18</sup>

<sup>18</sup> If the TFR declines without a commensurate decline in the WTFR, it means that women are coming closer to their preferences, implying that unmet need is declining.

Table 6.3 Trends in fertility rates

Trends in the total fertility rate (TFR) and the wanted total fertility rate (WTFR) from the late 1970s to the early 1990s, World Fertility Survey and Demographic and Health Surveys

Country	WFS		DHS-I		DHS-II or DHS-III		Percent decline from earliest to latest survey	
	TFR	WTFR	TFR	WTFR	TFR	WTFR	TFR	WTFR
<b>Sub-Saharan Africa</b>								
Cameroon	6.4	6.1	U	U	5.9	5.2	8	15
Ghana	6.1	6.0	6.4	5.3	5.2	4.2	15	30
Kenya	7.9	7.6	6.4	4.5	5.3	3.4	33	55
Nigeria	5.9	5.8	U	U	6.1	5.8	+3	0
Rwanda	9.0	8.8	U	U	6.1	4.3	32	51
Senegal	7.1	6.9	6.6	5.6	6.0	5.0	15	27
Sudan	5.6	5.0	4.6	4.1	U	U	18	18
Zimbabwe	U	U	5.2	4.3	4.1	3.4	21	21
<b>Near East/North Africa</b>								
Egypt	5.0	3.6	4.4	2.8	3.8	2.7	24	25
Jordan	7.0	6.0	U	U	5.4	3.8	23	37
Morocco	5.5	4.4	4.6	3.3	4.0	2.7	27	39
Turkey	3.8	a	U	U	2.6	1.8	32	a
<b>Asia</b>								
Bangladesh	5.4	4.6	U	U	3.3	2.1	39	54
Indonesia	4.3	4.0	2.9	2.4	3.0	2.5	30	38
Pakistan	6.0	4.3	U	U	4.9	4.4	18	+2
Philippines	5.1	4.1	U	U	4.0	2.8	22	32
<b>Latin America/Caribbean</b>								
Bolivia	U	U	5.1	2.8	4.8	2.8	6	0
Colombia	4.6	3.4	3.1	2.1	2.8	2.1	39	38
Dominican Republic	5.2	3.8	3.6	2.6	3.4	2.7	35	29
Paraguay	5.0	5.0	U	U	4.7	3.9	6	22
Peru	5.3	3.5	4.0	2.3	3.5	2.0	34	43

U = Unknown (no information)

<sup>a</sup> Cannot be calculated

## 7 Summary and Conclusions

The study of reproductive preferences is important both for population policy and for family planning program concerns. In this report, attitudes and intentions toward childbearing have been compared for 28 countries, most of which participated in the second round of DHS.

The number of children desired by women in the sub-Saharan African countries remains high, an average of 5.8 children, although several countries in that region show significant declines. The pattern in other regions is very different, with levels roughly between 2.5 and 4.0 children desired. The number desired has declined appreciably in most of these countries over the last 15 years or so. Similar patterns are evident for the WFR and its trends and for the proportions of women who want no more children. In Turkey, Bangladesh, Colombia and Peru, the WFR is at or below the replacement level. High potential rates of population growth are implicit in many of the other countries, although preferences have changed rapidly in many countries and could accelerate even more in the near future.

Because the preference for fewer children is spreading widely and the number preferred declining more rapidly than actual fertility, the level of unwanted childbearing is rising. An average of 25 percent of women outside of sub-Saharan Africa report having more children than they want. Only 7 percent of women in sub-Saharan Africa with a birth in the past year reported the pregnancy as unwanted, compared with just under 20 percent elsewhere.

Outside of sub-Saharan Africa, most women report having discussed the number of children desired with their partners and typically report that they want the same number. In the sub-Saharan African countries, on the other hand, there is a very high proportion who do not know their partner's view. Almost without exception, in all of the countries, more women perceive their partners as wanting more rather than fewer children.

The preferred length of birth intervals was also investigated, but its measurement is not straightforward. Three different approaches indicate that the preferred length ranges between 30 and 48 months.

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# Appendix

## Summary of DHS-I, DHS-II, and DHS-III Surveys, 1985-1995

Region and Country	Date of Fieldwork	Implementing Organization	Respondents	Sample Size	Male/Husband Survey	Supplemental Studies, Modules, and Additional Questions
<b>SUB-SAHARAN AFRICA</b>						
<b>DHS-I</b>						
Botswana	Aug-Dec 1988	Central Statistics Office	AW 15-49	4,368		AIDS, PC, adolescent fertility
Burundi	Apr-Jul 1987	Département de la Population, Ministère de l'Intérieur	AW 15-49	3,970	542 Husbands	CA, SAI, adult mortality
Ghana	Feb-May 1988	Ghana Statistical Service	AW 15-49	4,488	943 Husbands	CA, SM, WE
Kenya	Dec-May 1988/89	National Council for Population and Development	AW 15-49	7,150	1,133 Husbands	
Liberia	Feb-Jul 1986	Bureau of Statistics, Ministry of Planning and Economic Affairs	AW 15-49	5,239		TBH, employment status
Mali	Mar-Aug 1987	Institut du Sahel, USED/CERPOD	AW 15-49	3,200	970 Men 20-55	CA, VC, childhood physical handicaps
Ondo State, Nigeria	Sep-Jan 1986/87	Ministry of Health, Ondo State	AW 15-49	4,213		CA, TBH
Senegal	Apr-Jul 1986	Direction de la Statistique, Ministère de l'Economie et des Finances	AW 15-49	4,415		CA, CD
Sudan	Nov-May 1989/90	Department of Statistics, Ministry of Economic and National Planning	EMW 15-49	5,860		FC, M, MM
Togo	Jun-Nov 1988	Unité de Recherche Démographique, Université du Bénin	AW 15-49	3,360		CA, SAI, marriage history
Uganda	Sep-Feb 1988/89	Ministry of Health	AW 15-49	4,730		CA, SAI
Zimbabwe	Sep-Jan 1988/89	Central Statistical Office	AW 15-49	4,201		AIDS, CA, PC, SAI, WE
<b>DHS-II</b>						
Burkina Faso	Dec-Mar 1992/93	Institut National de la Statistique et de la Démographie	AW 15-49	6,354	1,845 Men 18+	AIDS, CA, MA, SAI
Cameroon	Apr-Sep 1991	Direction Nationale du Deuxième Recensement Général de la Population et de l'Habitat	AW 15-49	3,871	814 Husbands	CA, CD, SAI
Madagascar	May-Nov 1992	Centre National de Recherches sur l'Environnement	AW 15-49	6,260		CA, MM, SAI
Malawi	Sep-Nov 1992	National Statistical Office	AW 15-49	4,850	1,151 Men 20-54	AIDS, CA, MA, MM, SAI
Namibia	Jul-Nov 1992	Ministry of Health and Social Services, Central Statistical Office	AW 15-49	5,421		CA, CD, MA, MM
Niger	Mar-Jun 1992	Direction de la Statistique et des Comptes Nationaux	AW 15-49	6,503	1,570 Husbands	CA, MA, MM, SAI
Nigeria	Apr-Oct 1990	Federal Office of Statistics	AW 15-49	8,781		CA, SAI
Rwanda	Jun-Oct 1992	Office National de la Population	AW 15-49	6,551	598 Husbands	CA

Senegal	Nov-Aug 1992/93	Direction de la Prévision et de la Statistique	AW 15-49	6,310	1,436 Men 20+	AIDS, CA, MA, MM, SAI
Tanzania	Oct-Mar 1991/92	Bureau of Statistics, Planning Commission	AW 15-49	9,238	2,114 Men 15-60	AIDS, CA, MA, SAI
Zambia	Jan-May 1992	University of Zambia	AW 15-49	7,060		AIDS, CA, MA
<b>DHS-III</b>						
Central African Republic	Sep-Mar 1994/95	Direction des Statistiques Démographiques et Sociales	AW 15-49	5,884	1,729 Men 15-59	AIDS, CA, CD, MA, MM, SAI
Côte d'Ivoire	Jun-Nov 1994	Institut National de la Statistique	AW 15-49	8,099	2,552 Men 15-59	CA, MA, SAI
Ghana	Sep-Dec 1993	Ghana Statistical Service	AW 15-49	4,562	1,302 Men 15-59	CA, MA
Kenya	Feb-Aug 1993	National Council for Population and Development	AW 15-49	7,540	2,336 Men 20-54	AIDS, CA, MA, SAI
Tanzania (KAP) <sup>a</sup>	Jul-Sep 1994	Bureau of Statistics, Planning Commission	AW 15-49	4,225	2,097 Men 15-59	AIDS, PC
Tanzania (In-depth)	June, Aug-Oct 1995	Bureau of Statistics, Planning Commission	AW 15-50 Sisters 15-50	3,766		Adult and childhood mortality estimation
Uganda	Mar-Aug 1995	Statistics Department, Ministry of Finance and Economic Planning	AW 15-49	7,070	1,996 Men 15-54	AIDS, CA, MA, MM, SAI
Uganda (In-depth)	Oct-Jan 1995/96	Institute of Statistics and Applied Economics, Makerere University	AW 20-44	2,000	2,000 Partners	Negotiating reproductive outcomes
Zimbabwe	Jul-Nov 1994	Central Statistical Office	AW 15-49	6,128	2,141 Men 15-54	AIDS, CA, MA, MM, PC, SAI
<b>NEAR EAST/NORTH AFRICA</b>						
<b>DHS-I</b>						
Egypt	Oct-Jan 1988/89	National Population Council	EMW 15-49	8,911		CA, CD, MM, PC, SAI, WE, WS
Morocco	May-Jul 1987	Ministère de la Santé Publique	EMW 15-49	5,982		CA, CD, S
Tunisia	Jun-Oct 1988	Office National de la Famille et de la Population	EMW 15-49	4,184		CA, S, SAI
<b>DHS-II</b>						
Egypt	Nov-Dec 1992	National Population Council	EMW 15-49	9,864	2,466 Husbands	CA, MA, PC, SM
Jordan	Oct-Dec 1990	Department of Statistics, Ministry of Health	EMW 15-49	6,461		CA, SAI
Morocco	Jan-Apr 1992	Ministère de la Santé Publique	AW 15-49	9,256	1,336 Men 20-70	CA, MA, MM, SAI
Yemen	Nov-Jan 1991/92	Central Statistical Organization	EMW 15-49	5,687		CA, CD, MM, SAI
<b>DHS-III</b>						
Egypt	Nov-Dec 1995	National Population Council	EMW 15-49	14,813		CA, FC, MA, WS
Morocco (Panel)	Apr-May 1995	Ministère de la Santé Publique	AW 15-49	4,800		SAI
<b>ASIA</b>						
<b>DHS-I</b>						
Indonesia	Sep-Dec 1987	Central Bureau of Statistics, National Family Planning Coordinating Board	EMW 15-49	11,884		PC, SM

Nepal (In-depth)	Feb-Apr 1987	New Era	CMW 15-49	1,623		KAP-gap survey
Sri Lanka	Jan-Mar 1987	Department of Census and Statistics, Ministry of Plan Implementation	EMW 15-49	5,865		CA, NFP
Thailand	Mar-Jun 1987	Institute of Population Studies Chulalongkorn University	EMW 15-49	6,775		CA, S, SAI
<b>DHS-II</b>						
Indonesia	May-Jul 1991	Central Bureau of Statistics, NFPCB/MOH	EMW 15-49	22,909		PC, SM
Pakistan	Dec-May 1990/91	National Institute of Population Studies	EMW 15-49	6,611	1,354 Husbands	CA
<b>DHS-III</b>						
Bangladesh	Nov-Mar 1993/94	Mitra & Associates/NIPORT	EMW 10-49	9,640	3,284 Husbands	PC, SAI, SM
Indonesia	Jul-Nov 1994	Central Bureau of Statistics/ NFPCB/MOH	EMW 15-49	28,168		MM, PC, SAI, SM
Kazakstan	May-Aug 1995	Institute of Nutrition, National Academy of Sciences	AW 15-49	3,771		CA, MA
Philippines	Apr-Jun 1993	National Statistics Office	AW 15-49	15,029		MM, SAI
Turkey	Aug-Oct 1993	General Directorate of MCH/FP Ministry of Health	EMW <50	6,519		CA, MA
<b>LATIN AMERICA &amp; CARIBBEAN</b>						
<b>DHS-I</b>						
Bolivia	Feb-Jul 1989	Instituto Nacional de Estadística	AW 15-49	7,923		CA, CD, MM, PC, S, WE
Bolivia (In-depth)	Feb-Jul 1989	Instituto Nacional de Estadística	AW 15-49	7,923		Health
Brazil	May-Aug 1986	Sociedade Civil Bem-Estar Familiar no Brasil	AW 15-44	5,892		CA, S, SM, abortion, young adult use of contraception
Colombia	Oct-Dec 1986	Corporación Centro Regional de Población, Ministerio de Salud	AW 15-49	5,329		CA, PC, S, SAI, SM
Dominican Republic	Sep-Dec 1986	Consejo Nacional de Población y Familia	AW 15-49	7,649		CA, NFP, S, SAI, family planning communication
Dominican Republic (Experimental)	Sep-Dec 1986	Consejo Nacional de Población y Familia	AW 15-49	3,885		S, SAI
Ecuador	Jan-Mar 1987	Centro de Estudios de Población y Paternidad Responsable	AW 15-49	4,713		CD, SAI, employment
El Salvador	May-Jun 1985	Asociación Demográfica Salvadoreña	AW 15-49	5,207		CA, S, TBH
Guatemala	Oct-Dec 1987	Instituto de Nutrición de Centro América y Panamá	AW 15-44	5,160		CA, S, SAI
Mexico	Feb-May 1987	Dirección General de Planificación Familiar, Secretaría de Salud	AW 15-49	9,310		NFP, S, employment
Peru	Sep-Dec 1986	Instituto Nacional de Estadística	AW 15-49	4,999		NFP, employment, cost of family planning
Peru (Experimental)	Sep-Dec 1986	Instituto Nacional de Estadística	AW 15-49	2,534		
Trinidad and Tobago	May-Aug 1987	Family Planning Association of Trinidad and Tobago	AW 15-49	3,806		CA, NFP, breastfeeding

<b>DHS-II</b>						
Brazil (NE)	Sep-Dec 1991	Sociedade Civil Bem-Estar Familiar no Brasil	AW 15-49	6,222	1,266 Husbands	AIDS, PC
Colombia	May-Aug 1990	PROFAMILIA	AW 15-49	8,644		AIDS
Dominican Republic	Jul-Nov 1991	Instituto de Estudios de Población y Desarrollo (PROFAMILIA), Oficina Nacional de Planificación	AW 15-49	7,320		CA, MA, S, SAI
Paraguay	May-Aug 1990	Centro Paraguayo de Estudios de Población	AW 15-49	5,827		CA, SAI
Peru	Oct-Mar 1991/92	Instituto Nacional de Estadística e Informática	AW 15-49	15,882		CA, MA, MM, SAI
<b>DHS-III</b>						
Bolivia	Nov-May 1993/94	Instituto Nacional de Estadística	AW 15-49	8,603 <sup>b</sup>		AIDS, CA, CD, MA, MM, S, SAI
Colombia	Apr-Jun 1995	PROFAMILIA	AW 15-49	14,000		AIDS, CA, MA, PC
Guatemala	Jun-Dec 1995	Instituto Nacional de Estadística	AW 15-49	12,403		AIDS, CA, MA, MM, S
Haiti	Jul-Jan 1994/95	Institut Haitien de l'Enfance	AW 15-49	5,356	1,610 Men 15-59	AIDS, CA, CD, MA, SAI

<sup>a</sup> No health or birth history section in questionnaire.

<sup>b</sup> Household questionnaire was administered in 26,144 households.

AIDS	acquired immune deficiency syndrome	FC	female circumcision	S	sterilization
AW	all women	M	migration	SAI	service availability information
CA	child anthropometry	MA	maternal anthropometry	SM	social marketing
CD	causes of death (verbal reports of symptoms)	MM	maternal mortality	TBH	truncated birth history
CMW	currently married women	NFP	natural family planning	VC	value of children
EMW	ever-married women	PC	pill compliance	WE	women's employment
				WS	women's status