

# Adolescent Pregnancy and Childbearing: Levels and Trends in Developed Countries

By Susheela Singh and Jacqueline E. Darroch

**Context:** Adolescent pregnancy occurs in all societies, but the level of teenage pregnancy and childbearing varies from country to country. A cross-country analysis of birth and abortion measures is valuable for understanding trends, for identifying countries that are exceptional and for seeing where further in-depth studies are needed to understand observed patterns.

**Methods:** Birth, abortion and population data were obtained from various sources, such as national vital statistics reports, official statistics, published national and international sources, and government statistical offices. Trend data on adolescent birthrates were compiled for 46 countries over the period 1970–1995. Abortion rates for a recent year were available for 33 of the 46 countries, and data on trends in abortion rates could be gathered for 25 of the 46 countries.

**Results:** The level of adolescent pregnancy varies by a factor of almost 10 across the developed countries, from a very low rate in the Netherlands (12 pregnancies per 1,000 adolescents per year) to an extremely high rate in the Russian Federation (more than 100 per 1,000). Japan and most western European countries have very low or low pregnancy rates (under 40 per 1,000); moderate rates (40–69 per 1,000) occur in Australia, Canada, New Zealand and a number of European countries. A group of five countries—Belarus, Bulgaria, Romania, the Russian Federation and the United States—have pregnancy rates of 70 or more per 1,000. The adolescent birthrate has declined in the majority of industrialized countries over the past 25 years, and in some cases has been more than halved. Similarly, pregnancy rates in 12 of the 18 countries with accurate abortion reporting showed declines. Decreases in the adolescent abortion rate, however, were less prevalent.

**Conclusions:** The trend toward lower adolescent birthrates and pregnancy rates over the past 25 years is widespread and is occurring across the industrialized world, suggesting that the reasons for this general trend are broader than factors limited to any one country: increased importance of education, increased motivation of young people to achieve higher levels of education and training, and greater centrality of goals other than motherhood and family formation for young women.

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Studies of teenage childbearing in developed countries showed differences in levels, as well as wide variation in trends, during the 1970s.<sup>1</sup> At that time, the adolescent birthrate in the United States was among the highest; it was lowest in Japan and was quite low in several European countries—the Netherlands, Switzerland, Sweden, Denmark and Finland. Compared with other developed countries, the United States had an especially high birthrate for adolescents under 18 years old. In addition, the high national teenage pregnancy rate in the United States was not due simply to the high rate among black adolescents; the rate among white teenagers was also one of the highest among the developed countries. From among the small number of countries for which abortion information was available, the United States also stood out as having one of the highest adolescent abortion rates.

About 20 years have elapsed since those studies were done. During this period, many changes that might influence teenage reproductive behavior and how it is viewed have taken place within the industrialized world. The proportion of births to unmarried women has risen,<sup>2</sup> and nonmarital childbearing is more acceptable, both among adolescents and among women older than 20. Access to contraception and abortion in developed countries has improved, despite setbacks in some countries.<sup>3</sup> Additionally, attention to sexuality education (from both conservative and liberal perspectives) has increased.<sup>4</sup> The radical transformations in the political structures of the countries of eastern Europe have affected their economies and their youths' prospects and reproductive behaviors, as well as their health care systems.<sup>5</sup> Significant changes have also occurred in the systems of health care coverage in other developed countries.<sup>6</sup>

This article examines levels of adolescent childbearing, abortion and pregnancy in developed countries in the mid-1990s, as well as trends over recent decades. Some of the same data limitations that restricted earlier studies of adolescent pregnancy and childbearing still exist. Age-specific information on abortion is available for far fewer countries than are data on births, thereby limiting what can be said about adolescent pregnancy and abortion. Also, analyses of differences between younger and older teenagers are limited because birth and abortion data for specific adolescent age-groups are available for fewer countries.

Definitions, terminology and groupings of countries according to level of development vary across sources. In this article, we adopted the United Nations system to classify countries as developed. (We mainly use the term developed, although occasionally we use alternatives, such as industrialized or more developed.) Australia, Canada, Japan, New Zealand, the United States and all countries in Europe are included here as developed countries. We analyze behavior in the large number of newly independent countries in the current time period; for analyses of past trends, however, we include original countries whenever possible. In agreement with the classification system used by the United Nations, some newly independent countries that were part of the former Soviet Union (the central Asian republics) are not included here as developed countries.

## Data Sources

### Birth Statistics

In most cases, we obtained birth data for the period 1970 to the mid-1990s from the countries' own published vital statistics reports, from unpublished government data provided by special request and from international publications.<sup>7</sup> Although most devel-

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oped countries have long-established birth registration systems that are typically of high quality, the birth data we present are lacking in some respects. There are occasional gaps in the historical trend series of the adolescent birthrate, and there are many gaps in data on birthrates for adolescents aged 15–17 and those aged 18–19. Data for younger and older adolescents are generally not published in international compilations and are often not available in national reports. In addition to published data, we obtained birth data according to this age breakdown for a few countries by direct request to government statistical offices.

### Abortion Statistics

Our principal source for abortion data is a special data compilation effort that was carried out in 1997 in all countries where abortion was permitted under broad legal grounds\* and that had a population of one million or more.<sup>8</sup> Data on the number of abortions occurring among adolescents were gathered directly from government statistical agencies in the majority of cases, but occasionally we took data from published reports.

Although the reporting of abortions is usually required in countries where the procedure is legal under broad grounds, it is nevertheless incomplete in some countries. We asked local experts to assess the completeness of these data, and we highlight results for countries where reporting is judged to be more than 20% undercounted or to be of unknown completeness.<sup>†</sup>

### Population Data and Number of Countries

Information on the number of adolescents is needed to calculate rates. We obtained data, in order of preference, from countries directly, from the publications of international organizations (such as the Council of Europe or the United Nations) and from United Nations estimates (in the few instances where actual population data were lacking).<sup>9</sup>

We present information on adolescent birthrates for a recent year for 46 countries (counting parts of the United Kingdom separately, counting Germany as a single country and counting the former Czechoslovakia as the two countries that were formed from it). We show abortion rates among adolescents aged 15–19 for a recent year in 33 of these 46 countries. Birth data for adolescents aged 15–17 and 18–19 in a recent year are presented for 25 countries, and abortion data for these age-groups are available for 18 of these 25 countries. We present trend data on adolescent birthrates over the period 1970–1995 for all 46 coun-

tries. We also provide some trend data on adolescent abortion rates for the period 1980–1995 for 25 countries, but data are lacking for some years for several countries.

### Measures and Methods

The measures of birth, abortion and pregnancy presented here are the standard ones. Rates are calculated as the number of events (for example, births) per 1,000 women aged 15–19 per year. Reflecting data availability, age of the adolescent is measured as age at outcome, not age at conception. The abortion ratio is calculated as the number of abortions per 100 pregnancies (births plus abortions) in a given year. (The pregnancy rate excludes miscarriages.)

We considered whether to make a special adjustment to the number of births in order to more closely match the time period in which conceptions resulting in births and in abortions occurred. Where data availability permits, the use of such lagged births results in abortion ratios that are more accurate. We decided to use unlagged births for internal consistency and comparability—it was not possible to lag births for all countries and for all years—and for comparability with published government data and with other studies that did not use lagged births.

A second type of adjustment was necessary, however. In some European countries, the age of women at the time of birth or abortion is reported not as completed years of age (also referred to as age at the last birthday or age at the event), but as the age that the woman would attain during the calendar year in which the event occurred. In effect, age is calculated as the difference between the year in which the event (birth or abortion) occurred and the woman's year of birth. The use of this method for calculating age has a substantial impact on birthrates and abortion rates for adolescents; rates based on age attained are substantially lower than those based on completed age at the event.

As a result, adjustment to one standard must be made if a comparative analysis is to include countries with both types of age reporting. We opted to correct toward age in completed years because the majority of countries currently use this approach. For births, age is reported as age attained, and thus an adjustment was necessary, in the Federal Republic of Germany, France and Germany, while for abortion the adjustment was necessary in the Federal Republic of Germany, Finland, France, the German Democratic Republic, Germany, Iceland and Norway. In some additional cases where the adjustment was needed

and a published source provided adjusted data, we used the published data.

The adjustments required using actual data on events, according to single years of age attained, and applying a formula to the events in each single year of age attained that reapportions them according to completed years of age.<sup>‡</sup> (The calculation assumes an even distribution of events across the months in a calendar year.) In some countries, the count of events is available for five-year age-groups only (e.g., 15–19, 20–24, by age attained). In this case, the events are first distributed into single years of age attained, using Sprague multipliers, before the adjustment formula is applied.<sup>10</sup>

In situations where a country has changed politically over the time period studied, we made special provision so that information is presented in a meaningful way. A single country may have become two or more independent countries (as in the former Czechoslovakia, Yugoslavia and Soviet Union). Alternatively, two independent countries may have unified to form a single country (as in the former East Germany and West Germany). In the case of trend data, we present information for countries according to their status in the past and for countries as they are currently constituted, if possible. In the case of data for the most recent year, we present information for countries according to their current status.

The year for which the most recent data are available is always a year in the 1990s, and is 1995 or 1996 in most cases. In the case of a few countries, we present data for an earlier year than 1995, usually because that is the latest year for which teenage abortion data are available. Since abortion rates and birthrates are combined to obtain the pregnancy rate, we need to use the same year's information for both mea-

\*Defined as when abortion (at least during the first trimester) is permitted to preserve the woman's mental health, on socioeconomic grounds or without restriction as to reason.

†In some cases, experts based their assessments on empirical criteria. In other cases, the assessments were based on more impressionistic or anecdotal evidence, as in the case of the former Soviet republics, where observation of the increased role of private-sector abortion providers and their low reporting level was one criterion.

‡The formula used for adjusting data that are reported as "age attained" is:  $R_{i,a} = 7 / (12(A_{i,a} + A_{i+1,a}) - 1) / (12(A_{i,a} + A_{i+2,a}))$  where  $i$  = age in single years;  $a$  = year;  $R_{i,a}$  is the rate for women at age  $i$  in year  $a$ ; and  $A_{i,a}$  is the rate calculated based on age reached during the calendar year.  $A_{i,a} = \text{no. of children to mothers age } i / (\text{no. of women age } i - 1 \text{ at Jan. 1 year } a + \text{no. of women age } i \text{ at Jan. 1 year } a + 1) / 2$ . (Source: Calot G, personal written communication to Westoff C, June 23, 1983.)

tures. For describing the trend in the birthrate in these countries, however, the 1995 adolescent birthrate is presented, if available, for comparability with other countries.

### Births, Abortions and Pregnancies

In order to describe variation in the rates of birth, abortion and pregnancy, we divide countries into five groups, both to reflect the actual distribution across the ranges of the rates and to give an interpretation of what is a low or high rate within the context of the developed countries (Table 1). Very low describes a birthrate and an abortion rate under 10 per 1,000 per year, or a pregnancy rate of under 20 per 1,000. Low indicates a birthrate and an abortion rate of 10–19 per 1,000 per year, or a pregnancy rate of 20–39 per 1,000. Moderate is used to describe a birthrate and an abortion rate of 20–34 per 1,000, and a pregnancy rate of 40–69 per 1,000. High describes a birthrate and an abortion rate of 35–49 per 1,000, and a pregnancy rate of 70–99 per 1,000. Finally, very high indicates a birthrate and an abortion rate of 50 or more per 1,000, and a pregnancy rate of 100 or more per 1,000.

#### Birthrate

The range in the birthrate across industrialized countries in the mid-1990s is very wide, from a low rate of four births per 1,000 adolescents aged 15–19 per year in Japan to a high of 56 per 1,000 in Armenia (Table 2). Within this large range, some clusters are discernible. Very low rates are found in 10 countries, mostly in western, northern and southern Europe and in Japan. Low rates are found in another 10 countries, and moderate rates are found in 14 countries—mostly those in central and eastern Europe (Czech Republic, Estonia, Hungary, Latvia, Poland, the Slovak Republic and the Federal Republic of Yugoslavia), a few western European countries (England and Wales, Iceland, Northern Ireland, Portugal and Scotland) and some other countries mainly populated by immigrants from the United Kingdom (Canada and New Zealand). A small cluster of seven countries in eastern Europe

**Table 1. Pregnancy rate, abortion rate and birthrate, by category**

Category	Pregnancy rate	Abortion rate and birthrate
Very low	<20.0	<10.0
Low	20.0–39.9	10.0–19.9
Moderate	40.0–69.9	20.0–34.9
High	70.0–99.9	35.0–49.9
Very high	≥100.0	≥50.0

(Belarus, Bosnia and Herzegovina, Bulgaria, Lithuania, Macedonia, Romania and Russian Federation) have high rates, and very high rates of 50 or more births per 1,000 adolescents per year are found in four eastern European countries—Armenia, Georgia, the Republic of Moldova and Ukraine—and in the United States.

#### Abortion Rate

Among 33 countries for which information on abortion among adolescents is available, the range in the abortion rate is as wide as that of the birthrate. A group of four countries with complete abortion reporting have very low adolescent abortion rates (Belgium, Germany, Israel and the Netherlands). In addition, in five other countries with incomplete reporting (Ireland, Italy, Japan, Spain and Northern Ireland), the reported rates are so low that the true rates would probably also be very low, even with a high level of underreporting (e.g., 40–50%).

A number of countries with complete abortion reporting have low adolescent abortion rates (Czech Republic, Denmark, England and Wales, Finland, Norway, Scotland, the Slovak Republic, Slovenia and Sweden). A few others with incomplete abortion reporting (France, Georgia and Moldova) also have rates at the low end of this range. Even with substantial underreporting (e.g., 40–50%), their adolescent abortion rates would probably still fall within the range of 10–19 abortions per 1,000. Moderate abortion rates are found in 10 countries with complete reporting (Australia, Belarus, Bulgaria, Canada, Estonia, Hungary, Iceland,

**Table 2. Rates of adolescent birth, abortion and pregnancy per year (per 1,000 women aged 15–19) and abortion ratio (per 100 pregnancies), by developed country, for the most recent year available**

Country	Birthrate	Abortion rate	Pregnancy rate	Abortion ratio
Albania	15.4	u	u	u
Armenia	56.2	u	u	u
Australia	19.8	23.8	43.7	54.1
Austria	15.6	u	u	u
Belarus	39.0	34.3	73.3	47.5
Belgium	9.1	5.0	14.1	35.6
Bosnia and Herzegovina	38.0	u	u	u
Bulgaria	49.6	33.7	83.3	40.4
Canada	24.2	21.2	45.4	47.1
Croatia	19.9	u	u	u
Czech Republic	20.1	12.3	32.4	38.1
Denmark	8.3	14.4	22.7	62.6
England and Wales	28.4	18.6	46.9	40.2
Estonia	33.4	32.8	66.2	49.7
Finland	9.8	10.7	20.5	52.9
France	10.0	10.2*	20.2*	51.2*
Georgia	53.0	13.4*	66.4*	20.2*
Germany	12.5	3.6	16.1	23.0
Greece	13.0	u	u	u
Hungary	29.5	29.6	59.1	50.3
Iceland	22.1	21.2	43.3	51.1
Ireland	15.0	4.2*	19.2*	21.9*
Israel	18.0	9.8†	27.9†	35.3†
Italy	6.9	5.1*	12.0*	42.9*
Japan	3.9	6.3*,†	10.1*,†	61.9*,†
Latvia	25.5	29.0	54.5	47.6
Lithuania	36.7	u	u	u
Macedonia	44.1	u	u	u
Moldova	53.2	11.6*	64.8*	18.1*
Netherlands	8.2‡	4.0‡	12.2‡	33.8‡
New Zealand	34.0	20.0	54.0	37.2
Northern Ireland§	23.7‡	4.8*,‡	28.4*,‡	17.0*,‡
Norway	13.5	18.7	32.3	59.2
Poland	21.1	u	u	u
Portugal	20.9	u	u	u
Romania**	42.0	32.0*	74.0*	42.9*
Russian Federation††	45.6	56.1*	101.7*	56.1*
Scotland‡‡	27.1	14.5	41.6	37.2
Slovak Republic	32.3	11.1	43.3	25.5
Slovenia	9.3	10.6	19.9	49.2
Spain	7.8	4.5*	12.3*	36.7*
Sweden	7.7	17.2	24.9	69.6
Switzerland	5.7	u	u	u
Ukraine	54.3	u	u	u
United States	54.4	29.2	83.6	34.9
Yugoslavia (Federal Rep.)	32.1	u	u	u

\*Abortion data are less than 80% complete. †Abortions are for women younger than 20, not just 15–19. ‡Birth data are for women younger than 20, not just 15–19; abortions are those for residents only. §Abortion rates reflect abortions obtained by Northern Ireland residents in England and Wales. \*\*Data are from the 1993 National Fertility Survey. ††Abortion data are from Soskomstat. The totals are higher than those from the Ministry of Health. ‡‡Abortion rate includes abortions obtained by Scotland residents in England and Wales. Notes: The abortion ratio is the proportion of pregnancies (excluding miscarriages) that are resolved as abortions. The most recent year is 1995, with the following exceptions: 1996—Austria, Bulgaria, Croatia, the Czech Republic, Estonia, Finland, Hungary, Iceland, Latvia, Lithuania, Moldova, Norway, Poland, Portugal, Slovenia, Sweden, Switzerland and the United States; 1994—Australia and Georgia; 1992—the Netherlands; and 1990—Albania and Bosnia and Herzegovina. All data reflect "age in completed years." The following adjustments were made when age was defined as "age attained during year": abortion data—Finland, France, Germany, Iceland and Norway; birth data—France and Germany. u=unavailable.

Latvia, New Zealand and the United States) and one with incomplete reporting (Romania).

Among the represented countries, none fall into the high category for their abortion rate. However, the adolescent abor-

tion rate in the Russian Federation is very high (56 per 1,000); moreover, the rate is a minimum estimate of the true level, since abortion reporting is incomplete in the Russian Federation.

### Pregnancy Rate

The pregnancy rate can be calculated for the 33 countries that have abortion data. Four countries with abortion reporting that is considered to be at least 80% complete have very low pregnancy rates (less than 20 per 1,000 adolescents per year)—Belgium, Germany, the Netherlands and Slovenia. Italy, Japan and Spain, with incomplete abortion reporting and pregnancy rates of 10–13 per 1,000, also probably fall into this category, even allowing for unreported abortions.

Six countries with complete abortion reporting have low pregnancy rates: the Czech Republic, Denmark, Finland, Israel, Norway and Sweden. In addition, France, Ireland and Northern Ireland, with incomplete abortion reporting and pregnancy rates of 19–28 per 1,000, probably fall within this low category. A moderate pregnancy rate is found in Australia, Canada, England and Wales, Estonia, Hungary, Iceland, Latvia, New Zealand, Scotland and the Slovak Republic, all countries with complete abortion reporting.

The pregnancy rate is high (70–99 per 1,000) in Belarus, Bulgaria and the United States, three countries with complete abortion reporting, and in Romania, where reporting is less complete. (In addition, in Georgia and Moldova, the recorded pregnancy rates of 65–66 per 1,000 fall into the moderate category, but because of incomplete abortion reporting there, actual pregnancy rates are also likely to exceed 70 per 1,000.) The pregnancy rate is very high only in the Russian Federation, where the rate barely exceeds 100 per 1,000.

### Abortion Ratio

The abortion ratio, which can be interpreted as the percentage of pregnancies that end in abortion, is a good indicator of the intensity of the desire to avoid child-bearing and of access to abortion services. There is no consistent relationship between the absolute level of the abortion rate and the abortion ratio (Table 2). Some countries with low or moderate abortion rates have some of the higher abortion ratios (about 50 or more abortions per 100 pregnancies). Examples with complete abortion reporting are Denmark, Finland, Hungary, Iceland, Norway and Sweden. Two countries with high pregnancy rates

**Table 3. Adolescent birthrates, by year, and percentage change in birthrates, by period, 1970 to mid-1990s, according to country**

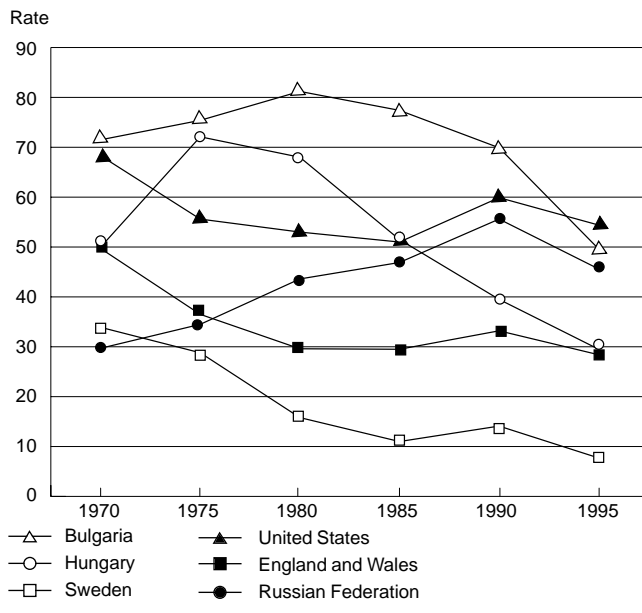
Country	Rate						% change		
	1970	1975	1980	1985	1990	1995*	1970–1985	1985–1995	1970–1995
Albania	39.0	u	21.9	16.4	15.4	u	-58	u	u
Armenia	41.2	39.6	45.0	57.0	70.0	56.2	38	-1	36
Australia	50.9	40.9	28.1	22.7†	22.0	19.8‡	-55	-13	-61
Austria	58.2	47.1	34.5	24.4	21.2	15.6	-58	-36	-73
Belarus	19.6	25.5	31.4	32.8	43.8	39.0	67	19	99
Belgium	31.0	27.8	20.3	12.6	11.3	9.1	-59	-28	-71
Bosnia & Herzegovina	43.6	45.4	36.8	38.1	38.0	u	-13	u	u
Bulgaria	71.5	75.4	81.2	77.4	69.9	49.6	8	-36	-31
Canada	42.8	35.3	27.2	23.2	25.6	24.2	-46	4	-43
Croatia	46.9	51.5	45.4	38.4	27.4	19.9	-18	-48	-58
Czech Republic	49.0	61.2	53.1	53.3	44.7	20.1	9	-62	-59
Czechoslovakia	45.6	55.6	51.3	52.8	44.8	27.5	16	-48	-40
Denmark	32.4	26.8	16.8	9.1	9.1	8.3	-72	-9	-74
England and Wales	49.7	36.5	29.6	29.5	33.2	28.4	-41	-4	-43
Estonia	32.6	36.0	44.6	43.9	53.6	33.4	35	-24	2
Federal Republic of Germany	43.3	26.2	19.5	12.1	16.8	13.2	-72	9	-70
Finland	32.2	27.5	18.9	13.8	12.4	9.8	-57	-29	-70
France	37.4	33.1	25.4	16.9	13.3	10.0	-55	-41	-73
Georgia	35.8	36.3	45.0	49.1	60.2	53.0‡	37	8	48
German Dem. Republic	72.1§	61.5	53.7	43.8	33.2§	u	-39§	u	u
Greece	36.9	46.5	53.1	36.4	21.6	13.0	-1	-64	-65
Hungary	50.0	72.1	68.0	51.5	39.5	29.5	3	-43	-41
Iceland	73.7	64.1	57.7	33.7	30.6	22.1	-54	-34	-70
Ireland	16.3	22.8	23.0	16.6	16.8	15.0	2	-10	-8
Israel	49.6	43.8	35.3	26.1	24.7	18.0	-47	-31	-64
Italy	27.0	32.5	20.9	12.7	9.0	6.9	-53	-46	-74
Japan	4.4	4.1	3.6	4.0	3.6	3.9	-9	-4	-12
Latvia	27.7	28.8	39.9	42.6	50.0	25.5	54	-40	-8
Lithuania	23.6	22.2	28.0	22.1	41.6	36.7	-6	66	56
Macedonia	41.4	50.0	49.3	47.5	43.1	44.1	15	-7	7
Moldova	u	u	34.7	42.6	58.7	53.2	u	25	u
Netherlands	22.6	12.6	9.2	6.8	8.3	5.8	-70	-15	-74
New Zealand	64.3	53.7	30.6	30.6	35.0	34.0	-52	11	-47
Northern Ireland	u	34.9	30.5**	28.7	u	23.7	u	-17	u
Norway	44.6	40.3	25.2	17.8	17.1	13.5	-60	-24	-70
Poland	30.0	31.4	32.9	35.1	31.5	21.1	17	-40	-30
Portugal	29.8	37.0	41.0	33.0	24.1	20.9	11	-37	-30
Romania	65.7	69.2	72.3	57.3	51.5	42.0	-13	-27	-36
Russian Federation	29.7	34.5	43.6	46.9	55.6	45.6	58	-3	54
Scotland	47.3	40.0	32.6	30.9	31.8	27.1	-35	-12	-43
Slovak Republic	39.2	46.3	48.2	51.8	45.5	32.3	32	-38	-18
Slovenia	42.3	59.6	56.3	41.3	24.6	9.3	-2	-77	-78
Spain	14.3	21.9	25.8	18.5	11.9	7.8	29	-58	-45
Sweden	33.9	28.8	15.8	11.0	14.1	7.7	-68	-30	-77
Switzerland	22.2	15.3	10.2	6.7	7.1	5.7	-70	-15	-74
Ukraine	35.1	40.3	49.4	51.7	57.4	54.3	47	5	55
United States	68.3	55.6	53.0	51.0	59.9	54.4	-25	7	-20
USSR	32.5	u	u	43.9††	u	u	35	u	u
Yugoslavia (former)	51.4	54.2	47.6	43.8‡‡	35.2	u	-15	u	u
Yugoslavia (Federal Republic)	60.8	60.6	52.7	48.4	41.0	32.1	-20	-34	-47

\*Data are for 1996, not 1995, in Austria, Bulgaria, Croatia, the Czech Republic, Estonia, Finland, Hungary, Iceland, Latvia, Lithuania, Moldova, Norway, Poland, Portugal, Slovenia, Sweden, Switzerland and the United States. †The 1985 birthrate is the average of 1984 and 1986. ‡The birthrate for 1995 is actually for 1994. §The 1970 birthrate is actually for 1972; the 1990 birthrate is actually for 1989; and the percentage changes also reflect these years. \*\*The birthrate for 1980 is actually for 1978. ††The birthrate for 1985 is actually for 1986. ‡‡The birthrate for 1985 is actually for 1987. Notes: All data presented reflect "age in completed years." Where age was defined as "age attained during year," birth data were adjusted for the Federal Republic of Germany and France. u=unavailable.

(Bulgaria and the United States) have moderate abortion ratios (40 and 35 per 100, respectively), while one with a moderate pregnancy rate (Belarus) has a high abortion ratio (close to 50 per 100). Among countries with complete abortion report-

ing, the lowest abortion ratios (roughly 25 abortions per 100 pregnancies) are found in Germany and the Slovak Republic. Ratios of 30–40 abortions per 100 pregnancies are more common and are found in 10 of the 33 countries with information.

**Figure 1. Adolescent birthrate, by year, selected developed countries**



**Recent Trends in Teenage Births**

Adolescent birthrates for the past 25 years are presented in Table 3 (page 17) for the 46 study countries. (We also provide information for three former national states that have recently become more than one country—Czechoslovakia, the Soviet Union and Yugoslavia—and for two nation states that have unified to form a single country—the Federal Republic of Germany and the German Democratic Republic.) We summarize the trend as the total percentage change over the whole 25-year period, as well as the percentage change over an earlier and a later part of this period.

The most common pattern of change in the adolescent birthrate in the industrialized countries over the past 25 years is one of substantial decline. In 18 countries with information for both 1970 and 1995, the rate was more than halved during this period, and the reduction was often much greater. The timing of the declines varied, with almost every possible pattern being observed (Figure 1).

Several of the newly independent countries and a few others experienced a rise followed by a decline, while Canada and the United Kingdom saw a steep decline and then stabilization. Finland had a steady decline, and Poland experienced a stabilization in the early part of the period, with a recent decline.

Birthrates were higher in 1995 than in 1970 in only eight of the countries with data for both years; all of these are in eastern Europe—Armenia, Belarus, Estonia, Georgia, Lithuania, Macedonia, the Russian Feder-

ation and Ukraine. (The pattern in the Russian Federation, shown in Figure 1, is typical of this group.) In these countries, the adolescent birthrate in 1990, ranging between 44–70 per 1,000 adolescents, was nearly double that in 1970. In some eastern European countries (Armenia, Belarus, Estonia, Latvia and the Russian Federation), the trend reversed in the 1990s, with substantial declines occurring between 1990 and 1995. Nevertheless, the 1995 birthrate was still much higher than the 1970 rate in almost all of these cases.

Another exception to the general pattern of declining teenage birthrates is found among those countries with relatively little net change over the period. In Japan, the adolescent birthrate was very low in 1970 and stayed at more or less the same level

up to 1995 (about four per 1,000). A few other countries (Estonia, Ireland, Latvia, Macedonia and the Slovak Republic) experienced minimal net change over the period, but experienced patterns of substantial increases and then declines.

The net decline in adolescent fertility in the United States (20% over the 1970–1995 period) was among the smallest declines seen during the 25-year period. However, this average conceals some variations: The adolescent birthrate was high in 1970 (68 per 1,000) and although it declined to 51 per 1,000 in 1985, it then rose after 1985 to 62 per 1,000 in 1991. The rate then declined to 59 per 1,000 in 1994, to 54 per 1,000 in 1996 and to 51 per 1,000 in 1998 (not shown).<sup>11</sup> The current adolescent birthrate in the United States is still very high in comparison with other developed countries.

**Trends in Abortion and Pregnancy**

Abortion data for earlier years are scarce. As a result, the trend in abortion and pregnancy can be described for only 25 countries (counting the newly independent countries that were formerly Czechoslovakia as two countries) and for a shorter period (1980–1995) than was possible for adolescent births. Data are available for

**Table 4. Adolescent abortion rate and pregnancy rate, by year, according to country**

Country	Abortion rate				Pregnancy rate			
	1980	1985	1990	1995	1980	1985	1990	1995
Australia	u	17.8	22.6	23.8	u	40.5	44.6	43.6
Bulgaria	u	u	43.5	33.7	u	u	113.4	83.3
Canada	16.9	14.9	20.3	21.2	44.1	38.1	45.9	45.4
Czechoslovakia	10.8	15.4	21.3	11.8	62.1	68.2	66.1	39.3
Czech Republic	u	u	24.6	12.3	u	u	69.3	32.4
Slovak Republic	u	u	14.9	11.1	u	u	60.4	43.4
Denmark	20.9	16.3	16.9	14.4	37.7	25.4	26.0	22.7
England and Wales	18.1	19.8	22.8	18.6	47.7	49.3	56.1	47.0
Federal Republic of Germany	5.2*	1.9*	1.8*	u	20.4*	10.5*	14.2*	u
Finland	21.2	18.4	15.2	10.7	40.1	32.2	27.6	20.5
France	11.8*	10.1*	9.9*	10.2*	37.2*	27.0*	23.2*	20.2*
German Democratic Rep.	12.1*	11.8*	7.1*	u	65.8*	55.6*	40.3*	u
Hungary	26.5	27.0	30.2	29.6	94.5	78.5	69.7	59.1
Iceland	23.9	16.3	16.7	21.2	81.6	50.0	47.3	43.3
Ireland	u	u	4.0*	4.2*	u	u	20.8*	19.2*
Israel	u	u	11.0	9.8	u	u	35.6	27.9
Italy	u	u	4.9*	5.1*	u	u	13.9*	12.0*
Japan	u	u	6.6*	6.3*	u	u	10.2*	10.1
Netherlands	5.3	4.3	3.6	4.0	14.5	11.1	11.9	12.2
New Zealand	10.8	11.7	15.6	20.0	41.4	42.3	50.5	54.0
Norway	22.6	21.6	19.8†	18.7†	47.8	39.4	36.9†	32.2†
Scotland	12.1	14.2	15.3	14.5	44.7	45.1	47.2	41.6
Slovenia	u	u	13.9	10.6	u	u	38.5	19.9
Spain	u	u	3.1*	4.5*	u	u	15.0*	12.3*
Sweden	22.2	18.0	23.9	17.2	38.0	29.0	38.0	24.9
United States	44.4	45.7	40.6	29.2	97.4	96.7	100.5	83.6

\*Abortion data are less than 80% complete. †Rate reflects adjusted age data for birth and abortion. Original data set defined age as "age attained during year." Notes: The most recent year is 1995 with the following exceptions: 1996—Bulgaria, the Czech Republic, Finland, Hungary, Iceland, Norway, Slovenia, Sweden and the United States; 1994—Australia; and 1992—the Netherlands. All data presented reflect "age in completed years." The following adjustments were made when age was defined as "age attained during year": abortion data—the Federal Republic of Germany, Finland, France, the German Democratic Republic, Iceland and Norway; birth data used to calculate pregnancy rate—the Federal Republic of Germany and France. u=unavailable.

all four key years over the period 1980–1995 for 14 of these countries, and partial information is available for the other 11 countries (Table 4). Moreover, abortion data are underreported for the Federal Republic of Germany, France, the German Democratic Republic, Ireland, Italy, Japan and Spain.

Overall, declines in the adolescent abortion rate are less prevalent than are declines in the adolescent birthrate, although generalizations must be based on many fewer countries. Considering only countries that have accurate abortion reporting, about half have had noticeable declines. The decline in the teenage abortion rate in the United States was one of the largest, with the rate having decreased by more than one-third between 1985 and 1996 (from 46 per 1,000, which was the highest among countries with data, to 29 per 1,000, still one of the highest rates). Australia, Canada and New Zealand have seen small-to-moderate increases in the abortion rate during the whole period, and a few others—Czechoslovakia, England and Wales, Hungary, Iceland and Scotland—have seen increases during at least part of the period.

Trends in the pregnancy rate are more similar to those in the birthrate: Twelve of the 18 countries with abortion reporting that is at least 80% complete had declines. In Czechoslovakia, Hungary and Iceland, where the abortion rate increased somewhat during the period 1980–1995, fairly large declines in the birthrate outweighed smaller increases in the abortion rate. Over the period 1980–1995, small increases in the pregnancy rate paralleled increases in the abortion rate in Australia and Canada, while the 30% increase in teenage pregnancy in New Zealand stands out as the largest. In England and Wales, the adolescent pregnancy rate increased by close to 20% during the period 1980–1990, but then dropped in the early 1990s to approximately the same rate as in 1980.

Information on trends in the adolescent abortion rate could not be obtained for the newly independent countries of eastern Europe, several of which have experienced substantial increases in the adolescent birthrate at least up to 1990. As a result, we cannot determine the trend in adolescent pregnancy in this group of countries. The adolescent abortion rate may have declined (as the overall abortion rate did in some of these countries<sup>12</sup>), and may have outweighed increases in the birthrate. However, the trend in the adolescent abortion rate may have differed from the general trend.

**Table 5. Adolescent birth, abortion and pregnancy rates and abortion ratio, by age-group, according to country**

Country	Birthrate		Abortion rate		Abortion ratio		Pregnancy rate	
	15–17	18–19	15–17	18–19	15–17	18–19	15–17	18–19
Australia	10.6	35.0	u	u	u	u	u	u
Austria	5.8	30.6	u	u	u	u	u	u
Belgium	3.0	18.3	3.8	7.0	55.4	27.6	6.8	25.2
Canada	13.6	40.0	13.6	32.5	50.0	44.8	27.2	72.5
Czech Republic	6.6	50.3	7.2	19.2	52.4	27.6	13.8	69.5
Denmark	2.2	17.8	9.9	20.5	82.2	53.6	12.1	38.3
England and Wales	14.6	50.2	13.8	26.2	48.6	34.2	28.4	76.4
Estonia	13.8	62.6	16.8	57.1	54.7	47.7	30.6	119.7
Finland	3.2	19.4	8.1	14.6	71.7	42.9	11.3	34.0
France	3.5	20.0	6.8*	15.2*	66.2*	43.2*	10.2*	35.1*
Georgia	35.0	101.6	u	u	u	u	u	u
Germany	4.4	24.5	u	u	u	u	u	u
Hungary	15.7	47.7	20.4	41.6	56.5	46.6	36.1	89.3
Iceland	8.7	42.2	19.9	24.8	69.6	37.0	28.6	67.0
Ireland	6.6	28.7	u	u	u	u	u	u
Israel	5.4	36.3	u	u	u	u	u	u
Japan	1.1	7.6	u	u	u	u	u	u
Latvia†	12.9	34.1	18.8	36.1	59.4	51.4	31.6	70.2
New Zealand	19.2	55.6	14.1	28.6	42.3	33.9	33.3	84.3
Norway	4.0	27.7	13.5	26.5	77.1	49.0	17.5	54.1
Scotland‡	5.0	34.3	10.1	18.4	66.9	35.0	15.1	52.6
Slovak Republic	11.2	64.0	5.7	19.2	33.6	23.1	16.9	83.2
Slovenia	2.6	23.7	5.3	18.7	67.2	44.1	7.9	42.4
Sweden	2.7	15.3	13.7	22.3	83.7	59.4	16.4	37.6
United States	33.8	86.0	19.0	44.9	36.0	34.3	52.8	130.9

\*Abortion data are less than 80% complete. †Age groups are 15–16 and 17–19. ‡Age groups are <16 and 16–19. Notes: All rates are for 1995, with the following exceptions: 1996—Austria, Estonia, Finland, Hungary, Iceland, Latvia, Norway, Slovenia, Sweden, Switzerland and the United States; and 1994—Australia, France, Georgia. All data presented reflect “age in completed years.” The following adjustments were made when age was defined as “age attained during year”: abortion data—Finland, France, Iceland and Norway; and birth data—France and Germany. u=unavailable.

### Age Differences in Pregnancy Rates

Because the consequences of pregnancy are often of greater social concern for younger adolescents than for older teenagers, we compare birthrates, abortion rates and pregnancy rates for adolescents aged 15–17 and for those aged 18–19 (Table 5). Detailed birth data are available for 25 countries, and detailed abortion data (and therefore pregnancy rates) are available for 18 of these 25 countries.

The birthrate for teenagers 15–17 years old is higher than 20 per 1,000 in only two countries—the United States (34 per 1,000) and Georgia (35 per 1,000). The rate is low (about 10–19 per 1,000) in Australia, Canada, England and Wales, Estonia, Hungary, Latvia, New Zealand and the Slovak Republic, and is very low (less than 10 per 1,000 and often under five per 1,000) in all of the remaining 15 countries.

The birthrate among 18–19-year-olds is much higher than that among younger teenagers, partly because older adolescents are more likely than those who are younger to be married, cohabiting or sexually active if unmarried. Nevertheless, the cross-country pattern of differences observed for the birthrate among younger teenagers is also largely found in the older age-group. The United States and Georgia again have the

highest birthrates—annual rates of 86 and 102 per 1,000 18–19-year-olds, respectively. The birthrate among older teenagers is very low (under 10 per 1,000) or low (under 20 per 1,000) in five countries—Belgium, Denmark, Finland, Japan and Sweden—and moderate (20–34 per 1,000) in another eight countries—Austria, France, Germany, Ireland, Latvia, Norway, Scotland and Slovenia. The birthrate among older adolescents is high (35–49 per 1,000) in five countries—Australia, Canada, Hungary, Iceland and Israel—and very high among the remaining seven countries.

The abortion ratio among younger teenagers is strikingly high in the majority of countries. It is more than 50 per 100 (ranging from 50 to 84 per 100) in 14 of the 18 countries; the exceptions are England and Wales, New Zealand, the Slovak Republic and the United States. In eight of the 14 countries, the ratio is greater than 66 abortions per 100 pregnancies. This clearly indicates that, once pregnant, young adolescents in the majority of developed countries are more likely to choose abortion than to carry the pregnancy to term. Younger adolescents are also much more likely to choose an abortion than are older teenagers. Only in three of the 18 countries (Denmark, Latvia and Sweden) is the

**Table 6. Percentage of births and percentage of abortions that are to adolescents, by year, and percentage change, according to country**

Country	% of births			% of abortions		
	1980	1995	% change	1980	1995	% change
Albania	4.4	2.9	-35	u	u	u
Armenia	11.4	18.3	61	u	u	u
Australia	7.5	4.8	-36	20.5*	23.5	13
Austria	12.3	3.9	-68	u	u	u
Belarus	8.5	14.3	69	u	6.7	u
Belgium	6.3	2.4	-63	u	11.4	u
Bosnia and Herzegovina	10.5	11.0	5	u	u	u
Bulgaria	19.0	20.5	8	7.8	12.5	37
Canada	8.4	12.4	49	29.7	19.2	-55
Croatia	10.4	6.3	-39	u	u	u
Czech Republic	11.6	9.0	-22	6.6	10.8	39
Czechoslovakia	11.0	11.5	4	5.8	10.1	43
Denmark	5.5	2.0	-64	18.3	12.8	-43
England and Wales	9.3	6.4	-31	27.6	17.7	-56
Estonia	10.0	12.9	29	u	10.0	u
Federal Rep. of Germany	8.0	4.0‡	-50	15.0†	3.8†,‡	-295
Finland	5.6	2.6	-54	26.4	16.5	-60
France	6.7	2.6	-61	14.5	12.2	-19
Georgia	11.9	21.0	76	u	6.5	u
German Democratic Rep.	15.2	8.5‡	-44	9.2	4.9†,‡	-88
Germany	10.0	3.4‡	-66	12.0	6.6‡	-81
Greece (1981)	12.2	4.7	-62	10.1	u	u
Hungary	14.3	10.8	-25	10.3	14.9	31
Iceland	13.8	5.3	-62	20.1	25.9	22
Ireland	4.9	5.1	4	u	u	u
Israel	6.1§	3.8	-38	12.0§	13.7	13
Italy	6.9	2.9	-58	7.8†	6.6†	-18
Japan	0.9	1.4	47	3.2†	7.6†	58
Latvia	10.2	10.5	3	u	10.3	u
Lithuania	7.8	12.1	55	u	u	u
Macedonia	10.2	10.8	7	u	u	u
Moldova	8.3	18.6	125	u	7.9	u
Netherlands	3.1	1.9	-39	16.5	9.4	-76
New Zealand	11.2	7.6	-32	27.7	19.0	-46
Northern Ireland	7.4	6.0	-19	23.0†,**	18.6†,**	-24
Norway	7.6	2.9	-62	25.6	16.8††	-52
Poland	6.4	7.8	23	u	u	u
Portugal	11.6	7.1	-39	u	u	u
Romania	12.7	17.0	35	u	4.6	u
Russian Federation	11.2	17.2	54	u	13.2†	u
Scotland	10.5	6.9	-34	29.7	19.8	-50
Slovak Republic	10.1	12.2	21	4.1	8.9	54
Slovenia	12.8	3.6	-72	u	7.6	u
Spain	7.0	3.3	-53	u	13.9†	u
Sweden	4.5	2.0	-56	17.7	13.2	-35
Switzerland	3.3	1.3	-61	u	u	u
Ukraine	12.8	19.5	52	u	u	u
United States	15.3	12.6	-18	29.2	19.3	-51
Yugoslavia	10.7	9.0	-16	u	u	u

\*1980 abortions are Medicare only. †Abortion data are less than 80% complete. ‡The most recent year is 1990 for the Federal Republic of Germany and for the German Democratic Republic, but the most recent year for unified Germany is 1995. §Data are actually for 1988, the earliest year for which this information was available. The 1988 estimate excludes 3% of cases for which age was missing. \*\*Percentage of abortions in 1980 column refers to 1981 data. Abortions are those obtained by Northern Ireland residents in England and Wales. ††Only 1996 abortion data reflect adjusted age data. Original age data set defined age as "age attained during year." Notes: All data are for 1995, with the following exceptions: 1996—Austria, Bulgaria, the Czech Republic, Estonia, Hungary, Iceland, Latvia, Lithuania, Moldova, Norway, Poland, Portugal, Slovenia, Sweden, Switzerland and the United States; 1994—Australia, Georgia, Macedonia and Ukraine; 1992—the Netherlands; and 1990—Albania and Bosnia and Herzegovina. All data presented reflect "age in completed years." The following adjustments were made when age was defined as "age attained during year": abortion data—the Federal Republic of Germany, Finland, France, the German Democratic Republic, Germany, Iceland and Norway; birth data—the Federal Republic of Germany, France and Germany. u=unavailable.

abortion ratio for older adolescents above 50 per 100.

The pregnancy rate among older teenagers is low (under 40 per 1,000) in four of the 17 countries with accurate abortion re-

porting. This rate is moderate in five other countries. In contrast, it is high (70–99 per 1,000) in six countries and very high in the United States (131 per 1,000 teenagers in 1996) and in Estonia (120 per 1,000).

## Youths' Share of All Pregnancies

Table 6 presents 1980 and 1995 data on the proportions of total births and abortions that occur to adolescents, and the change in these proportions over time. These indicators are important because they may influence perceptions of whether adolescent pregnancy is an issue of public concern.

As with trends in teenage birthrates, the majority of industrialized countries have seen a decline in the proportion of total births to adolescents. The exceptions are mainly countries in eastern Europe, many of which experienced increases in the adolescent birthrate up to 1990. Even with declines in the early 1990s, the proportion of total births occurring to adolescents in these countries has risen since 1980. By 1995, between one in five and one in six births in many eastern European countries were to adolescents. However, in the vast majority of western, northern and southern European countries, the proportion of total births that occurred to teenagers was quite low, typically in the range of 2–8%.

The proportion of all abortions that are to teenagers also has declined in the majority of countries. While in 1980 this proportion was 20% or higher in 10 of the 26 countries with data, this was so in only two countries in 1995. The proportion of all abortions to teenagers was still moderately high, with 21 countries in the range of 10–20%; this reflects the continuing prevalence of abortion among unmarried, sexually active adolescents in many developed countries.<sup>13</sup>

## Discussion

While information on adolescent childbearing is essentially complete and accurate, there are limitations in the availability and quality of abortion data. The lack of any reliable national information on abortion among adolescents in 13 of the 46 countries covered in the analysis is a great weakness, and restricts our ability to investigate pregnancy rates across the full range of developed countries. The fact that abortion data are incomplete in an additional 10 countries is also an important restriction. Although we dealt with this limitation by interpreting the data as minimum estimates, there is an unavoidable degree of uncertainty in making inferences about the likely level of and effect of underreporting on the relative standing of the countries involved.

The United States had one of the highest adolescent pregnancy rates in the mid-1990s, as it did in the early 1980s. A question often raised is whether the high level of adolescent pregnancy in the United

States is due to its high level of immigration or to its racial and ethnic composition. Even though the birthrates and pregnancy rates of racial and ethnic subgroups in the United States vary greatly, studies in the early 1980s showed that rates for white teenagers were among the highest when compared with those of other developed countries. This demonstrated that the U.S. differential was due only in part to the higher rates found among minority groups.<sup>14</sup> Current information still supports this point: Among white adolescents (excluding those of Hispanic origin), the pregnancy rate was 57 per 1,000 in 1996 (unadjusted for miscarriages). This rate falls into the moderate category, rather than the high category into which the United States as a whole falls.<sup>15\*</sup> The abortion rate for white teenagers (19 per 1,000) falls into the low category, while the national U.S. adolescent abortion rate of 29 per 1,000 falls into the moderate category.

Many European countries now have substantial immigrant populations—6% of the population of France held foreign citizenship in 1991, as did 3% in the United Kingdom in 1996 and 6% in Sweden in 1997.<sup>16</sup> The comparable proportion in the United States was 6% in 1997, arguing that this factor is not unique to the United States. Even so, a much larger proportion of the U.S. population is composed of racial and ethnic minorities than is generally true in other industrialized countries. In the United States, black and Hispanic teenagers are much more likely than non-Hispanic white teenagers to live in low-income families, which is a strong predictor of early sexual activity, pregnancy and childbearing.<sup>17</sup> Rates also vary widely within the United States, as they are likely to in other countries. In 1996, the adolescent birthrate ranged from 29 in New Hampshire to 75 in Arkansas and Mississippi; the pregnancy rate ranged from 42 in North Dakota to 121 in Nevada.<sup>18</sup> In England and Wales, the adolescent birthrate in 1995 ranged from about 22 per 1,000 in the southeast region to about 35 in northern regions of the country.<sup>19</sup>

The well-documented pattern of decline in the adolescent birthrate in the industrialized countries over the past 25 years is strong and widespread. In 1970, 29 countries had high teenage birthrates (35 or more per 1,000), including a number of western European and English-speaking countries, as well as some countries in eastern Europe and the former Soviet Union. By 1995, the number of developed countries with birthrates this high had fallen to 12 and included most countries of

the former Soviet Union and the United States. Between 1970 and 1995, the number of countries with teenage birthrates under 20 per 1,000 rose from four to 19.

The general trend of declining teenage fertility is part of an overall decline in childbearing across industrialized countries.<sup>20</sup> Yet, the adolescent fertility decline has often been much larger than the general fertility decline. During the period 1975–1995, for example, the adolescent birthrate declined 22% in the United Kingdom, while the total fertility rate declined 7%; differences are even larger in Canada (27% and 9%, respectively), in France (68% and 12%, respectively) and in Sweden (70% and 2%, respectively).<sup>21</sup> As a result, births to adolescents make up a smaller proportion of births now than in 1980 in most industrialized countries.

At the same time, a different trend in adolescent pregnancy has occurred in many eastern European countries, particularly the former Soviet republics. The adolescent fertility rate increased while overall childbearing decreased in many countries of this subregion, although adolescent childbearing began to decline after 1990 in some of these countries, at approximately the point when political liberalization took place. For example, from 1974–1975 to 1994, the teenage birthrate increased by 47% in the Russian Federation, while the total fertility rate declined by 30%.<sup>22</sup> Two-thirds of the 21 study countries in this subregion now have adolescent birthrates of 30 per 1,000 or higher, compared with only two of the 25 study countries in other regions.

The historically young age at marriage in eastern Europe, which continued well into the second half of the 20th century and which was reinforced by socialist and communist policies, is an important factor that underlies early childbearing in this region.<sup>23</sup> A rapid reversal of this pattern followed the collapse of communism, and several other factors have been put forward to explain this recent trend. Broad societal transformations in the transition to a democratic and free-market system relaxed pressures and incentives for early marriage and childbearing, and resulted in changes in individuals' goals in many areas, including the timing of marriage and family formation. People's opportunities to mold their own lives increased, as did their awareness that this can be achieved only with greater control over reproduction. Access to effective contraception increased, as did exposure to modern sexual norms of free choice of partner and type of union. And, it is thought, these

changes are accompanied by greater and more mutual responsibility for pregnancy and childbearing.<sup>24</sup>

Available information suggests that increases in abortion probably do not account for the recent declines in adolescent births in the countries of eastern Europe: Overall, abortion rates declined during this period, although little information is available on trends in adolescent abortion specifically.<sup>25</sup> Data on trends in adolescent sexual activity in eastern Europe are even scarcer, although anecdotal impressions suggest that the proportions of teenagers who are sexually active have increased and that first intercourse is occurring at younger ages.<sup>26</sup>

In other developed countries, abortion is not an important factor in explaining recent trends in the adolescent birthrate, because it has changed little in most countries and has declined in a few. A second proximate factor, patterns of sexual behavior, also showed little change in most countries, suggesting that the proportion at risk of pregnancy either increased or remained stable.<sup>27</sup> Contraceptive use, a third proximate determinant of the fertility rate, may have contributed to fewer teenage births. In France, pill use among adolescents relying on reversible methods greatly increased during the period 1968–1988; pill use among adolescents probably continued to increase up to 1994, based on the reported pattern for adult women in 1994.<sup>28</sup> In the United States, use of contraceptives at first intercourse increased substantially from 1982 to 1995. Current use of contraceptives by sexually active adolescents increased from 1982 to 1988 and then remained stable up to 1995.<sup>29</sup> However, there was a net change from oral contraceptives to more effective long-acting hormonal methods, primarily the injectable method.<sup>30</sup>

Although there are few comparative studies of the factors underlying the decline in adolescent childbearing in industrialized countries (apart from the few recent studies focused on eastern Europe), research in the United States and in other industrialized countries has suggested likely contributing factors. Societal-level factors, rather than adolescent-specific changes, have been plausibly interpreted as underlying the decline in adolescent childbearing, because fertility declines have occurred among all women.<sup>31</sup> The rise in the mean age at parenthood and the decline in adolescent childbearing un-

\*By comparison, the adolescent birthrate in 1996 was 94 per 1,000 among black adolescents and 102 per 1,000 among Hispanic adolescents, much higher than rates found in all other industrialized countries.



derlie the trend toward smaller families in Europe and the rest of the industrialized world. This trend reflects the increased importance of achieving higher levels of education and training, which is particularly significant in determining the transition to motherhood among females.<sup>32</sup>

However, a number of factors are likely to have had a greater impact on teenagers. The provision of sexuality education in the schools, which has increased in many countries (often as part of societal efforts to counter the epidemic of HIV and AIDS), is likely to have made a cumulative contribution to improved knowledge of contraception, ability to negotiate contraceptive use and effectiveness of contraceptive use among adolescents.<sup>33</sup> Sweden's success in reducing teenage pregnancy rates and birthrates is credited to both improved sexuality education and improved provision of contraceptives to adolescents.<sup>34</sup> More generally, the pragmatic European approach to teenage sexual activity, expressed in the form of widespread provision of confidential and accessible contraceptive services to adolescents, is viewed as a central factor in explaining the more rapid declines in teenage childbearing in northern and western European countries, in contrast to slower decreases in the United States.<sup>35</sup>

The high rate of teenage childbearing among minority and disadvantaged groups, documented in the United States and the United Kingdom, is consistent with the hypothesis that lack of opportunity and socioeconomic disadvantage contribute to teenage childbearing.<sup>36</sup> There is also evidence from studies in the United States that better communication between parents and their adolescent children is associated with later sexual initiation and lower teenage childbearing.<sup>37</sup> However, more research is needed in the United States and in other developed countries to examine whether trends have occurred in these and other explanatory factors, as well as whether the effects of these factors on teenage behaviors remain important and continue in the same direction.

A review of recent research on the consequences of early childbearing in the United States concludes that "reduction of early parenthood will not eliminate the powerful effects of growing up in poverty and disadvantage. But it represents a potentially productive strategy for widening the pathways out of poverty or, at the very least, not compounding the handicaps imposed by social disadvantage."<sup>38</sup> Avoiding childbearing during adolescence allows young women the chance to com-

plete their schooling and to take advantage of work opportunities, and could have long-term benefits. On the other hand, having a child during the adolescent years may have negative social consequences, especially if the adolescent is unmarried and must rely on financial support from parents, government programs or other sources. Research in Europe has found some similar relationships between teenage childbearing and disadvantage, although the societal impact may be perceived differently where the level of adolescent childbearing is much lower than it is in the United States.<sup>39</sup>

Despite data limitations, comparative analysis of adolescent childbearing and pregnancy remains a valuable first step in identifying which countries are exceptional in level or trend, and in seeing where further in-depth studies are needed to understand observed patterns. Analysis of recent levels and trends in teenage pregnancy rates and its two components, birthrates and abortion rates, is of value because of its policy and programmatic implications. The fact that declines in adolescent pregnancy rates and birthrates have occurred in the majority of industrialized countries (and even in a wide range of developing ones<sup>40</sup>) suggests that broad societal changes, as well as crosscutting socioeconomic, political and cultural characteristics of individual countries, play an important role in explaining recent trends. These factors include the greater importance ascribed to educational achievement, the increased motivation among young people to delay pregnancy and childbearing in order to achieve higher education levels and to gain job skills before forming a family, as well as the improvements in knowledge of and access to the means of preventing unplanned pregnancy. It is nevertheless true that substantial variation still exists across the industrialized world and within countries, despite the pervasive trend of declines in adolescent pregnancy.

These findings suggest that it would be useful to continue to monitor and compare countries, as conditions keep on changing. It would also be useful to conduct comparative research into the reasons for the large cross-country differentials and for the substantial recent declines in adolescent pregnancy and childbearing that have occurred in most developed countries. Nevertheless, the declines in teenage pregnancy, birth and even abortion that have been documented in many countries provide hope—and challenge—to other countries to follow in their footsteps.

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