

# Repeat Unintended, Unwanted and Seriously Mistimed Childbearing in the United States

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**CONTEXT:** The high level of unintended fertility in the United States is a serious public health issue. Whether unintended fertility occurs across the population or is concentrated among a subset of women who experience multiple unintended births is unclear.

**METHODS:** Data from the 2002 National Survey of Family Growth were used to determine levels of unintended, unwanted and seriously mistimed childbearing, and chi-square and t tests were used to identify group differences in these measures, in two cohorts of women (those born in 1958–1962 and those born in 1965–1969). Both births (by ages 33–37) and mothers were used as units of analysis.

**RESULTS:** The proportion of births identified as unintended was greater in the 1965–1969 cohort than in the earlier cohort (37% vs. 34%), largely because a higher proportion of births to women in the former cohort were unwanted. In both cohorts, more than a third of women (36–41%) reporting at least one unintended birth had had at least one more, and women reporting unintended or unwanted births had higher overall fertility than others. Levels of repeat unintended fertility were greatest among black women, and the proportion of blacks who reported two or more unwanted births was 94% higher in the 1965–1969 cohort than in the 1958–1962 cohort (19% vs. 10%).

**CONCLUSIONS:** Repeat unintended fertility is common, especially among black women, who may differ from other groups in their contraceptive and fertility decisions as well as in their access to and ability to afford family planning services.

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The proportion of live births in the United States that are unintended is substantial—roughly 38%—and appears to be increasing after two decades of decline.<sup>1–6</sup> Unintended births are associated with negative health and developmental outcomes for families, women and children, raising concern in both public and academic arenas.<sup>6,7</sup> As a result, reducing the number of unintended pregnancies and births has been one of the nation's public health goals.<sup>8</sup>

Research examining unintended childbearing has had at least two limitations. First, most studies have used a combination of three indicators: unwanted births, mistimed births and unintended births. Unwanted births are those that occur to women who, at the time of conception, did not want to have any births at any point in the future, while mistimed births are those that occur earlier than desired. Unintended births are those that are either unwanted or mistimed. Unwanted and mistimed births are often distinguished from one another because they frequently reflect distinct concerns at different points in a woman's life, and because negative outcomes tend to be more strongly correlated with unwanted than with mistimed births.<sup>7,9</sup>

However, as women have increasingly delayed childbearing, births that take place long before children are desired have become a growing problem. Thus, Pulley and colleagues proposed distinguishing seriously

mistimed births—those that are mistimed by at least two years—from births that are only moderately mistimed.<sup>10</sup> Like unwanted births, those that occur two or more years early have been strongly linked with negative outcomes, such as low birth weight and preterm delivery; births that are less seriously mistimed, on the other hand, are only weakly associated with poor outcomes.<sup>10,11,12</sup>

A second limitation is that virtually all research on unintended childbearing has used births, rather than women, as the unit of analysis. A woman can, however, have more than one unintended birth in her lifetime, a factor that may play a role in national trends. For instance, cohort differences in levels of unintended births may be driven by differences in the proportion of women having such births, by differences in the number of women who have multiple unintended births or by some combination thereof. Thus, looking at unintended births in the context of a woman's fertility career can aid understanding of unintended childbearing and inform the allocation of prevention resources. For example, an increase across cohorts in the proportion of women having unintended births would suggest that proper use of contraceptives and access to contraceptives and abortion are generalized problems, while a change in unintended fertility among women in a particular demographic or

socioeconomic group would point to problems primarily for a subset of the population.

To address these limitations, we use data from the 2002 National Survey of Family Growth (NSFG) to examine levels of unintended childbearing in two cohorts of women to determine whether differences in unintended childbearing across cohorts can best be explained by differences in the overall pool of women at risk of unintended births or by differences in subsequent childbearing among women who have already experienced an unintended birth. Moreover, we look at unintended childbearing as well as two of its most significant components—unwanted births and seriously mistimed births. In addition, we examine differences in these measures among white, black and Hispanic women.

### **SOCIAL CONTEXTS OF UNINTENDED BIRTHS**

The identification of a birth as unintended depends not only on whether the birth is explicitly planned but also on the acceptability or suitability of having a birth in a particular social context.<sup>13,14</sup> Many important social factors shape a woman's perceptions about the acceptability of a birth, including her relationship status (married, cohabiting or dating), her education and employment status and prospects, her family and religious background, the availability of social support and the influence of her peers. This analysis stratifies women by age and by race and ethnicity, two important demographic characteristics that historically have been associated with women's family formation. Therefore, we are not directly measuring factors that cause a woman to identify a birth as intended or not, but rather are distinguishing women by demographic categories that are associated with different stages in the life course, differential access to resources and different cultural contexts.<sup>15,16</sup>

Increases in age at first marriage and in dissolution rates for marriages and cohabiting unions likely contribute to the high rates of unintended births, as well as to racial and ethnic disparities in unintended fertility.<sup>17,18</sup> Researchers often assume that unintended fertility and nonmarital fertility overlap,<sup>13</sup> and nonmarital births are indeed more likely than marital births to be unintended.<sup>7,19</sup> However, many nonmarital births are intended: From 1997 to 2002, 58% of births to previously married noncohabiting women, 49% of births to cohabiting women and 35% of births to never-married noncohabiting women were intended. Likewise, marital births are not necessarily intended: Twenty-three percent of births to married women during 1997–2002 were unintended.<sup>19</sup> Thus, we study unintended fertility as a phenomenon that is independent of relationship status, although we briefly explore cohort differences in nonmarital fertility. A full analysis of relationship status is made difficult by our focus on unintended fertility over the life course. A woman's relationship status changes over time, so deciding at what point to measure relationship status presents a logistical issue, especially since we are looking at entire cohorts rather than individual women.

### **Age and Unintended Births**

At its core, the measurement of unintended fertility focuses on the timing (and order) of births. Young women, who are more likely than older women to be childless or to have few children, are relatively unlikely to identify a birth as unwanted, and are more likely to label it mistimed.<sup>2</sup> As women age and reach their ideal family size, they become increasingly likely to label an unexpected or higher order birth unwanted rather than mistimed.<sup>2</sup>

More broadly, age helps shape perceptions about the social value and acceptability of childbearing. Strong beliefs surround the appropriate timing and ordering of life course transitions, including childbearing, and these norms have changed over time.<sup>20–22</sup> However, because some women—particularly those in certain subgroups—are less able than others to realize these norms, the timing and sequencing of childbearing relative to other life events is diverse.<sup>21,22</sup> For example, while the average age at first birth has risen among women in general during the past several decades, the increase has been smaller among black and Hispanic women than among whites.<sup>23</sup> Examining how the age distribution of unintended, unwanted and seriously mistimed births differs across cohorts can offer insight into women's understanding of the appropriate age at which to have a birth and how that understanding has changed.

### **Race and Ethnicity and Unintended Births**

As Cavanagh highlights, race and ethnicity is perhaps the most significant demographic stratifier in the United States and can be thought of both as an individual characteristic that influences people's lives and as a cultural context in which women make decisions.<sup>16</sup> Variations in childbearing patterns across racial and ethnic groups reflect this perspective. For example, black and Hispanic women have higher rates of teenage and nonmarital fertility than do white women;<sup>24</sup> these differences are reduced, but not eliminated, when a variety of individual-level economic, demographic, life course and family background characteristics are taken into account.<sup>25–27</sup> Residence in socioeconomically disadvantaged communities, where opportunities and positive role models may be scarce, may promote early and nonmarital childbearing.<sup>28</sup> Thus, early and nonmarital childbearing may be more normative—and less likely to result in disadvantageous maternal and child outcomes—for black and Hispanic women than for white women.<sup>21,29,30</sup>

Nonetheless, racial and ethnic minorities generally have higher rates of unintended fertility than do whites.<sup>1,13,19,31</sup> Again, racial and ethnic differences in structural and socioeconomic characteristics, as well as differential access to abortion and contraceptives, may explain some of the variation in fertility patterns. However, differences in attitudes toward childbearing and in motivations to use contraceptives are likely important as well.<sup>14</sup> All of these factors may have changed to different degrees across racial and ethnic groups over time; as a result, cohort differences

**TABLE 1. Percentage of all births, first births and later births that were unintended, unwanted and seriously mistimed, by women's race and ethnicity and birth cohort, 2002 National Survey of Family Growth**

Measure	All			White			Black			Hispanic		
	1958–1962 (N=1,831)	1965–1969 (N=2,219)	% difference	1958–1962 (N=936)	1965–1969 (N=1,060)	% difference	1958–1962 (N=481)	1965–1969 (N=493)	% difference	1958–1962 (N=356)	1965–1969 (N=571)	% difference
<b>All births</b>												
Unintended	33.5	36.8	9.6*	31.3	31.0	-1.0	45.0	56.9	26.4**	31.8	37.8	18.9†
Unwanted	12.3	15.4	25.6*	10.3	9.7	-5.5	20.5	32.3	57.8**	16.3	18.7	14.3
Seriously mistimed	11.4	12.2	6.4	9.9	11.7	17.8	16.1	17.7	10.2	8.2	9.8	19.2
<b>First births</b>												
Unintended	35.5	35.9	0.9	33.9	32.0	-5.4	48.2	54.1	12.3	30.4	36.9	21.3
Unwanted	7.1	8.3	17.8	5.3	5.0	-6.1	12.4	21.5	73.8*	13.9	11.4	-18.1
Seriously mistimed	18.4	19.0	3.2	17.2	18.5	7.6	28.4	28.4	0.0	8.9	14.7	64.7
<b>Later births</b>												
Unintended	31.9	37.5	17.6**	29.0	30.0	3.2	42.8	58.9	37.7***	32.7	38.3	17.3
Unwanted	16.4	21.3	29.6**	14.6	14.2	-2.7	26.3	39.7	50.8**	17.9	23.3	29.9
Seriously mistimed	5.8	6.4	10.9	3.6	5.2	44.4	7.2	10.4	44.6	7.8	6.7	-13.8

\*p<.05. \*\*p<.01. \*\*\*p<.001. †p<.10. Notes: Data include only births that occurred by ages 33–37 (i.e., by 1995 for the 1958–1962 cohort and 2002 for the 1965–1969 cohort). Sum of percentages unwanted and seriously mistimed does not equal percentage unintended, as unintended births also include those that are mistimed by less than two years. The numbers of white, black and Hispanic women do not add up to the total number of women because the total includes women of other racial and ethnic groups.

in the distribution of unintended fertility will likely vary by race and ethnicity.

#### DATA AND METHODS

We use data from the 2002 NSFG, which surveyed 7,643 women aged 15–44; Hispanics and non-Hispanic blacks were oversampled. We focus on women in later stages of their childbearing years. Ideally, we would use multiple cycles of the NSFG to compare different cohorts of women aged 40–44. However, data on the prevalence of unintended fertility from various cycles of the NSFG are inconsistent, sometimes differing to a large degree even among overlapping cohorts from consecutive surveys; changes in survey questions and design across the years may have contributed to these differences.<sup>32</sup> Therefore, we restrict our analysis to one cycle of the NSFG and analyze two birth cohorts of women. The older cohort consists of 1,209 women who were aged 40–44 in 2002 (they were born between 1958 and 1962), and the younger cohort comprises 1,311 women who were aged 33–37 in 2002 (they were born between 1965 and 1969). We limit the analysis to births that occurred up to ages 33–37 (by 1995 for the 1958–1962 cohort and by 2002 for the 1965–1969 cohort); overall, 960 women in the older cohort and 1,017 women in the younger cohort had had at least one birth by this time. Because preliminary analysis suggests that about 85% of births to the 1958–1962 cohort had occurred by ages 33–37, our analysis captures most of women's childbearing but misses births at the end of the reproductive

years, when levels of unwanted births may be disproportionately high.

To examine cohort levels of and differences in unintended, unwanted and seriously mistimed childbearing, we calculate a series of proportions and averages, separately using births and mothers as the unit of analysis.\* Additionally, depending on the measure, we look at the relative or absolute differences in these proportions and averages across cohorts. Chi-square and t tests are used to assess the statistical significance of cohort differences. We perform all analyses for the sample as a whole, as well as separately for non-Hispanic white, non-Hispanic black and Hispanic women. Ideally, we would analyze Hispanic women separately by national origin; unfortunately, small sample sizes prevent subdivision of the Hispanic population.

Our measures of intendedness are constructed from responses to a series of NSFG questions. For each of their births, participants were asked "Right before you became pregnant, did you yourself want to have a(nother) baby at any time in the future?" Births for which women responded "no" are classified as unwanted. Women who responded "yes" or "not sure" were then asked whether the birth had occurred sooner than desired, at about the right time or later than desired. Births that were on time or too late are considered intended; those that were too early are labeled mistimed. Women who had had a mistimed birth were asked how many months or years too early the birth had occurred; we classify births that were at least two years too early as seriously mistimed.<sup>10–12</sup>

The validity of retrospective reports on pregnancy and birth intendedness is the subject of considerable academic debate. Certainly, women underreport unintended pregnancies, because many of these pregnancies end in abortions, which are underreported;<sup>33</sup> in fact, the underreporting of abortions is the reason most research on

\*Our approach is inspired by that of a similar analysis, which found that the proportion of births that occurred outside of marriage increased to a greater degree than the proportion of women who had a nonmarital birth (source: Hoffman SD and Foster EM, Nonmarital births and single mothers: cohort trends in the dynamics of nonmarital childbearing, *History of the Family*, 1997, 2(3):255–275).

**TABLE 2. Percentage of parous women aged 33–37 who had had unintended, unwanted or seriously mistimed births, by number of such births; and mean number of unintended and total births among those women, by birth history—all according to women’s race and ethnicity and birth cohort**

Measure	All			White			Black			Hispanic		
	1958–1962	1965–1969	% difference									
<b>PERCENTAGES</b>	(N=960)	(N=1,017)		(N=539)	(N=530)		(N=226)	(N=206)		(N=165)	(N=232)	
<b>Unintended</b>												
Any	44.9	49.1	9.3†	41.6	43.2	3.7	60.9	72.7	19.3*	47.7	53.3	11.7
1	28.6	29.2	2.2	28.0	28.2	0.7	35.5	32.3	-8.9	27.3	31.4	15.1
≥2	16.3	19.9	22.0*	13.7	15.0	10.1	25.4	40.4	58.7**	20.4	21.9	7.2
≥2, if any	36.3	40.5	11.6	32.8	34.8	6.1	41.8	55.6	33.0†	42.8	41.1	-4.0
<b>Unwanted</b>												
Any	17.2	21.7	25.9*	13.4	15.4	14.5	31.8	45.3	42.4*	26.8	25.0	-6.7
1	11.8	14.7	24.0†	8.9	12.0	35.3†	21.8	25.9	18.6	20.0	15.8	-21.0
≥2	5.4	7.0	30.0	4.6	3.4	-25.2	10.0	19.4	94.0*	6.7	9.1	35.7
≥2, if any	31.3	32.3	3.2	34.1	22.2	-34.9†	31.5	42.9	36.2	25.2	36.6	45.2
<b>Seriously mistimed</b>												
Any	20.4	22.1	8.7	18.0	20.5	13.5	31.9	34.9	9.4	17.7	20.2	14.1
1	17.6	18.5	4.9	16.4	17.6	7.8	27.1	28.2	3.7	15.9	15.7	-1.3
≥2	2.8	3.7	33.0	1.7	2.8	69.0	4.7	6.8	42.4	1.8	4.5	152.0
≥2, if any	13.6	16.6	22.1	9.3	13.9	49.5	14.9	19.3	29.5	10.0	22.2	122.0
<b>MEANS‡</b>												
<b>No. of unintended births</b>												
Any	0.7	0.8	12.9†	0.6	0.6	-1.6	1.0	1.4	35.0***	0.8	1.0	27.6*
Unintended	1.6	1.6	3.2	1.5	1.5	-4.0	1.7	1.9	13.0*	1.6	1.8	16.0
Unwanted	2.1	2.1	-0.5	2.2	1.9	-15.4	2.1	2.3	7.1	1.8	2.4	31.3*
Seriously mistimed	1.7	1.7	-1.7	1.7	1.6	-5.4	1.9	2.0	5.3	1.4	1.8	26.6*
<b>No. of births</b>												
Any	2.5	2.3	-9.3***	2.4	2.1	-13.6***	2.5	2.5	-0.8	2.7	2.7	-0.7
Unintended	2.8	2.6	-7.7*	2.8	2.4	-12.0*	2.8	2.8	-1.4	3.1	3.1	-0.3
Unwanted	3.2	3.0	-5.6	3.2	2.9	-9.9	3.1	3.0	-3.5	3.2	3.4	4.3
Seriously mistimed	2.8	2.5	-10.6*	2.7	2.3	-16.6*	2.9	2.9	0.4	2.9	3.2	10.3

\*p<.05. \*\*p<.01. \*\*\*p<.001. †p<.10. ‡Means indicate number of unintended births (or number of all births) among women reporting at least one birth in the specified birth history category (any, unintended, unwanted, seriously mistimed). Notes: Data include only births that occurred by ages 33–37. Sum of percentages of women with unwanted and seriously mistimed births does not equal percentage with unintended births, as the latter also includes women with births that are mistimed by less than two years. The numbers of white, black and Hispanic women do not add up to the total number of women because the total includes women of other racial and ethnic groups.

unintendedness focuses on births rather than pregnancies. In addition, women probably tend to overreport intendedness in retrospective accounts, because they rationalize their births or feel reluctant to identify a child as unwanted.<sup>13,34,35</sup> Nonetheless, most studies have demonstrated that retrospective measures of pregnancy intendedness are not biased.<sup>36,37</sup> Although research has not yet explicitly tested the face validity of the seriously mistimed births classification, the more nuanced definition of mistiming (distinguishing between moderately and seriously mistimed births) is likely to better capture the heterogeneity in the meaning of intendedness.<sup>7</sup>

## RESULTS

### All Women

By the time they were 33–37 years old, 960 women in the earlier cohort had had a total of 1,831 births, and 1,017 women in the later cohort had had 2,219 births. The proportion of births identified as unintended was 34% in the older cohort and 37% in the younger cohort (Table 1). The level of unwanted fertility differed strikingly between cohorts: Fifteen percent of births in the 1965–1969 cohort were unwanted—26% more than the 12% that were unwanted births in the 1958–1962 cohort. The

proportion of births that were seriously mistimed did not differ between cohorts.\*

Examining births by parity reveals two notable findings. First, unintended first births were relatively unlikely to be labeled unwanted; only about a fifth of unintended first births (7–8% of all births) were unwanted. The rest were mistimed, and more often than not they were seriously mistimed (18–19% of all first births and more than half of all unintended first births). Second, the cohort difference in the proportion of births identified as unintended appears to have been driven by differences in later order (second or subsequent) births. In particular, the proportion of these births that were characterized as unwanted was 30% greater in the 1965–1969 cohort than in the 1958–1962 cohort (21% vs. 16%). In contrast, cohort differences for first births were not statistically significant.

Using mothers as the unit of analysis reveals that 45% of those in the 1958–1962 cohort and 49% of those in the 1965–1969 cohort had had at least one unintended birth (Table 2). This marginally significant difference

\*The sum of the proportions of unwanted and seriously mistimed births does not equal the proportion of unintended births, which also includes births that were mistimed by less than two years.

appears to have been driven by the proportion of mothers who had had at least two unintended births, which is higher in the younger cohort than in the older one (20% vs. 16%). Among women who had had at least one unintended birth, more than a third (36–41%) went on to have another such birth. The proportion of mothers reporting unwanted births was greater in the younger cohort than in the older one (22% vs. 17%), while the proportion reporting seriously mistimed births was similar in the two (20–22%).

The mean number of unintended births was 0.7 among mothers in the 1958–1962 cohort and 0.8 among those in the 1965–1969 cohort; this 13% difference was marginally significant. In both cohorts, women with at least one unintended birth had had an average of 1.6 unintended births overall, and those with at least one unwanted birth had had about two unintended births overall. Average total fertility declined slightly across the two cohorts, and unintended fertility contributed to higher overall fertility in both cohorts. For example, in the 1965–1969 cohort, women reporting at least one unwanted birth had had 3.0 births, on average, while the full sample of mothers had had an average of 2.3 births ( $p < .001$ ).

Consistent with prior research, women tended to label a birth unwanted at higher parities and mistimed at lower parities, with little difference across cohorts. For example, in the 1958–1962 cohort, women who had had a first unwanted birth had already had 2.0 children, on average, whereas those who had had a first seriously mistimed birth had already had 1.2 children (Table 3). The average age across all unintended births was greater for the younger cohort than for the older cohort. Notably, the

average age at a first seriously mistimed birth and at all seriously mistimed births increased by more than a year across cohorts. This finding, in combination with the lack of a significant difference in maternal age for unwanted births, suggests that the ideal age window for a birth narrowed somewhat across cohorts.

Some of the disparity in age at first seriously mistimed birth may have been driven by cohort differences in relationship status. Eighty-three percent of women in the 1958–1962 cohort had married by age 33, whereas 79% of those in the younger cohort had done so (not shown). Additionally, by age 33, 24% of women in the 1958–1962 cohort had had a nonmarital birth, compared with 30% of women in the 1965–1969 cohort. An increase in the proportion of births that were to cohabiting couples, from 5% to 11%, accounted for most of the difference between the two cohorts in nonmarital births. One might expect cohort differences in relationship status to be particularly associated with changes in levels of mistimed births, but we observed no differences in the occurrence of seriously mistimed or repeated seriously mistimed births (Tables 1 and 2). Instead, the cohorts differed in the proportions of unwanted births and later order births, and these births are less likely than first births to be affected by changes in union formation across cohorts.

**Racial and Ethnic Variation**

Four key points emerge from our examination of racial and ethnic variation in childbearing intentions. First, the proportion of births that were unintended or unwanted—as well as the proportion of parous women who had such births—was highest among black women and lowest

**TABLE 3. Mean parity and age at birth among parous women aged 33–37, by intendedness, according to women’s race and ethnicity and birth cohort**

Measure	All			White			Black			Hispanic		
	1958–1962	1965–1969	Difference									
<b>PARITY</b>												
<b>At unintended birth</b>												
All	1.96	2.01	0.05	1.95	1.83	-0.12	2.01	2.14	0.13	1.98	2.34	0.36*
First	1.37	1.34	-0.03	1.35	1.40	0.05	1.40	1.32	-0.08	1.57	1.45	-0.12
<b>At unwanted birth</b>												
All	2.55	2.54	-0.01	2.72	2.45	-0.27	2.45	2.41	-0.04	2.18	2.83	0.65**
First	2.03	2.06	0.03	2.19	2.29	0.10	1.91	1.77	-0.14†	1.73	1.88	0.15
<b>At seriously mistimed birth</b>												
All	1.39	1.44	0.05	1.25	1.27	0.02	1.35	1.60	0.25*	1.81	1.87	0.06
First	1.19	1.19	0.00	1.13	1.12	-0.01	1.17	1.25	0.08	1.66	1.39	-0.27†
<b>AGE</b>												
<b>At unintended birth</b>												
All	23.5	24.3	0.8**	23.9	25.0	1.2*	23.4	22.6	-0.7†	22.7	23.6	1.0†
First	22.6	23.2	0.7†	22.8	24.0	1.2†	22.2	21.1	-1.1*	22.4	22.4	0.0
<b>At unwanted birth</b>												
All	25.0	24.9	-0.1	25.6	26.5	0.8	25.0	23.0	-2.1***	22.9	24.2	1.3
First	24.4	24.6	0.2	25.1	25.9	0.9	24.4	22.2	-2.2**	22.4	24.2	1.7†
<b>At seriously mistimed birth</b>												
All	20.7	22.0	1.3**	20.4	22.3	1.9*	20.6	21.0	0.4	21.9	22.2	0.3
First	20.3	21.4	1.1**	20.1	21.8	1.7*	20.1	20.2	0.1	21.5	21.0	-0.5

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . † $p < .10$ . Note: Cohort differences may not equal the differences shown because of rounding.

among white women.\* For example, in the 1965–1969 cohort, 32% of births to black women were unwanted, compared with 19% of those to Hispanic women and 10% of those to white women (Table 1), and 45% of black women had had an unwanted birth, compared with 25% of Hispanics and 15% of whites (Table 2). More than one-fifth (22%) of first births among black women in the 1965–1969 cohort were unwanted, compared with 12% of those in the earlier cohort and 5% of those among white women in both cohorts. In addition, the proportion of births that were seriously mistimed was highest among black women.

Second, repeat unintended childbearing differed by race and ethnicity in both cohorts. For example, in the 1965–1969 cohort, 15% of white mothers had had two or more unintended births, compared with 22% of Hispanic mothers and 40% of black mothers (Table 2). Similarly, 22% of white women who had ever had an unwanted birth went on to have another unwanted birth, compared with 37% of Hispanic women and 43% of black women.

Third, cohort differences in intendedness varied by race and ethnicity, particularly for repeat unwanted childbearing. For example, the proportion of births that were unwanted among black women was 58% higher in the younger cohort than in the older one (32% vs. 21%; Table 1), and the proportion of black mothers who had had at least one unwanted birth was 42% greater in the 1965–1969 cohort than in the 1958–1962 cohort (45% vs. 32%; Table 2). The fact that the relative change is smaller when the unit of analysis is women rather than births indicates an increased tendency across cohorts for repeat unwanted childbearing among black women. Particularly striking is the 94% difference in the proportion of black mothers who experienced two or more unwanted births: 19% in the 1965–1969 cohort, compared with 10% in the earlier cohort.

Among white women, the pattern across cohorts looks very different. Although the proportion of white mothers reporting one unwanted birth was 35% greater in the 1965–1969 cohort than in the 1958–1962 cohort (a marginally significant difference), the proportion reporting multiple unwanted births did not differ between cohorts. In fact, among white mothers who had had at least one unwanted birth, the proportion who went on to have another appeared to be 35% smaller in the 1965–1969 cohort than in the 1958–1962 cohort (22% vs. 34%), although this difference was only marginally significant. Among Hispanic women, we see some evidence of higher levels of repeat unwanted childbearing in the more recent cohort, although this difference did not reach statistical significance. For the entire sample, the proportion of women who had two or more seriously mistimed births did not differ between cohorts, suggesting that women have not become more likely to have multiple births substantially earlier than desired.

Among black and Hispanic women, the average number of unintended births differed between cohorts. For instance, the overall numbers of unintended births among

black and Hispanic mothers were, respectively, 35% and 28% greater in the 1965–1969 than in the 1958–1962 cohort (Table 2). Among black mothers who had ever had an unintended birth, the total number of unintended births was 13% higher in the 1965–1969 cohort than in the earlier cohort. Among Hispanic mothers who had ever had an unwanted or seriously mistimed birth, the total number of unintended births was 27–31% greater in the 1965–1969 cohort than in the 1958–1962 cohort. No differences between cohorts were evident among white women in the average number of unintended births for any intendedness category. Interestingly, for the entire sample, total fertility differed between cohorts for three of the four birth history categories, and these differences were driven entirely by white mothers. In this group, the average number of births declined by 14% (from 2.4 to 2.1), and the average number of births among women who had at least one unintended birth by 12%. In general, racial and ethnic differences in birth intendedness were larger in the 1965–1969 cohort than in the earlier cohort.

Lastly, differences between cohorts in average age and parity at birth varied by race and ethnicity. White women in the 1965–1969 cohort had been an average of almost two years older than those in the 1958–1962 cohort at the time of a seriously mistimed birth (22.3 vs. 20.4); average age at the time of an unwanted birth did not differ between cohorts (Table 3). Among black women, the reverse was true: The average age at the time of an unwanted birth was two years younger for the 1965–1969 cohort than for the 1958–1962 cohort, but average age for seriously mistimed births was similar in the two cohorts. These disparities exacerbated the black-white difference in the average age at which unwanted and mistimed births occur. In general, mistimed and unwanted births occurred somewhat later in the life course for white women than for black (and Hispanic) women, particularly in the younger cohort.

## DISCUSSION

The results demonstrate that examining unintended childbearing at the level of the woman, in addition to the level of the birth, contributes an important element to our understanding of unintended childbearing. Consistent with prior studies, we found that the proportion of births identified as unintended was high and appears to have been even greater in the more recent of our two cohorts of women. Moreover, the prevalence of repeat unintended childbearing was also high, again especially among the more recent cohort.

Although societal trends in nonmarital childbearing are important, they probably do not explain all of the differences between cohorts in unintended fertility. The differences may in part reflect cohort disparities in desired family size, as well as decreases in women's ability or

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\*Chi-square tests demonstrate that all of the racial and ethnic differences discussed are statistically significant.

desire to regulate fertility, particularly among those who have had an unintended birth. The proportion of sexually active women not using contraceptives has increased over time, and only 89% of fertile, sexually active women who do not want to become pregnant use contraceptives.<sup>38,39</sup> The resolution of pregnancies among women not using contraceptives appears to have changed as well, as the proportion of unintended pregnancies ending in abortion has declined.<sup>40</sup>

**Racial and ethnic differences in childbearing intentions appear to be growing.**

Our findings highlight substantial racial differences in unintended childbearing—differences that were larger in the more recent cohort than in the earlier one. Consistent with earlier work, we found that black women had the highest levels of unintended childbearing, particularly unwanted births, whereas white women generally had the lowest. Additionally, we found that repeat unintended childbearing was highest among black women; 40% of black women in the 1965–1969 cohort had two or more unintended births, and 19% had at least two unwanted births. Repeat unwanted childbearing increased between cohorts among black women, but not among white women.

Several demographic trends and other factors may be contributing to these disparities. In recent decades, income inequality has increased, and women from lower income families are increasingly likely to experience single parenthood and divorce.<sup>41</sup> In addition, marriage rates have declined more among black women than among white women.<sup>17</sup> Black women also have lower rates of contraceptive use than do other women; the discrepancy may be greater among younger women than among older women because of decreases in funding for Title X–supported programs, which help provide contraceptives to low-income women (who are disproportionately black).<sup>42,43</sup> The fact that racial disparities were greater for unwanted births than for seriously mistimed births suggests that ideal family size has decreased among black women. For a variety of reasons—including low rates of marriage and long-term nonmarital unions, work obligations, and the welfare system's time limits on eligibility and caps on benefits for additional children—young black women today may want fewer children than their predecessors did.<sup>14</sup> Our analysis found that although the average number of births to black mothers did not differ between cohorts, the average number of unintended births to black mothers was substantially larger for the more recent cohort. This may indicate that fertility ideals are changing more rapidly than reproductive behavior.

The proportion of first births considered unwanted among black women in the 1965–1969 cohort (22%) was higher than that among black women in the earlier cohort (12%) or among white women in either cohort (5%). Additionally, these unwanted births appear to have occurred at younger ages. While a high proportion of black women actually may not want children at any time (perhaps for the reasons listed above), these figures also suggest the need to continue refining the measurement of childbearing intentions. The literature on unintended

fertility is suffused with concerns over the measurement of intentions. Some research suggests that intentionality or planning status may reflect only one dimension of childbearing wantedness and that other aspects—such as efficacy, affect or strength of intentions—may be just as important to measure and document.<sup>34,35,44,45</sup> Moreover, results of qualitative work suggest that such terms as “intended,” “unintended,” “wanted,” “unwanted,” “planned” and “unplanned” may have different meanings for different groups of women and may not be relevant for women in certain contexts.<sup>45,46</sup> For example, Edin and colleagues found that in low-income populations, children are often considered a natural by-product of being in a serious relationship.<sup>45</sup> Also, for some men and women, continued use of contraceptives in a serious relationship is an indicator of mistrust. These beliefs, coupled with the high social value of children among low-income women in particular, can lead to ambivalence in reports of pregnancy or childbearing intentions.<sup>45,46</sup>

**Limitations**

We were unable to directly track changes over time because of differences in the measurement of childbearing intentions between cycles of the NSFG. In addition, restricting our analysis to births before ages 33–37 may have distorted comparisons; if women in the 1965–1969 cohort postponed childbearing to a greater extent than women in the 1958–1962 cohort did, we missed more births in the younger cohort than in the older one. Our finding that the proportion of births that were unwanted was larger in the younger cohort than in the older cohort is all the more striking given this possibility. However, the larger concentration of unwanted and unintended fertility in the younger cohort may be inflated if births after age 37 are more likely than earlier births to be intended. In addition, accuracy of recall may have impacted the results; women aged 33–37 in 2002 were reporting about more recent births than were women aged 40–44.

Another potential issue related to accuracy of reporting concerns using women rather than births as the unit of analysis. The NSFG asks questions about all births and intendedness in one sequence (rather than asking about different births at different points in the survey), and women who label one birth unintended may have a tendency to label all births unintended, although this would not explain why repeat unintended childbearing increased over time. Measures such as planning status, feelings of happiness about the pregnancy and fertility intentions with specific partners provide a more comprehensive understanding of attitudes regarding pregnancy and childbearing, but data limitations precluded their inclusion in this analysis. Although the NSFG includes questions concerning a woman's happiness about each pregnancy, respondents are asked only about pregnancies in the three years preceding each survey.

Finally, we reiterate that our analysis examined births, not pregnancies. Unintended births represent a subset

of unintended pregnancies—those that were carried to term. Cohort differences in unintended childbearing may reflect differences in levels (or the identification) of unintended pregnancies or in women's ability or desire to terminate unintended pregnancies. We could not distinguish between these possibilities in our analyses, although the decrease in abortion mentioned earlier may explain some of the differences.

## Conclusion

Situating unintended childbearing within a woman's reproductive career is an important consideration if we are to understand why levels of unintended childbearing appear to be increasing—or at the very least remaining stable and high—despite public health and policy efforts to the contrary. Future work on trends in childbearing intentions needs to consider not just why more (or fewer) births are characterized as unintended, unwanted or seriously mistimed, but why more (or fewer) women are having repeat unintended, unwanted or seriously mistimed births.

Our results suggest that attempts to reduce unintended childbearing might benefit from a multipronged approach. We need to continue population-wide efforts to help all women avoid unintended pregnancy. More attention needs to be paid to addressing the antecedents of unintended pregnancy, both sexual (e.g., sexual beliefs, attitudes and behaviors, and access to and use of contraceptives and reproductive health services) and nonsexual (e.g., school performance, belief in the future, risk-taking behavior, poverty and social disorganization).<sup>47</sup> In addition, interventions should take into account the different types of unintended pregnancy. For instance, programs to reduce seriously mistimed childbearing among young women might promote abstinence along with the effective use of reversible contraceptives such as condoms and hormonal methods, whereas efforts to limit unwanted fertility might best target women who already have children, and might promote long-acting or permanent contraceptive choices, such as the IUD or sterilization.

However, intervention efforts also need to pay greater attention to identifying women who have already experienced an unintended birth, as such women appear to be at high risk of having subsequent unintended pregnancies. We might encourage practitioners to inquire, as sensitively and respectfully as possible, whether patients were trying to conceive when they became pregnant; if the pregnancy was unplanned, practitioners could then offer contraceptive counseling.

The differences between cohorts in levels of unintended childbearing (especially unwanted childbearing among black women) and repeat unintended childbearing are troubling, particularly as racial and ethnic differences in childbearing intentions appear to be growing. To help reverse these trends, further research is needed to determine the causes and implications of differences across cohorts and across racial and ethnic groups. Some public policies and legislative changes of the past two

decades, such as promotion of abstinence-only education and enactment of new restrictions on abortion, may be resulting in increased unintended childbearing. However, it seems unlikely that the political environment alone is responsible. Changing social mores toward nonmarital and unintended pregnancy and childbearing, as well as an easing of the conflict between work and family, may be encouraging more women to carry unintended pregnancies to term.

Finally, additional research is needed to explore why unwanted childbearing among black women was greater in the younger than in the older cohort. Some of the difference undoubtedly reflects declining access to publicly funded contraceptive and abortion services. However, the decisions that black women make about sex, contraception and fertility may differ from those of white or Hispanic women; minority status and poverty may interact to form an environment in which the attitudes and beliefs regarding relationships and childbearing in low-income black communities contrast with those of women in other segments of society.<sup>48</sup> Moreover, black women's ideal fertility preferences may be changing, perhaps faster than their fertility behavior. Further exploration of these issues is vital to efforts to craft effective public policy.

## REFERENCES

1. Finer LB and Shewhart SK, Disparities in rates of unintended pregnancy in the United States, 1994 and 2001, *Perspectives on Sexual and Reproductive Health*, 2006, 38(2):90–96.
2. Barber JS and Emens A, The intersection among unintended, premarital, and teenage childbearing in the U.S., *Population Studies Center Research Report*, Ann Arbor, MI: Population Studies Center, University of Michigan, 2006, No. 06–608.
3. Ventura SJ et al., Estimated pregnancy rates by outcome for the United States, 1990–2004, *National Vital Statistics Reports*, 2008, Vol. 56, No. 15.
4. National Campaign to Prevent Teen Pregnancy (NCPTP), *One in Three: The Case for Wanted and Welcomed Pregnancy*, Washington, DC: NCPTP, 2007.
5. Kissin DM et al., Is there a trend of increased unwanted childbearing among young women in the United States? *Journal of Adolescent Health*, 2008, 43(4):364–371.
6. Logan C et al., The consequences of unintended childbearing, Washington, DC: NCPTP and Child Trends, 2007.
7. Santelli J et al., The measurement and meaning of unintended pregnancy, *Perspectives on Sexual and Reproductive Health*, 2003, 35(2):94–101.
8. U.S. Department of Health and Human Services, *Healthy People 2010: Understanding and Improving Health*, second ed., Washington, DC: U.S. Government Printing Office, 2000.
9. Barber JS, Axinn WG and Thornton A, Unwanted childbearing, health, and mother-child relationships, *Journal of Health and Social Behavior*, 1999, 40(3):231–257.
10. Pulley L et al., The extent of pregnancy mistiming and its association with maternal characteristics and behaviors and pregnancy outcomes, *Perspectives on Sexual and Reproductive Health*, 2002, 34(4):206–211.
11. Abma JC, Mosher WD and Jones J, Wanted and unwanted births in the United States: trends, measurement, and implications, paper

- presented at the annual meeting of the Population Association of America, New Orleans, Apr. 17–19, 2008.
12. Finer LB, Lindberg L and Stokes-Prindle C, New estimates of U.S. unintended pregnancy: taking timing into account, paper presented at the annual meeting of the Population Association of America, New Orleans, Apr. 17–19, 2008.
  13. Musick K, Planned and unplanned childbearing among unmarried women, *Journal of Marriage and Family*, 2002, 64(4):915–929.
  14. Edin K and Kefalas M, *Promises I Can Keep: Why Poor Women Put Motherhood Before Marriage*, Berkeley, CA: University of California Press, 2005.
  15. Elder GH, Jr., The life course as developmental theory, *Child Development*, 1998, 69(1):1–12.
  16. Cavanagh SE, The sexual debut of girls in early adolescence: the intersection of race, pubertal timing, and friendship group characteristics, *Journal of Research on Adolescence*, 2004, 14(3):285–312.
  17. Raley RK, Recent trends and differentials in marriage and cohabitation: the United States, in: Waite LJ et al., eds., *The Ties That Bind: Perspectives on Marriage and Cohabitation*, Hawthorne, NY: Aldine de Gruyter, 2000, pp. 19–39.
  18. Bramlett MD and Mosher WD, First marriage dissolution, divorce, and remarriage: United States, *Advance Data from Vital and Health Statistics*, 2001, No. 323.
  19. Chandra A et al., Fertility, family planning and reproductive health of U.S. women: data from the 2002 National Survey of Family Growth, *Vital and Health Statistics*, 2005, Series 23, No. 25.
  20. Hogan DP and Astone NM, The transition to adulthood, *Annual Review of Sociology*, 1986, Vol. 12, pp. 109–130.
  21. East PL, Racial and ethnic differences in girls' sexual, marital, and birth expectations, *Journal of Marriage and the Family*, 1998, 60(1):150–162.
  22. Settersten RA, Jr., Furstenberg FF, Jr., and Rumbaut RG, *On the Frontier of Adulthood: Theory, Research, and Public Policy*, Chicago: University of Chicago Press, 2005.
  23. Mathews TJ and Hamilton BE, Mean age of mother, 1970–2000, *National Vital Statistics Reports*, 2002, Vol. 51, No. 1.
  24. Martin JA et al., Births: final data for 2003, *National Vital Statistics Reports*, 2005, Vol. 54, No. 2.
  25. McLanahan S and Sandefur G, *Growing Up with a Single Parent: What Hurts, What Helps*, Cambridge, MA: Harvard University Press, 1994.
  26. South SJ, Mate availability and the transition to unwed motherhood: a paradox of population structure, *Journal of Marriage and the Family*, 1996, 58(2):265–279.
  27. Kirby DB, Lepore G and Ryan J, *Sexual Risk and Protective Factors: Factors Affecting Teen Sexual Behavior, Pregnancy, Childbearing and Sexually Transmitted Disease*, Washington, DC: NCPTP, 2005.
  28. Wilson WJ, *When Work Disappears: The World of the New Urban Poor*, New York: Knopf, 1996.
  29. Geronimus AT, Damned if you do: culture, identity, privilege, and teenage childbearing in the United States, *Social Science & Medicine*, 2003, 57(5):881–893.
  30. Kaplan EB, *Not Our Kind of Girl: Unraveling the Myths of Black Teenage Motherhood*, Berkeley, CA: University of California Press, 1997.
  31. Henshaw SK, Unintended pregnancy in the United States, *Family Planning Perspectives*, 1998, 30(1):24–29 & 46.
  32. Hayford SR, Guzzo KB and Wildsmith E, Changes in the measurement of unwanted fertility in the 1995 and 2002 National Survey of Family Growth, paper presented at the 2008 National Survey of Family Growth Research Conference, Hyattsville, MD, Oct. 16–17, 2008.
  33. Jones RK and Kost K, Reporting of induced and spontaneous abortion in the 2002 National Survey of Family Growth, paper presented at the 2006 National Survey of Family Growth Research Conference, Hyattsville, MD, Oct. 19–20, 2006.
  34. Trussell J, Vaughan B and Stanford J, Are all contraceptive failures unintended pregnancies? Evidence from the 1995 National Survey of Family Growth, *Family Planning Perspectives*, 1999, 31(5):246–247 & 260.
  35. Williams LB, Abma JC and Piccinino LJ, The correspondence between intention to avoid childbearing and subsequent fertility: a prospective analysis, *Family Planning Perspectives*, 1999, 31(5):220–227.
  36. Bachrach C and Newcomer S, Intended pregnancies and unintended pregnancies: distinct categories or opposite ends of a continuum? *Family Planning Perspectives*, 1999, 31(5):251–252.
  37. Joyce TJ, Kaestner R and Korenman S, On the validity of retrospective assessments of pregnancy intention, *Demography*, 2002, 39(1):199–213.
  38. Mosher WD et al., Use of contraception and use of family planning services in the United States: 1982–2002, *Advance Data from Vital and Health Statistics*, 2004, No. 350.
  39. Guttmacher Institute, Facts on induced abortion in the United States, *In Brief*, New York: Guttmacher Institute, 2006.
  40. Henshaw SK and Finer LB, The accessibility of abortion services in the United States, 2001, *Perspectives on Sexual and Reproductive Health*, 2003, 35(1):16–24.
  41. McLanahan S, Diverging destinies: how children are faring under the second demographic transition, *Demography*, 2004, 41(4):607–627.
  42. Wu J et al., Contraceptive nonuse among US women at risk for unplanned pregnancy, *Contraception*, 2008, 78(4):284–289.
  43. Alan Guttmacher Institute (AGI), *Fulfilling the Promise: Public Policy and U.S. Family Planning Clinics*, New York: AGI, 2000.
  44. Klerman LV, The intendedness of pregnancy: a concept in transition, *Maternal and Child Health Journal*, 2000, 4(3):155–162.
  45. Edin K et al., Forming fragile families: Was the baby planned, unplanned, or in between? in: England P and Edin K, eds., *Unmarried Couples with Children*, New York: Russell Sage Foundation, 2007, pp. 25–54.
  46. Kendall C et al., Understanding pregnancy in a population of inner-city women in New Orleans—results of qualitative research, *Social Science & Medicine*, 2005, 60(2):297–311.
  47. Kirby D, Antecedents of adolescent initiation of sex, contraceptive use, and pregnancy, *American Journal of Health Behavior*, 2002, 26(6):473–485.
  48. Anderson E, Sex codes and family life among poor inner-city youths, *Annals of the American Academy of Political and Social Science*, 1989, 501(1):59–78.

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