The Decline of Unplanned Births in the United States

Charles F. Westoff

In 1960, fertility in the United States resumed the long decline that had been interrupted by the baby boom of the 1940's and '50's (*1*). Part of the decline since 1960 can be attributed to a rise in the proportion of unmarried young women, but most of it—about 86 percent—is due to the reduction in period marital fertility, that is, the average number of children married women gave birth to during this period (*2*). A decline in fertility rates during a particular decade does not automatically mean a decline in the total number of births the women will ultimately have. Data on expected family size and the continued decline of fertility into the 1970's strongly suggest that the ultimate number is also declining, but our analysis here is focused exclusively on the decline of marital fertility in the period between 1961 and 1970.

Planning Status

The first distinction to be made is between births that are wanted by the parents and those that are unwanted—that is, that occur after the last birth wanted. Earlier research (*3*) indicated that both these components, especially the rate of unwanted fertility, declined significantly during the decade of the 1960's. The main reason for the decline in unwanted births was the greater control over conception made possible by the radical improvements in contraceptive technology—the pill, the intrauterine devices, and surgical sterilization. Although all unwanted births are unintentional by definition, not all wanted births are intentional with respect to timing; a considerable fraction occur before they are wanted because contraception fails or is not used. (Because our focus is on the voluntary control of fertility, we exclude from consideration here the category of births that are delayed by involuntary inability to conceive.)

Thus, we consider three independent categories of births: wanted and planned, wanted but unplanned, and unwanted. (The first category includes births terminating intervals in which no contraception was used because a child was wanted as soon as possible, as well as births following the deliberate interruption of contraception in order to conceive.) We have estimated that between 1966 and 1970 in the United States the first category accounted for 57 percent of all births to married women, the second for 29 percent, and the third for 14 percent. This analysis focuses on the last two categories, which together comprise all unplanned births and account for 43 percent of the total births during that period. The main question addressed is, How much of the decline in marital fertility in the United States between 1961 and 1970 can be associated with the reduction of unplanned births? In demographic terms, the focus is on the decade of the 1960's; this is not a cohort analysis, and we are not trying to assess the implications of improvements in the control of fertility for the rate of population growth.

Sources of Data and Measures

Our data are from the 1965 and 1970 National Fertility Studies (*4*), which were based on interviews with national probability samples designed to represent married women of reproductive age in the United States. In this report the records from each study have been assembled to reflect the fertility and fertility planning experience of currently married women during the preceding five years. The reconstruction is confined to the preceding five years both in order to limit the effects of changing age and marriage duration (the samples were defined as married women under 45, but they are composed of progressively younger and more recently married women the more one goes back into the past) and to reduce the problems of recall. Two types of analysis are presented: (i) fertility measures for 1961–65 are compared with those for 1966–70 and the differences are allocated to the planned and unplanned categories; and (ii) a time series of rates for each year of the decade is reconstructed and the analysis focuses on the ten years of annual variations in fertility and its planning components. In the latter instance the statistical question is how much of the year-to-year variance in fertility across the decade can be attributed to the variance of unplanned fertility.

Fertility has been measured by summing the rates for marriages of given duration for each period or each year. The result is a "marital total fertility rate" which simultaneously, in effect, standardizes the rate for differences in marriage duration composition (by an unweighted summing of rates) and, analogous to the conventional "period total fertility rate" for all women, provides a projection of what the completed fertility of currently married women would be after 20 to 24 years of continuous marriage if during their married life such women reproduced at the rates current in the period of observation for marriages of comparable duration. Such a rate has the same weakness that all such synthetic rates suffer: because they are sensitive to variations in the tempo of fertility, they can distort the estimated total quantity of fertility. This "marital total fertility rate" provides numerical values that bear a relationship to each other similar to that from a calculation of the average number of births per married woman standardized for duration of marriage. Both statistics remove the influence of differing distributions of women by duration of marriage. The marital total fertility rate, however, has the additional advantage of indicating the implied consequences of the continuation of the same schedule of marriage duration-specific rates over the course of 20 to 24 years of marriage. The marital total fertility rate calculated for 1961–65 was 3.82 births per married woman; for 1966–70 it was 2.91.

These rates have then been subdivided into two additive components: planned and unplanned rates. The classification of births as planned or unplanned is based upon a series of questions asked about each pregnancy in both the 1965 and the 1970 National Fertility Studies. Although there were slight differences in phrasing, the classification is based on very similar questions and procedures. Essentially, the questions first determined whether the woman was using any method of family planning in the interval preceding the pregnancy; if some method had been used, she was subsequently asked whether the pregnancy occurred because she deliberately stopped using the method in order to have

The author is Professor of Demographic Studies and Sociology and Associate Director of the Office of Population Research, Princeton University, Princeton, New Jersey 08540.

a child or whether it happened even though she did not want to become pregnant at that time. If the pregnancy was reported to have occurred under the first circumstance, it was classified as planned; if under the second circumstance, it was classified as unplanned. If the woman reported not having used any method of family planning in the interval in question, she was subsequently asked whether the only reason was that she and her husband wanted a baby as soon as possible. If this question was answered affirmatively, the pregnancy was classified as planned; if negatively, it was classified as unplanned. To summarize: if a birth resulted from a pregnancy reported to have followed the deliberate interruption of contraception in order to have a baby, or if no contraception was used and the reason was solely that the couple wanted to have a baby as soon as possible, the birth was classified as planned. All other births were classified as unplanned.

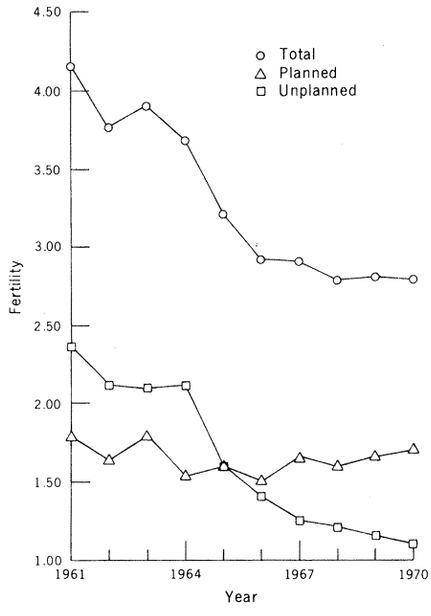
Since fieldwork for the studies began in the early fall of 1965 and 1970, some couples were interviewed before the end of the period surveyed. Any woman who was pregnant at interview and who reported that she expected the baby by the end of the year was recorded as having had a live birth during that year.

Results

The results of the analysis of the decline in fertility from 1961–65 to 1966–70 are presented in Table 1. Virtually all, 95 percent, of the decline in the marital total fertility rate (a reduction of .91 birth) is located in the component of unplanned fertility (a reduction of .86 birth).

The rates for each year of the decade are shown in Fig. 1. The parallel decline in period marital total fertility and in the number of unplanned births is clearly evident; the course of planned fertility across the decade shows very little slope. The decline in unplanned births accounts for 84 percent of the variance of the annual total marital fertility rates, while changes in planned fertility explain only 4 percent of the total variance; the remaining 12 percent is due to the covariance.

The remaining rates in Table 1 show the change in fertility across the decade disaggregated by birth order. The most obvious pattern is that the decline in fertility increases with birth order and that most of this association is contained in the decline of the unplanned fertility component. The decline in unplanned first and second births was greater than the decline in total first and second births because there were slight increases in planned first and second



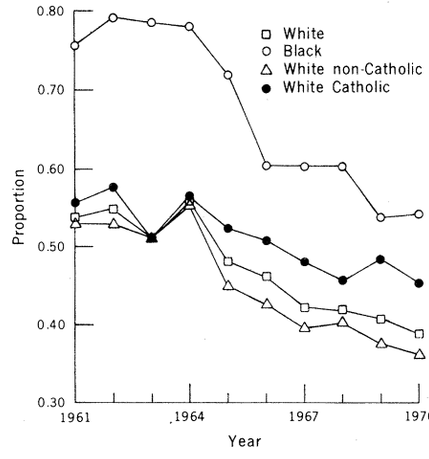


Fig. 1 (left). Annual marital total fertility rates by planning status, 1961 to 1970. Fig. 2 (right). Proportion of marital total fertility rate that was unplanned, 1961 to 1970, by race and religion.

Table 1. Marital total fertility rates for the United States, 1961–65 and 1966–70, by fertility planning and by order of birth. *N* (women)—1961–65, 4810; 1966–70, 5981.

Period	All births	Birth order			
		1	2	3	4+
		Total fertility			
1961–65	3.82	0.99	0.91	0.76	1.16
1966–70	2.91	0.92	0.78	0.50	0.72
Change	–0.91	–0.07	–0.14	–0.26	–0.44
		Planned fertility			
1961–65	1.70	0.58	0.49	0.29	0.33
1966–70	1.66	0.63	0.53	0.24	0.26
Change	–0.04	+0.05	+0.04	–0.05	–0.07
		Unplanned fertility			
1961–65	2.11	0.40	0.42	0.47	0.82
1966–70	1.25	0.29	0.24	0.26	0.46
Change	–0.86	–0.11	–0.17	–0.21	–0.36

Table 2. Marital total fertility rates for the United States, 1961–65 and 1966–70, by fertility planning, of whites and blacks, white non-Catholics and white Catholics, and educational categories.

Period	Race		Religion (whites only)		Education of woman		
	White	Black	Non-Catholic	Catholic	College	Grade 12	Less than grade 12
			Total fertility				
1961–65	3.68	5.06	3.36	4.46	3.09	3.47	4.75
1966–70	2.84	3.37	2.70	3.21	2.57	2.85	3.42
Change	–0.84	–1.69	–0.66	–1.25	–0.53	–0.61	–1.33
			Planned fertility				
1961–65	1.74	1.24	1.62	2.03	1.71	1.63	1.81
1966–70	1.68	1.40	1.65	1.73	1.63	1.60	1.84
Change	–0.06	+0.15	+0.03	–0.29	–0.08	–0.02	+0.03
			Unplanned fertility				
1961–65	1.94	3.81	1.74	2.43	1.38	1.84	2.94
1966–70	1.16	1.97	1.05	1.48	0.94	1.25	1.58
Change	–0.78	–1.84	–0.69	–0.96	–0.45	–0.59	–1.36
			N (women)				
1961–65	3771	969	2676	1095	657	2108	1844
1966–70	5049	800	3769	1280	1543	2795	1643

births, probably the result of the successful postponement of such births that would have occurred as unplanned in the preceding years. We know from an earlier analysis that in the mid-'60's the proportion of married women using contraception before their first pregnancies increased (*5*). No such increase in planned higher-order births is yet visible, which suggests either a longer or perhaps even permanent postponement of third, fourth, and higher-order births. The rate of planned third and higher-order births declined over the decade, but more than 80 percent of the decline in births beyond the second was concentrated in the unplanned category.

The five-year rates in Table 2 and the annual rates plotted in Figs. 2 and 3 show the components of change in racial, religious, and educational subgroups of the population. For both whites and blacks, just about all of the decline in total marital fertility is associated with the decline in unplanned fertility (Table 2). The trend in black fertility is particularly interesting: the decrease in unplanned fertility was greater than the decrease in total fertility, because of a slight increase in planned fertility (probably the result of transferring wanted births from the "timing failure" to the "planned" category). The increasing convergence between blacks and whites in the proportion of unplanned fertility is evident in Fig. 2. By the end of the decade the proportion of unplanned births per married black woman reached the same level as that of married white women at the beginning of the decade.

The pattern of change for Catholics differs somewhat from that of non-Catholics. Among non-Catholics all the decline in total marital fertility is in the unplanned component, but among Catholics 23 percent of the change is located in planned fertility.

Among educational categories, the less education the more the decline is connected with the reduction of unplanned fertility. However, even among women who had attended college the decline of unplanned fertility represented 85 percent of the total decline; it was 100 percent among the women with less than four years of high school.

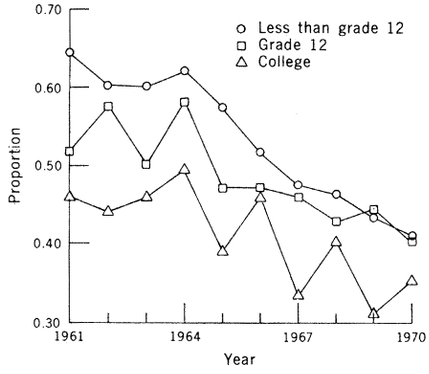


Fig. 3. Proportion of marital total fertility rate that was unplanned, 1961 to 1970, by education of woman.

We can go beyond this simple division of the change in fertility into the planned and unplanned components. As noted earlier, the circumstances of conception can be further subdivided: planned births into those that occurred after contraception was deliberately interrupted in order to conceive and those when the couple did not use any contraception during the entire interval because they wanted a baby as soon as possible; unplanned births into those that occurred before they were wanted (timing failures) and those that occurred after the last birth wanted (unwanted births). There are some problems of comparability between the 1965 and the 1970 studies in the classification of unwanted births because of changes in the wording of critical questions. We have worked out various adjustments of the data to correct this difficulty, but the overall assessment of the relative contribution of these components to the change in fertility does not seem to be affected by the adjustment; consequently, the data assembled for Table 3 are unadjusted and derived from the same tabulations shown in Tables 1 and 2.

Several noteworthy changes are evident from the further disaggregation. Although there was almost no change between the two periods in the rate of planned fertility, in the second period fewer planned births occurred to women who reported that they had not used contraception and more planned births to women who had interrupted contraception in order to conceive.

Table 3. Marital total fertility rates for the United States, 1961–65 and 1966–70, by circumstances of conception. *N* (women)—1961–65, 4810; 1966–70, 5981.

Circumstances of conception	1961–65	1966–70	Change
All circumstances	3.82	2.91	–0.91
Contraception stopped in order to conceive	0.92	1.03	+0.11
Contraception not used because child wanted as soon as possible	0.78	0.63	–0.15
Timing failures	1.19	0.82	–0.37
Unwanted births	0.92	0.42	–0.49

This pattern has resulted from the shift toward earlier and more extensive use of contraception in the earlier birth intervals. In the unplanned category, which we have observed accounts for 95 percent of the total decline, the reduction of unwanted births accounts for somewhat more of the decline than does the decrease in the number of timing failures. It is this reduction in unwanted fertility that implies the demographically significant change.

Conclusion

Our analysis makes clear that the decline of marital fertility during the decade of the 1960's was associated almost entirely with the reduction of unplanned fertility. This improvement in the control of fertility is no doubt attributable in large measure to the wide diffusion of a new, highly effective birth control technology. It will be of interest to observe from future studies how far the decline of unplanned fertility has continued during the five years since 1970. These years have seen an acceleration of the decline in fertility. In 1970 itself, according to our data, 39 percent of marital fertility was unplanned, offering considerable room for decline. During these last few years the spread of the more effective methods of contraception has undoubtedly continued. Preliminary data from the 1973 National Survey of Family Growth (*6*) indicate a pronounced increase in contraceptive sterilization between 1970 and 1973. This trend, especially when coupled with the greater ease of obtaining an abortion since the 1973 Supreme Court decision, strongly suggests intensification of the decline of unplanned births.

In a "perfect contraceptive" population (*7*), in which fertility control is universally practiced with complete success, the births that occur would by definition all be planned. Each birth would be wanted, and would occur no earlier than was wanted. As we come closer to that condition, with more couples practicing more effective methods of fertility control, both the rate of unwanted births and the rate of timing failures decrease. In any given period the decrease in unwanted births is a permanent decrease, that is, unwanted births would never occur in the "perfect contraceptive" population. However, a decline in timing failures in a given period—that is, in the number of births that are wanted but wanted later than they occur—implies a subsequent increase in the number of planned births. This increase would not occur if (i) the overall desired number of births declined sufficiently to offset the transfer of timing failures to the planned category, or

(ii) if a sufficient fraction of postponed births never occurred (the "later means fewer" theme) because of changes in desire for children or the onset of sterility. Our observation that the rate of planned births has remained fairly constant during the decade suggests that one or both of these conditions have operated. It appears from the sharp decline in national fertility since 1970 that planned fertility has probably declined and unplanned fertility has undoubtedly declined much more. We are coming closer and closer to the perfect contraceptive population.

References and Notes

1. *Vital Statistics of the United States, 1970*, vol. 1, *Natality* (Government Printing Office, Washington, D.C., 1975).
2. C. Gibson, "Changes in marital status and marital fertility and their contribution to the decline in period fertility in the United States: 1961–1973," paper presented at the 1975 annual meeting of the Population Association of America.
3. N. B. Ryder and C. F. Westoff, in *Demographic and Social Aspects of Population Growth*, vol. 1 of *Research Reports of the Commission on Population Growth and the American Future*, C. F. Westoff and R. Parke, Jr., Eds. (Government Printing Office, Washington, D.C., 1972), pp. 467–488.
4. Both studies were directed by N. B. Ryder and C. F. Westoff, of the Office of Population Research, Princeton University, under contract with the Center for Population Research of the National Institute of Child Health and Development. For the 1965 study see Ryder and Westoff, *Reproduction in the United States: 1965* (Princeton Univ. Press, Princeton, N.J., 1971). Interviewing for the 1970 survey was conducted by the Institute for Survey Research of Temple University. In order to ensure adequate bases for detailed analyses, black women were oversampled. Consequently, weights derived from census data were utilized in calculating statistics for the total sample. The number of respondents shown in the tables in this article are unweighted.
5. R. Rindfuss and C. F. Westoff, *Demography* **11**, 79 (1974).
6. W. Pratt, paper presented at the 1975 annual meeting of the Population Association of America.
7. L. Bumpass and C. F. Westoff, *Science* **169**, 1177 (1970).

8. I thank Lois Paul of the Office of Population Research, Princeton University, for skillful programming services.

Dr. Bush Writes a Report: "Science—The Endless Frontier"

In reply to F.D.R.'s request, Bush recommended a postwar National Research Foundation.

J. Merton England

In a letter written on Pearl Harbor Day 1944, Palmer Putnam, who as a wartime scientist had turned his talents as engineer and yachtsman to developing amphibious vehicles, asked his friend Carroll Wilson a series of questions (*1*): "Please tell me what I may know about the background of the President's letter to Bush. Did Bush write it? Did Bush ask for it? . . . Is it welcome to Bush? Will he carry out the requested studies? Are they under way? By whom?"

Wilson sent a prompt reply: "As to the President's letter to Bush, Bush did not write it nor did he ask for it, but he had the opportunity to see it before it was sent and made some suggestions which were incorporated. . . . Bush welcomes the letter and is now organizing studies to enable him to reply on the four numbered items." Wilson expected all four studies to be completed within two months (*2*).

The letter they referred to was one from President Roosevelt to Vannevar Bush, director of the Office of Scientific Research and Development (OSRD). After expressing his belief that OSRD's wartime experience might "be used in the days of peace ahead for the improvement of the national health, the creation of new enterprises bringing new jobs, and the betterment of the national standard of living," President Roosevelt asked for Bush's recommendations on four questions (*3*): (i) How can scientific knowledge developed during the war be released to the world quickly? (ii) How can a program of medical research be organized to continue the attack on disease? (iii) How can the government assist research by public and private organizations? (iv) Can a program be suggested to develop the scientific talent of American youth to ensure high-quality research in the future? As Wilson, who was Bush's executive assistant, indicated in his reply to Putnam, Bush quickly organized groups to help make recommendations on these four matters.

Wilson's letter contradicts the general assumption that Bush himself originated the President's request. Worries about a possible return of the bread lines of the Great Depression probably had more to do with the letter's genesis than did concern for postwar support of science. The idea for the letter very likely came from Oscar Cox, general counsel of the Foreign Economic Administration, rather than from inside OSRD. Cox, who had worked closely with Bush in establishing the National Defense Research Committee (NDRC) and OSRD, reached an agreement with Harry Hopkins several weeks before the November election that the President should call on Bush for a report. Cox's rough draft of the proposed letter, dated 18 October, shows a concern simply "to utilize our war-time discoveries, research and development to create fuller peace-time employment." Bush was to "prepare and submit . . . a list of those discoveries which to your knowledge and judgment are likely to have ready peace-time application." This "inventory of ideas" would "stimulate thinking by enterprising business" and suggest the creation of new industries (*4*, *5*).

Yet if Bush did not originate the President's letter, he characteristically seized the opportunity to see that it asked the "right questions" (*6*). The full-employment emphasis of Cox's draft was soon substantially broadened. After a meeting on 24 October of Bush, Cox, and Oscar M. Ruebhausen, OSRD's general counsel, Ruebhausen drafted another presidential request that reflected ideas gleaned from talks he had had with other OSRD officials—James B. Conant, president of Harvard University and chairman of NDRC, Irvin Stewart, a political scientist who was OSRD's executive secretary and contracting officer, and Wilson. Several people helped to shape and cut this version, and Hopkins adopted Bush's and Conant's suggestion of a post-election release. The letter signed by F.D.R. on 17 November contained the substance of Ruebhausen's

The author is special assistant to the director and historian of the National Science Foundation, Washington, D.C. 20550.