

**Patterns of Aggregate  
and Individual Changes  
in Contraceptive Practice  
United States, 1965 - 1975**

An analysis of aggregate changes in contraceptive methods used by American couples in their first marriages over the decade 1965-75 and an analysis of changes in individual choices of contraceptive methods between 1970 and 1975, based on interviews with the same women in the two years.

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## FOREWORD

A primary objective of the National Survey of Family Growth—a periodic survey conducted by the National Center for Health Statistics since 1973—has been to monitor the trend and changing patterns of contraceptive use in the United States. However, since these are ad hoc surveys based on independent national probability samples, the changing distribution of contraceptive methods can be monitored only at the aggregate level. Data from the National Fertility Studies conducted by Drs. Norman Ryder and Charles Westoff of Princeton University provide a valuable supplement to these aggregate analyses.

It has long been recognized that our understanding of many critical issues in fertility research would be greatly enhanced by the incorporation of a prospective or longitudinal design in national cross-sectional fertility surveys. Because of repeated interviews at relatively short intervals with the same panel of respondents, the longitudinal survey permits the measurement of change at the individual level with far fewer problems of recall. Having identified objective changes at two time points, the longitudinal design is particularly appropriate for the exploration of causal sequences both at the motivational level and in terms of intervening events in the respondents' private lives or in the surrounding community and society. Another particularly appealing feature of the longitudinal survey is the opportunity to evaluate the individual's expectations about future events, measured at one interview, as predictors of his or her actual behavior or status as measured in a later interview. Although such prospective surveys take significantly longer to complete than the more common retrospective surveys, they nonetheless promise significantly better control over sources of respondent bias, such as memory limitations or the reevaluation of past events in the light of more recent developments.

In their 1975 National Fertility Study, Norman Ryder and Charles Westoff, study directors for the 1965 and 1970 National Fertility Studies, have once again broken new ground for fertility research. Earlier studies, notably the Princeton Fertility Study of 1957 and the Detroit Area Study of 1962, pioneered with the application of longitudinal design in fertility surveys, but these were restricted to highly selective subpopulations and to very limited geographic representation. The 1975 National Fertility Study is the first application of the longitudinal design to a national sample, although this effort, too, was restricted to a subpopulation: that is, continuously married white women aged 15 through 44 years in 1975, whose husbands were also married for the first time and whose marriages had endured less than 25 years and had begun before the women reached age 25. Nonetheless, data from the survey make it possible to examine directly many issues of measurement reliability, stability of attitudes and expectations, and the causes of changes in status between interviews.

The Center has a keen interest in the contribution of other studies to the methodology of longitudinal surveys and to the application of these surveys in fertility research. This report deals specifically with the examination of change in contraceptive methods at the individual as well as at the more generally measured aggregate level; it also reveals some of the measurement problems in studying patterns of change in contraceptive methods. Demographers will look forward to the wealth of research findings potential in this rich data source.

In accordance with Center policy, this report was submitted for peer review. The careful review and helpful suggestions of Drs. Gerry Hendershot and Paul Placek are gratefully acknowledged.

William F. Pratt, Ph.D.  
Chief, Family Growth Survey Branch  
Division of Vital Statistics

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### SYMBOLS

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Category not applicable-----	...
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# PATTERNS OF AGGREGATE AND INDIVIDUAL CHANGES IN CONTRACEPTIVE PRACTICE

Charles F. Westoff and Elise F. Jones<sup>a</sup>

## INTRODUCTION

In 1975, an estimated three of every four married couples using contraception were sterilized, on the pill, or using an intrauterine device; a decade earlier this figure was only somewhat more than a third. The first part of the following account contains a description of that extraordinary development. It includes the first data published from the 1975 National Fertility Study (NFS)<sup>b</sup> along with comparisons from the 1965 and 1970 NFS and the 1973 National Survey of Family Growth (NSFG).<sup>c</sup> The second part of the report exploits the reinterview design of the 1975 NFS and analyzes patterns of

change in individual contraceptive practice over the 5-year interval from 1970.

## Principal Findings

At the aggregate level, this report documents a continued increase in the proportion of married couples currently using contraception and a continued decline in the proportion that have never used contraception. Although "the pill" remains the most popular method of family planning among white women married less than 10 years, there is evidence of a decline among couples in the longer marriage duration categories.

The main challenge to the pill comes from the increasing popularity of surgical sterilization, which is now clearly the most commonly used method among couples married 10 years or more. Its rapid adoption in the last few years suggests that sterilization of one kind or another (including sterilizing surgery for medical reasons only) may now be the most common barrier to conception among married couples of reproductive age. Three-quarters of the couples using contraception are now using the three most highly effective methods: sterilization, the pill, or the IUD (intrauterine device).

At the individual level, about half of the women reinterviewed were using a different method in 1975 than in 1970. Most method changes were to sterilization which has between two and three times the drawing power of its nearest competitor, the pill. Beyond these two

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<sup>a</sup>Charles F. Westoff is Director of the Office of Population Research and Professor of Demographic Studies and Sociology at Princeton University. Elise F. Jones is a Research Assistant at the Office of Population Research and a doctoral student in demography at the University of Pennsylvania.

<sup>b</sup>The 1975 as well as the 1965 and 1970 National Fertility 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 Human Development.

<sup>c</sup>The 1973 National Survey of Family Growth was conducted by the National Center for Health Statistics. The procedures used to select the sample, estimate population parameters, and estimate sampling variances can be found in the "The National Survey of Family Growth Cycle I: Sample Design, Estimation Procedures, and Variance Estimation."<sup>1</sup> Substantive results are published in Series 23 of the *Vital and Health Statistics* series.

methods, only the condom and the IUD show any appreciable appeal to those using other methods. Changes in method are more likely to occur in the transition between the period during which contraception is used to delay the birth of the next child and the period after desired family size is reached when contraception is used to avoid further pregnancy. However, among those who have not already been sterilized, changes in contraceptive methods were equally likely after no more children were desired.

Those who reported an unplanned pregnancy during the 1971-75 period were more likely to change methods than those who reported either no pregnancy or a planned pregnancy.

### Sources of Data and Methodology

The 1975 National Fertility Study is based on data collected from a national probability sample of continuously married white women<sup>d</sup> who met the following additional qualifications: duration of marriage was less than 25 years, age at marriage was less than 25 years, and the husband was also married only once. For durations of marriage over 5 years, the sample consisted of eligible women selected from the 1970 NFS sample who were thus reinterviewed after an interval of approximately 5 years. A proportionate sample of new respondents was added to represent marriages that occurred after 1970.

From the total 1970 NFS sample, 3,226 women appeared to be eligible for reinterview on the basis of their status in 1970. Of these, 401 proved to have become ineligible in the interval due to dissolution of their first marriage. The remaining 2,825 respondents made up the target population for the 1975 reinterview. This was successfully carried out for 2,361 women

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<sup>d</sup>Black women were reluctantly excluded from the reinterview because the original 1970 sample of black women indicated serious biases and the numbers in each 5-year marriage cohort would have been too small for many analyses. The decision to confine the analysis to intact first marriages was made in the light of our emphasis in the 1975 study on causal analysis rather than on parameter estimations for the total population. Moreover, women not currently married or in second marriages would not be represented in sufficient numbers to permit separate analysis.

representing 83.6 percent of the total; 12.5 percent refused to be reinterviewed (perhaps 1.5 percent of whom would have been ineligible), and the remainder could not be located or in a few cases were unavailable for other reasons.

The new sample of women married after 1970 numbered 1,042. Together with the women successfully reinterviewed, the total sample size thus consists of 3,403 respondents.

As might be anticipated, the women successfully reinterviewed were unrepresentative of the original target population in a number of respects. The probability of successful reinterview was negatively related to marriage duration and positively related to education; Catholics and women intending to have no more births were less likely to accept reinterview than non-Catholics or women intending more births. Each of these background variables is recognized to have some impact on contraceptive practice. Furthermore, exposure status itself in 1970 shows a relation to the probability of successful reinterview which was to some degree independent of the above characteristics; those who were not using contraception and were neither sterile nor pregnant, postpartum, or trying to get pregnant in 1970 were less likely than others to be successfully reinterviewed; women using the more effective contraceptive methods were somewhat overrepresented among the completed reinterviews, especially at longer durations of marriage.

Recognizing the implications of such bias for estimates of contraceptive practice in 1975, an attempt was made to standardize the 1975 data to reflect the composition of the entire target population with respect to the most important characteristics. This procedure could be justified on the assumption that within any subgroup, women who were missed would have changed (or not changed) their exposure status between 1970 and 1975 according to the same pattern as those successfully reinterviewed. However, no combination of characteristics was found that produced substantial differences between the standardized and unstandardized distributions.

Ultimately, the decision was made to standardize the 1965, 1973, and 1975 exposure distributions on the 1970 distribution by duration of marriage. This represents a significant step toward reduction of the bias due to failure to re-

interview all of the eligible respondents in 1975. It also eliminates the effects of changes in marriage duration across the decade, thus facilitating a description of time trends in contraceptive practice.

The primary comparisons of 1975 estimates are made with data drawn from the 1965 and the 1970 National Fertility Studies.<sup>c</sup> To supplement these bodies of data as well as to provide a picture of any more recent changes in contraceptive practice, some tabulations have also been included from the 1973 National Survey of Family Growth,<sup>f</sup> which was also based on a national probability sample of women of reproductive age. For purposes of comparison with 1975 estimates, the samples from these other studies were reduced to white women married less than 25 years married only once, at less than 25 years of age, with husbands who have also been married only once. Correspondingly, women over age 44 have been eliminated from the 1975 sample, reducing the final sample size to 3,329 women.

### Problems of Comparability

Because these studies were conducted at different times, and in one instance by different investigators, there are the inevitable problems of comparability of measurement both in the wording of questions and in the classification systems adopted. We are fairly confident that comparable procedures were followed in the collection of data about contraceptive methods currently used. If more than one method was reported in combined use, it was classified according to a rule that gave first preference to contraceptive sterilization, second to the pill, then the IUD, diaphragm, and condom in that order. Multiple methods that did not involve these were classified in a residual "Other methods" category.

Comparisons of the proportions classified as sterile (for reasons other than contraception) suggest a rapid decline between 1970 and 1975 which probably reflects mainly measurement problems rather than a genuine decline. A major

<sup>c</sup>The 1965 NFS was the basis of a book by N. B. Ryder and C. F. Westoff;<sup>2</sup> the 1970 NFS was reported by C. F. Westoff and N. B. Ryder.<sup>3</sup>

<sup>f</sup>The most relevant publication from this study is by Kathleen Ford in a monthly vital statistics report.<sup>4</sup>

problem of comparability lies in the classification of couples as noncontraceptively sterile. Over the years, we have gravitated toward a series of simple questions about whether the woman thought it would be possible to conceive or not if she wanted to have another child. Those who stated that it was impossible and who were, therefore, considered to be sterile included women who reported either surgery with contraceptive or noncontraceptive intent, or who had other nonsurgical reasons for reaching that conclusion. In 1975, the questionnaire also provided for the first time the prior possibility of specifying sterilization as the current method of contraception, and those who did so were not asked further about sterility. There are thus two problems of measurement: (1) the consistency with which a sterilizing operation is classified as contraceptive or not and (2) how well the reports of nonsurgical sterility in 1970 conform with the same self-classification 5 years later. There is evidence from the reinterviewed sample that a large fraction (56 percent) of respondents who reported in 1970 that they had had a noncontraceptive sterilizing operation indicated in 1975 that the operation had been for contraceptive reasons. The option of giving sterilization as the method currently being used very likely contributed to reclassification in this direction. There was considerably less movement in the opposite direction. This suggests unreliability of measurement on the one hand, but also, no doubt, reflects the rapidly growing social acceptability of the contraceptive procedure. The reinterview design also permits an evaluation of the reliability of self-classification of nonsurgical sterility by examining the 1975 status of the same couples who in 1970 reported that it was impossible to conceive for such reasons. There were 60 such couples in 1970 of whom only 61.7 percent were so classified in 1975. The remainder are distributed among women who in 1975 report that they are trying to get pregnant, are pregnant, have had a noncontraceptive operation (not necessarily inconsistent), are using various contraceptive methods, and so forth.

In addition to these problems, the 1973 NSFG used a different set of questions to establish sterility and subfecundity. Because of problems in trying to redefine categories to maximize

comparability, it was finally decided that it was unwise to maintain any more detailed distinction among nonusers of contraception than that between the category "Pregnant, trying to get pregnant, postpartum," in which we have some confidence, and all other categories of nonuse. The residual category thus includes surgical sterility for noncontraceptive reasons as well as other functional sterility and subfecundity. It also includes presumably fecund couples who are not using contraception for various reasons including religious and esthetic objections, indifference, anxiety about side effects, ignorance, and very low coital frequency. The total proportions surgically sterilized (for any reason) that can be regarded as a minimal value of the general incidence of sterility in the married population have been estimated for 1965, 1970, 1973, and 1975. But for the main analysis, only the two designated types of noncontraceptive exposure are delineated.

### TRENDS IN AGGREGATE USE

There appears to have been a substantial increase in the (standardized) total proportion currently using contraception, an absolute increase amounting to 11.4 percentage points since 1970 and 6.1 since 1973 (table 1). This seems like a large increase over a short period of time. Can any of it be attributed to measurement error or sampling bias?

Some part of the increase is spurious because of the measurement problem referred to earlier, that a considerable number of women who had been sterilized prior to 1970 reported the operation as noncontraceptively motivated in 1970 but 5 years later said that it had been performed for contraceptive purposes. The net statistical effect of this reclassification is that an additional 1 percent of the sample should have been classified as contraceptively sterilized in 1970 rather than as noncontraceptively sterile, which would have the consequence of reducing the overall increase in contraceptive practice to 10.4 percentage points.

The former residual category "Other nonusers," now combined with the noncontraceptively sterile, also showed a suspiciously large de-

cline—from 9.5 percent in 1970 to 4.0 percent in 1975. The decline in this category appears to be mostly genuine, but is probably somewhat exaggerated because of the disproportionately greater refusal of women to be reinterviewed who were so classified in 1970. (This stems partly from the associated underrepresentation of less educated and Catholic women.)

As in the case of some sterilization operations now being classified as contraceptive rather than purely medical in intent, there may be a tendency toward more admission of contraceptive practice in general, which would have had the effect of understating contraceptive practice in 1970 and earlier, thereby exaggerating the increase between 1970 and 1975. This would also show up primarily in the "Other nonusers" category.

Overall, then, the 1975 estimates appear to relate to the 1970 figures in a reasonable way. Adding the 1973 estimates from the National Survey of Family Growth strengthens this interpretation. (The 1973 interviews were actually centered just 3 months later than the point equidistant in time between the 1970 and 1975 interviews.) The (standardized) proportions "Pregnant, trying to get pregnant, postpartum" declined from 15.0 percent in 1970 to 13.1 percent in 1973, to 12.0 percent in 1975. The proportions classified as "Sterile and other nonusers" declined from 17.5 percent in 1970 to 14.0 percent in 1973, to 9.0 percent in 1975.

In conclusion, the overall increase of 11.4 percentage points in the proportion currently using contraception from 1970 to 1975 might be exaggerated by as much as 2 percent because of redefinitions of sterility and because of bias in the sample of reinterviews. It is only the latter that would affect the 1975 statistic directly, however, so this view, if correct, would place the proportion of white women currently married and married only once, currently using contraception at 78 percent (standardized).

The increase in contraceptive use between 1973 and 1975 is concentrated entirely in the category who "Intend no more births" (table 1 and figure 1), and most of it has occurred among couples married for 15 to 24 years (table 2). Combined with substantial increases in proportions using the most effective methods, this

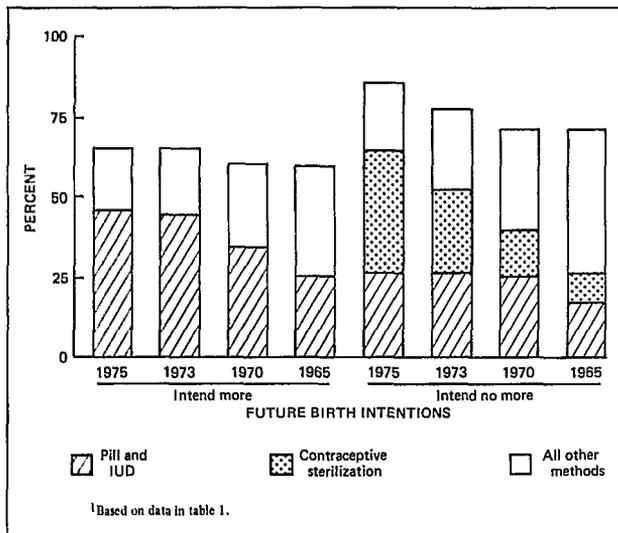


Figure 1. Percent of women using contraception, by method and whether additional births were intended: currently married women 15-44 years of age, both spouses married once, 1965, 1970, 1973, and 1975<sup>1</sup>

increase in contraceptive practice among couples in the later stages of their reproductive lives no doubt implies a significant reduction in unwanted births. Furthermore, the increase in contraceptive practice has been greater among the least educated women (table 3). As a result, the positive association between proportions using contraception and education has all but disappeared, and the disproportionate share of unwanted pregnancy at the low end of the socioeconomic scale should likewise diminish.

The foregoing estimates relate to *current* use of contraception. There has also been a considerable decline in the proportion of continuously once-married white women who have *never* used contraception, from 14.3 percent in 1965 to 12.2 percent in 1970, 9.6 percent in 1973, and down to 5.3 percent by 1975 (table 4). Considering the fact that a substantial proportion of those who have still never used a method are recently married (about one-third in 1975 were married less than 5 years), the final proportion of recent cohorts that will go through marriage without ever using contraception will be low.

Table 5 presents an historical cohort series of contraceptive use utilizing the 1955 and 1960 Growth of American Family (GAF) surveys and

the 1965, 1970, and 1975 National Fertility Studies. In addition to the sample limitations already discussed, it was necessary to confine this tabulation to women 18-39 years of age because of the 1955 GAF Study sample design.

The decline in the percent who have never used contraception is clear and consistent across cohorts and has reached a very low level indeed: The cohort of white women married in 1966-70 shows only 2.1 percent of women whose pregnancy histories reveal no use of contraception through 5-9 years of marriage, and among the newest cohort, women married in 1971-75, only 5.2 percent are so classified over an average marriage duration of 2.5 years. (There is one anomaly in table 5 in the cohort of 1951-55 at duration 15-19 years.)

## The Pill

Among once-married, white women, the pill remains the most popular method of birth control in 1975, but its predominance is being threatened by sterilization. Now, only among women married less than 10 years, is the pill the most widely used method. In fact, 1975 data suggest the beginnings of a decline in the use of the pill which may have begun as early as 1973 in some marriage duration categories (5-9, 10-14 years). The overall movement is so slight—from 35.4 percent of use in 1970 to 35.5 percent in 1973 to 34.3 percent in 1975 (table 1)—that one might more reasonably infer stabilization rather than decline, but there is evidence of a significant decline at marriage durations over 15 years.

Another perspective on the same question can be obtained from the tabulation of contraceptive methods by whether the women intends additional childbearing (table 1). Among women who intend more births, the proportion using the pill continues to increase and completely dominates contraceptive practice; among women who intend no more births, there has been a clear decline in pill use from 1970. Evidently the pill has continued to be strongly attractive to younger women in the early stages of family formation, but in recent years their older counterparts, when faced with a long period of ex-

posure to the risk of childbearing after the birth of the last wanted child, have turned to other methods. Use of the pill shows no particular association with education by 1975 (table 3). Roughly one-third of women using contraception at each educational level have elected this method.

### **Sterilization—Contraceptively Motivated**

By 1975, the (standardized) proportion of white couples using contraception who are sterilized (31.3 percent) is only 3.0 percentage points below the proportion using the pill (34.3 percent). The increase in reliance on contraceptive sterilization has been dramatic even over the short period since 1973. At marriage duration 20-24 years, it increased from 37.0 to 55.7 percent; at duration 15-19 years from 32.0 to 51.6 percent; and at duration 10-14 years from 30.4 to 43.3 percent. It is now the single most popular method for couples married 10 years or more. Among couples who have had all the children they want to have, sterilization clearly dominates the field by 1975: 43.5 percent compared with its nearest competitor, 24.1 percent taking the pill. Relief from the necessity for continuous practice of contraception is surely one motive for sterilization, however, its increasing popularity also implies that couples are more willing to accept irreversibility of the decision to terminate childbearing. This appears to represent yet another step in the long-term trend toward rationalization of the childbearing process.

Male and female procedures are still equally attractive. Since 1973, female sterilization appears to be increasing somewhat more rapidly, perhaps because of the availability of laparoscopy, a new and relatively simple procedure. Female sterilization continues to be less popular among more educated women (table 3) than among the less educated, but since 1970, vasectomy has been equally popular across educational categories.

### **The IUD**

Use of the IUD, which increased sharply between 1965 and 1973, appears to have declined

between 1973 and 1975. Only among women married as long as 20-24 years who are least likely to intend further childbearing is there actually some indication of a continued increase in the use of the IUD. As in the past, there is also a slightly higher probability that women with higher education will use the IUD.

### **The Diaphragm**

There has been speculation recently, supported by drug company inventory reports, that the diaphragm is making a comeback and is appealing to younger women who are averse to taking the pill for long periods of time. Our overall aggregate trend data show no obvious support for this hypothesis: They show a continued decline from 5.7 percent of users in 1970 to 4.0 percent in 1973 and 3.9 percent in 1975. However, a possible countertrend does appear among women who intend to have more births. In this category, the proportion of users relying on the diaphragm (which had been declining between 1965 and 1970) appears to have reached a low point of 3.6 percent in 1973 and then increased again to 4.2 percent in 1975. Among women intending no more births, the proportion using the diaphragm continued to decline to a level of 3.7 percent in 1975. Thus it appears that there may be some basis for assuming that the diaphragm is enjoying a resurgence of popularity, but for the present it is used primarily among young women who are utilizing contraception for spacing purposes.

The direct relationship between use of the diaphragm and education that has been observed in past years persists even at the very low levels of use in 1975.

### **The Condom**

Use of the condom continues to decline. Between 1965 and 1975, its use has dropped by half. The only apparent exception to this generalization is among recently married couples; at marriage durations 0-5 years there has been an increase since 1970 and at durations 5-9 years there is at least a suggestion of greater use since 1973. Whether this exception indicates the beginning of a reversal of the kind suggested by the diaphragm remains to be seen.

## Other Methods

The proportions relying on all remaining methods—withdrawal, foam, rhythm, douche—have all declined with the possible exception of the residual category labeled “Other methods” (which includes some multiple method usage as well as other single methods). The rhythm method now accounts for only 2.8 percent of all use and the duration-specific proportions (table 2) indicate the lowest proportions among the most recently married categories suggesting that the decline may still not be finished.<sup>8</sup>

Collectively, these four methods plus the residual “Other methods” category now account for only 11.0 percent of total use.

## Trend in Use of Highly Effective Methods

About three-quarters of married couples currently using contraception are using highly effective methods—sterilization, the pill, or the IUD. A decade earlier, in 1965, this (standardized) percent was 38.3. It climbed to 56.9 percent in 1970, to 67.0 percent in 1973, and in 1975 reached 74.3 percent. A similar pattern appears at each marriage duration with the most dramatic increases evident at the longest durations (see table 6). Although in the past there was a striking pattern of the most effective methods being used more by the most recently married couples, this has diminished over time; by 1975 there is little variation in use of highly effective contraception by marriage duration.

In order to see the intra- and intercohort changes more clearly, table 7 was prepared for the 1965, 1970, and 1975 studies (1973 is excluded because it does not fit into the 5-year groupings). The column comparisons show, within each marriage duration, the tremendous intercohort increase in the use of the most effective methods. The diagonal row values show the pattern of appreciable intracohort change which would be expected.

<sup>8</sup>For a discussion of religious differences in contraceptive practice, see reference 5.

## Total Sterilizations—Contraceptive and Noncontraceptive

In any population of couples of reproductive age there is a certain incidence of sterility that results from surgery performed for reasons of pathology, medical in intent but contraceptive in consequence. The combined incidence of medically and contraceptively motivated operations must by now have reached a considerable level in view of the recent significant increases in the proportion of couples electing surgical sterilization at least partly for contraceptive reasons. It should be emphasized that such perceptions are subjective and not highly reliable. The interview data revealed a distinct tendency for women who in 1970 reported operations for medical reasons only to report these same operations in 1975 as for partly contraceptive reasons. Moreover, there can be obvious ambiguity in instances where pregnancy would be contraindicated on medical grounds. For these reasons, in table 8 estimates have been assembled by marriage duration of the proportion of couples surgically sterilized for any reason at each duration of marriage.

The most recent estimates (for 1975) indicate that more than a quarter of white couples (either wife or husband sterilized) at all durations of marriage combined have been surgically sterilized (figure 2) and that nearly half (47 percent) of all white couples married 10 years or more are now sterilized. These should be taken

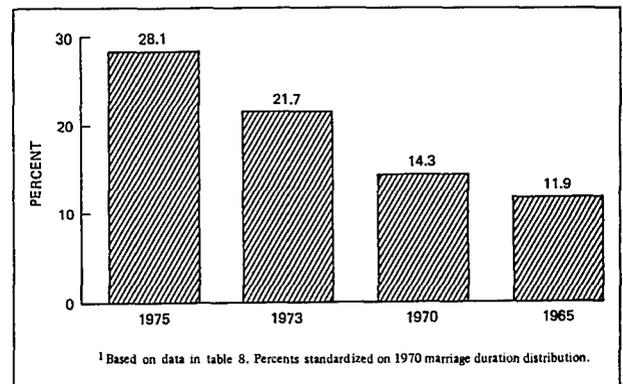


Figure 2. Percent of women who were surgically sterilized or whose husbands were sterilized: currently married women 15-44 years of age, both spouses married once, 1965, 1970, 1973, and 1975<sup>1</sup>

as low estimates of infecundity in the total population for two reasons: (1) They reflect only surgical sterilization, thereby excluding couples who cannot conceive or carry a pregnancy to term for a variety of other nonsurgical reasons; (2) they exclude categories other than white, once-married couples, and earlier studies have shown that black persons have a higher incidence of infecundity resulting both from medical and contraceptive reasons. The trends indicate major increases in surgical infecundity between 1970 and 1975 for all three operations specified. Increases in tubal ligations and vasectomies but not in hysterectomies are also evident at each duration between 1973 and 1975.

### INDIVIDUAL CHANGE OF METHODS

Thus far, only changes in contraceptive practice have been examined. However, two features of the 1975 NFS permit investigation of individual changes in methods. The longitudinal design of the study makes possible comparison of a respondent's status in 1970 with her status in 1975, thereby permitting answers to such questions as: What proportion of couples do change methods? Which methods do they abandon and which are they most likely to continue to use? Is there a pattern of change associated with the shift in intention of use from timing pregnancy to avoiding further pregnancy? In addition, a month-by-month calendar covering the respondent's fertility and contraceptive history for the 1970-75 period can be used to study a further series of questions: Do couples who experience an unplanned pregnancy tend to change methods more than others? What methods were being used at the time couples elected sterilization? These questions are taken up in turn in this section.

#### Incidence and Types of Change, 1970-75

The cross-classification of exposure status in 1970 by exposure status in 1975 for all respondents is displayed in table 9. It includes changes between noncontraceptive and contra-

ceptive exposure<sup>h</sup> as well as interchanges among methods from 1970 to 1975, but intervening changes during the period are not represented in this table. Since the various categories of nonuse can be viewed for the most part as alternate phases for women who would otherwise be using contraception, our attention can be limited to the patterns of change among couples who were using methods at both times (table 10). Both tables are limited, of course, to women who were interviewed in both years and had, therefore, been married at least 5 years by 1975.

The proportion of couples using the same method in 1975 that they were using in 1970 ranged from the obvious 100 percent for those surgically sterilized<sup>i</sup> to a low of 22-23 percent for those using foam or rhythm. The loyalty associated with the pill, the IUD, the diaphragm, and the condom is about equal; an average of around 46 percent of those using these methods in 1970 were also using them in 1975 (figure 3). The number of women using other methods is not large in either year, but changes among such methods would appear as no change in this tabulation. Thus an overall minimum estimate of 49.6 percent using a different method in 1975 from that used in 1970 can be obtained.

Roughly the same proportions changed from each method to sterilization, ranging from a low of 26.5 percent of women using rhythm in 1970 to a high of 39.2 percent of women using foam. Thus there is no indication that couples who have previously relied either on the more effective or on the less effective methods of contraception are particularly likely to move on to sterilization. Differences in the proportions of couples electing the male as opposed to the female procedure are also small except for those formerly using the IUD who show a decided preference for the female procedure.

Aside from the decision to be sterilized, which dominates the pattern of change, the

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<sup>h</sup>For this analysis, all women who had had a sterilizing operation and reported that it was for contraceptive reasons in *either* 1970 or 1975 were classified as contractively sterile.

<sup>i</sup>One woman was either in error in reporting that she had been sterilized in 1970 or could have had a tubal ligation reversed.

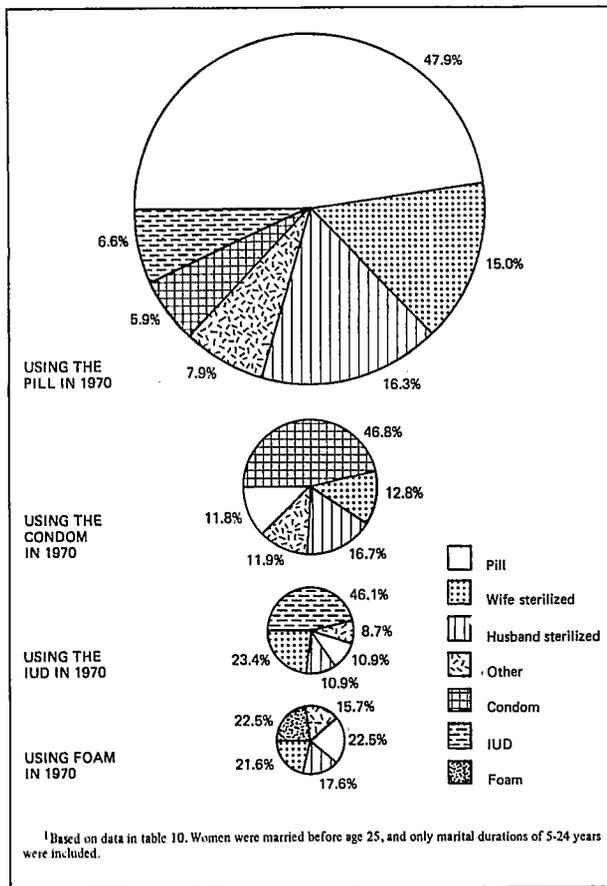


Figure 3. Method of contraception used in 1975 by method used in 1970 among currently married white women, both spouses married once, 1970 and 1975<sup>1</sup>

most likely change was to the pill. With the exception of rhythm users in 1970 who are quite widely scattered among users of all methods in 1975, proportions shifting to the diaphragm, condom, rhythm, foam, or other methods are negligible.

One indicator of the relative attractiveness of each method is the proportion shifting to that method among couples who were eligible to have made such a shift, that is, those who were neither sterilized nor already using the method in 1970. These figures in order of importance are: sterilization, 32.1 percent (female, 16.3 percent; male, 15.8 percent); pill, 13.2 percent; condom, 6.0 percent; IUD, 5.2 percent; other methods, 3.5 percent; foam, 2.5 percent; dia-

phragm, 2.2 percent; and rhythm, 1.6 percent. Thus sterilization would appear to have between two and three times the drawing power of the pill (with the important caveat that the implication of sterilization is significantly different as discussed in the previous section). The pill, in turn, has twice the attraction of the condom and the IUD, the only methods that hold any appreciable appeal for couples already using some form of contraception.

### Changes in Method and in Fertility Intentions

Earlier aggregate comparisons have shown that whether couples are using contraception to delay an intended birth (delayers) or to terminate fertility after having achieved or exceeded their desired family size (terminators) makes a difference both in the methods used and in the efficacy with which they are used. When the intention is timing, the preferred method is the pill; when the intention is termination, the preferred method is sterilization. These differences are also evident in the distributions of changes among methods shown in table 11. Here the re-interviewed respondents have been divided into three broad categories according to their fertility intentions at each interview: those who intended more births at both times, those who intended more in 1970 but had reached the stage where they intended no more by 1975, and finally those who already had intended no more by 1970 and gave the same response in 1975.<sup>j</sup> The main interest at this point is in whether there is more change of methods during the stage when intentions change and whether the different intentions categories show distinct patterns of change.

The percent of women who changed methods in each of the three categories provides a crude index of the amount of change. The evidence does support the hypothesis that change in intentions increases the probability of changing methods. The greatest change in methods (60.5 percent) occurs among those who also

<sup>j</sup>Four women who said they intended no more births in 1970 but intended more in 1975 are omitted from this analysis.

changed their intentions, that is, those who completed their intended fertility during the 5-year period. This compares with 50.9 percent changing methods among those who intended more births at both times and 46.0 percent among those who intended no more births at both times.

Those who intended more births at both times were, of course, heavily concentrated among young women who had been married only recently as of 1970. The pill was the only method used by this group in sufficient numbers in 1970 to show change to other methods, and it is worth noting that scarcely more than half of those using the pill in 1970 were still using it 5 years later even though their intention status had not altered.

As previously mentioned, most changes of method occurred among women who were delayers in 1970 and terminators by 1975. Within this group, half of those using the pill in 1970 were using some other method in 1975, but this represented less change than for any other method. Although the base number is too small to draw a definite conclusion, it would appear that the rhythm method was abandoned by proportionately more women than any other method. Foam was also given up by a large fraction (76.9 percent). More than 1 of 4 women in this intention category elected sterilization during the period; a somewhat smaller fraction (22.2 percent) of those for whom a switch to the pill was possible actually chose this method. The likelihood of moving to sterilization or the pill varied somewhat among users of different methods, but no particular patterns are discernible.

Even among those who were using contraception in order to avoid any further childbearing at least as far back as 1970, there was considerable change, although less than within the other intention categories, largely because 22.0 percent of this group were already sterilized as of 1970. Among those who were theoretically eligible to change methods (women who were using nonsurgical methods in 1970), 58.9 percent actually shifted, a proportion very similar to that shifting among those whose intentions changed from delay to termination. The propor-

tions using the same method in 1975 as in 1970 do tend to be a little higher for this group than for those whose intentions changed (especially in the case of rhythm) with the exception of the pill for which the indicated level of acceptance is somewhat lower. Greater stability is what would be expected under the hypothesis, but in the case of the pill this may have been offset by adverse publicity especially concerning its continued use by older women. The proportion electing sterilization is distinctly higher for most methods, and, overall, 38.5 percent of the women to whom this choice was available became sterilized. The female operation was preferred not only by women who were originally using the IUD but also by women starting with the diaphragm, whereas male sterilization was more likely among couples who were using the condom. These observations provide the only real suggestion in these tables of sex-linked patterns of contraception.

In conclusion, the shift in intentions that occurs when the number of intended births has been reached is associated with a significantly higher probability of changing methods of contraception than occurs during the family building stage itself. The fact that proportions electing sterilization are higher when some time has elapsed following the shift in intention from delay to prevention suggests that unplanned pregnancy may also be a factor in patterns of change, a question that is discussed next. Beyond the gradual gathering of momentum toward sterilization, however, the successive fertility intention stages are characterized by essentially similar patterns of method change.

### Sources of Method Changes

The foregoing analysis of individual changes in methods was addressed primarily to the measurement of the probability of change from one method to another among couples currently using contraception both in 1970 and in 1975. Restriction to this 5-year period has two disadvantages: It obscures other changes that might have occurred during the intervening years, and it is confined to couples married at least 5 years, thus excluding the experience of the more recently married women. To overcome these

shortcomings, the method used prior to the most recent method for all couples who changed methods during the past 5 years has been reconstructed from the contraceptive histories collected in the 1975 NFS. The primary interest here is to examine the methods used prior to the last change, more specifically, to obtain another view of what couples were using before they were sterilized.

The results are shown in table 12. This tabulation indicates that the pill is the primary source from which couples changing methods between 1971 and 1975 originated, which is not surprising in view of the extent of use of the pill. More than half of the couples changing methods who did not elect sterilization formerly used the pill.

Couples currently sterilized are drawn less from the pill than from all other methods combined. Sterilized couples are also less likely to have been using the pill compared with couples who switched to methods other than sterilization. There is a greater tendency for couples who elected female sterilization to have been using the IUD than for couples who elected male sterilization, but the reverse is true with the condom. Thus, from this perspective, there is again some evidence of sex-linked patterns of change.

### **Pregnancy and Change in Methods**

It seems plausible that a change in methods could be occasioned by an unplanned pregnancy. Although there are many other reasons why couples may change methods, unsuccessful use should rank high on the list.

In order to establish a connection between planning failure and a change in methods, it was necessary to consider couples who were exposed to the risk of changing methods. Exploitation of the month-by-month calendar of contraceptive use from 1970 to 1975 included in the 1975 interview meant that the analysis also reflected recent experience.

Certain categories of experience were excluded: couples who had been married less than 30 months and intervals without a pregnancy in which there was not continuous use of contra-

ception for at least 30 months (in both cases a more or less arbitrary cutoff duration to exclude those with little exposure to the possibility either of pregnancy or of method change); also, pregnancies which were not both preceded (for unplanned pregnancies within 6 months) and followed (within 4 months) by contraceptive use. Some women reported more than one pregnancy which met the qualifications; all such pregnancies were included in the analysis. Contraceptive sterilization was treated as a method throughout.

The results are presented in table 13, which has several noteworthy features:

Changes of method were reported for a substantial fraction (37.2 percent) of women without a pregnancy. This merely substantiates the obvious fact that there are other reasons for change.

The percent that changed methods among couples with no pregnancy during the period (37.2 percent) was about the same as the percent that changed methods after experiencing a planned pregnancy (38.4 percent). This is the anticipated result, since a couple that deliberately interrupted the use of a method in order to become pregnant would not be expected to change methods because of the pregnancy.

As hypothesized, the proportion who switched to another method after a pregnancy was higher among those who reported an unplanned pregnancy (55.5 percent).

Whether the unplanned pregnancy represented a failure to delay or to terminate childbearing makes little difference in the decision to change methods.

The conclusion of this analysis then is that the experience of an unplanned pregnancy does increase the probability of changing methods. The magnitude of that effect is perhaps less than one might expect (the difference between 38.4 and 55.5 percent), but there is no question that it does operate. The "effect" seems similar in magnitude to that inferred from the change in intentions.

## SUMMARY

Based on interview data collected in the 1975 National Fertility Study, this report has attempted to estimate aggregate changes in contraceptive practice that have occurred in the United States among continuously married white couples (both spouses married once) since 1973 and has included comparable data from 1970 and 1965. Because the 1975 study included reinterviews with a subsample of the same women first interviewed in 1970, it was also possible to examine individual changes in methods and some of the factors influencing such changes.

At the aggregate level, it appears that there has been a continued increase in the proportion of married couples currently using contraception and a continued decline in the proportion that have never used contraception. Although the pill remains the most popular method of birth control among white women married less than 10 years, there is evidence of the possible beginnings of a decline among most longer marriage duration categories.

The main challenge to the supremacy of the pill comes from the increasingly popular method of surgical sterilization, now clearly the most commonly used method among couples married 10 years or more. Its rapid adoption in the last few years, especially of the female procedure which has become technologically simpler, suggests that sterilization of one kind or the other (including sterilizing surgery for medical reasons only) may now be the most common barrier to conception among married couples of reproduc-

tive age. There has been a considerable increase in reliance on this method over the past decade.

Three-quarters of couples using contraception are using the most effective methods available: sterilization, the pill, or the IUD. All of the trend data suggest a rapidly growing dependence on such methods by persons in all social strata.

At the individual level, about half of the women reinterviewed were using a different method in 1975 than in 1970. Most change was to sterilization which has between two and three times the drawing power of its nearest competitor, the pill. Beyond these two methods, only the condom and the IUD show any appreciable appeal to those using other methods. Changes in methods are more likely to occur in the transition between the period during which contraception is used to delay conception and the period after desired family size is reached in which it is used to avoid further pregnancy; however, among those who have not already been sterilized, changes are almost equally likely after this transition is completed.

Besides the motivational change from delaying to preventing future pregnancies, the experience of an unplanned pregnancy also shows an effect on changes in methods. Those who reported an unplanned pregnancy during the 1971-75 period were more likely to change methods than those who reported either no pregnancy or a planned pregnancy. It is clear from the magnitude of these effects that factors other than fertility intentions and pregnancy experience influence the decision to change contraceptive methods.

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Table 1. Number and percent distribution of women by type of exposure to the risk of conception (standardized by the 1970 marriage duration distribution), according to whether additional births were intended: currently married white women 15-44 years of age,<sup>1</sup> both spouses married once, 1965, 1970, 1973, and 1975

Type of exposure	All women				Intend more				Intend no more			
	1975	1973	1970	1965	1975	1973	1970	1965	1975	1973	1970	1965
	Number											
All women .....	3,329	3,906	3,784	2,826	1,209	1,448	1,310	982	2,120	2,458	2,474	1,844
	Percent distribution											
All types of exposure .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Using contraception .....	79.0	72.9	67.6	66.5	64.9	64.7	59.7	59.2	85.6	77.8	71.7	71.6
Not using contraception .....	21.0	27.1	32.4	33.5	35.1	35.3	40.3	40.8	14.4	22.2	28.3	28.4
Pregnant, postpartum, trying to get pregnant .....	12.0	13.1	15.0	16.4	27.9	28.1	30.5	31.1	4.5	4.5	6.8	7.5
Sterile and other nonusers .....	9.0	14.0	17.5	17.1	7.2	7.2	9.8	9.7	9.8	17.7	21.5	20.9
	Number											
All women using contraception .....	2,617	2,853	2,558	1,901	806	930	783	581	1,811	1,923	1,775	1,320
	Percent distribution											
All methods .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Wife sterilized .....	16.3	10.8	6.8	4.7	...	...	...	...	22.6	15.6	9.7	7.4
Husband sterilized .....	15.0	11.2	7.2	4.1	...	...	...	...	20.9	16.3	10.3	6.3
Pill .....	34.3	35.5	35.4	28.4	59.5	58.2	51.2	43.2	24.1	25.5	28.5	22.0
IUD .....	8.7	9.5	7.5	1.1	11.6	12.1	7.9	1.3	7.7	8.4	7.3	1.1
Diaphragm .....	3.9	4.0	5.7	10.5	4.2	3.6	4.3	6.2	3.7	4.3	6.4	12.7
Condom .....	10.9	15.1	14.8	22.0	11.2	12.8	11.0	18.4	10.5	16.2	16.5	23.4
Withdrawal .....	2.0	2.3	2.3	4.0	2.0	1.7	1.8	3.0	2.0	2.6	2.6	4.3
Foam .....	3.6	5.3	6.6	3.1	4.7	6.9	10.2	4.6	3.4	4.4	5.0	2.1
Rhythm .....	2.8	4.0	7.1	11.5	4.4	2.9	7.0	12.9	2.6	4.5	7.2	10.0
Douche .....	0.4	0.5	2.3	3.4	0.3	0.2	2.3	2.9	0.4	0.7	2.3	3.6
Other .....	2.2	1.7	4.3	7.1	2.1	1.6	4.2	7.3	2.3	1.7	4.3	7.1

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25 and married less than 25 years.

Table 2. Number and percent distribution of women by type of exposure to risk of conception, according to duration of marriage: currently married white women 15-44 years of age,<sup>1</sup> both spouses married once, 1965, 1970, 1973, and 1975

Type of exposure	All durations				Less than 5 years				5-9 years			
	1975	1973	1970	1965	1975	1973	1970	1965	1975	1973	1970	1965
	Number											
All women .....	3,329	3,906	3,784	2,826	1,041	1,090	1,010	600	703	882	853	614
	Percent distribution											
All types of exposure.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Using contraception .....	78.6	70.5	65.7	64.9	71.3	68.9	61.7	58.5	76.7	75.0	69.2	69.7
Not using contraception.....	21.4	29.1	34.3	35.2	28.7	31.1	38.3	41.5	23.3	25.0	30.8	30.3
Pregnant, postpartum, trying to get pregnant .....	12.8	14.2	15.0	14.7	23.2	25.0	29.6	34.5	17.4	18.5	19.7	19.4
Sterile and other nonusers .....	8.6	15.2	17.5	18.0	5.5	6.1	8.7	7.0	6.0	6.5	11.1	10.9
	Number											
All women using contraception .....	2,617	2,853	2,558	1,901	742	748	623	351	539	661	590	428
	Percent distribution											
All methods.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Wife sterilized .....	15.6	11.6	6.8	5.3	0.8	1.9	0.3	0.0	11.7	9.4	3.9	2.1
Husband sterilized.....	14.4	11.9	7.2	4.4	0.7	0.6	1.0	0.3	10.0	9.0	4.2	3.0
Pill .....	35.7	35.6	35.4	25.8	64.8	64.1	57.1	53.3	38.6	39.4	42.9	34.6
IUD.....	8.5	9.6	7.5	1.1	8.1	9.7	8.5	1.4	14.5	14.5	11.4	1.9
Diaphragm .....	3.9	4.0	5.7	11.0	4.3	2.6	3.5	4.6	3.3	3.2	4.2	10.3
Condom .....	10.9	14.9	14.8	22.7	12.0	11.4	9.8	14.8	11.7	10.3	13.6	22.0
Withdrawal.....	2.0	2.3	2.3	4.2	1.8	1.6	1.4	2.8	1.7	2.1	1.4	2.6
Foam .....	3.6	5.2	6.6	2.9	3.4	4.3	8.2	4.8	4.6	8.2	8.8	3.5
Rhythm .....	2.8	3.9	7.1	11.8	1.8	2.0	5.0	8.5	2.2	2.2	4.7	10.7
Douche .....	0.4	0.5	2.3	3.5	0.4	0.2	1.8	3.7	0.2	0.4	1.0	1.2
Other .....	2.2	1.7	4.3	7.3	2.0	1.5	3.4	5.7	1.5	1.3	3.9	8.2

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25 and married less than 25 years.

Table 2. Number and percent distribution of women by type of exposure to risk of conception, according to duration of marriage: currently married white women 15-44 years of age,<sup>1</sup> both spouses married once, 1965, 1970, 1973, and 1975—Con.

Type of exposure	10-14 years				15-19 years				20-24 years			
	1975	1973	1970	1965	1975	1973	1970	1965	1975	1973	1970	1965
	Number											
All women .....	632	731	731	571	553	710	626	636	400	493	564	405
	Percent distribution											
All types of exposure .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Using contraception .....	85.9	80.8	75.4	73.7	85.9	71.6	67.9	70.6	79.5	67.8	65.4	62.2
Not using contraception .....	14.1	19.2	24.6	26.3	14.1	28.4	32.1	29.4	20.5	32.2	34.6	37.8
Pregnant, postpartum, trying to get pregnant .....	6.2	8.0	8.5	7.4	2.9	3.0	4.5	5.5	15.	1.8	1.6	3.0
Sterile and other nonusers .....	7.9	11.2	16.1	18.9	11.2	25.4	27.6	23.9	19.1	30.4	33.0	34.8
	Number											
All women using contraception .....	543	594	551	421	475	513	425	449	318	337	369	252
	Percent distribution											
All methods .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Wife sterilized .....	20.6	15.3	7.4	7.1	27.8	13.3	13.4	9.1	30.2	18.8	13.6	8.3
Husband sterilized .....	22.7	15.1	7.8	5.2	23.8	18.7	12.2	5.8	25.5	18.2	15.4	8.7
Pill .....	25.2	22.4	28.1	20.7	15.8	22.0	20.7	10.5	10.4	16.0	14.6	8.7
IUD .....	9.0	11.2	8.2	0.7	5.1	6.4	4.0	1.1	3.8	2.2	2.7	0.0
Diaphragm .....	1.7	3.9	6.4	10.5	4.0	5.7	8.2	13.8	7.5	6.1	8.1	17.1
Condom .....	8.8	17.1	16.0	25.9	9.5	19.2	19.1	25.8	12.6	21.6	18.4	23.8
Withdrawal .....	1.1	1.5	3.3	4.5	3.4	3.9	2.8	5.1	2.5	3.3	3.5	6.3
Foam .....	4.4	6.6	6.7	3.6	2.9	2.2	4.2	1.3	1.9	3.7	3.0	0.8
Rhythm .....	3.5	4.6	8.2	13.5	4.0	6.2	9.2	12.9	3.1	6.6	10.6	13.5
Douche .....	0.4	0.5	1.6	3.3	0.6	1.0	3.1	4.7	0.6	0.8	5.1	5.2
Other .....	2.6	1.9	6.4	5.0	3.2	1.5	3.1	9.8	1.9	2.5	4.9	7.5

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25 and married less than 25 years.

Table 3. Number and percent distribution of women by type of exposure to the risk of conception (standardized by the 1970 marriage duration distribution), according to wife's education: currently married white women 15-44 years of age,<sup>1</sup> both spouses married once, 1965, 1970, 1973, and 1975

Type of exposure	Some high school or less				Completed high school				Some college			
	1975	1973	1970	1965	1975	1973	1970	1965	1975	1973	1970	1965
	Number											
All women .....	439	847	764	850	1,606	2,029	1,939	1,407	1,284	1,031	1,081	568
	Percent distribution											
All types of exposure .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Using contraception .....	75.7	66.0	59.2	61.1	79.9	74.0	68.7	67.2	78.4	76.6	71.5	72.7
Not using contraception .....	24.3	34.0	40.8	38.9	20.1	26.0	31.3	32.8	21.6	23.4	28.5	27.3
Pregnant, postpartum, trying to get pregnant .....	8.9	13.1	16.0	15.1	11.9	12.4	14.6	16.4	14.0	14.2	14.9	16.3
Sterile and other nonusers .....	15.4	20.9	24.8	23.9	8.2	13.6	16.7	16.4	7.6	9.2	13.6	11.0
	Number											
All women using contraception .....	329	555	452	523	1,282	1,505	1,333	957	1,006	793	773	420
	Percent distribution											
All methods .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Wife sterilized .....	25.8	17.2	13.7	7.5	17.1	10.7	5.6	4.2	11.6	7.1	4.8	2.9
Husband sterilized .....	15.2	12.8	7.1	4.9	14.7	10.9	6.9	3.8	14.8	11.0	7.6	4.1
Pill .....	35.9	32.9	32.3	27.2	32.6	35.1	36.8	26.0	37.0	37.6	34.9	33.4
IUD .....	7.7	8.1	6.6	0.9	7.9	8.7	7.1	0.9	10.0	11.8	8.8	1.5
Diaphragm .....	1.1	1.7	2.2	3.7	3.4	3.0	5.9	11.5	5.5	7.5	7.6	17.1
Condom .....	4.1	12.2	12.8	23.8	12.2	17.8	15.2	22.6	11.4	12.4	15.1	18.7
Withdrawal .....	3.3	3.6	3.5	6.8	2.4	2.6	2.3	4.0	1.1	0.8	1.8	0.6
Foam .....	2.1	4.1	5.8	3.2	4.4	5.2	6.8	2.6	3.0	6.2	6.7	4.2
Rhythm .....	1.5	3.6	4.6	7.8	3.2	4.0	8.0	14.2	2.8	4.2	7.1	10.4
Douche .....	1.2	1.1	6.6	4.7	0.2	0.4	1.6	3.3	0.4	0.3	0.9	2.2
Other .....	1.9	2.5	4.6	9.6	2.1	1.8	4.1	7.0	2.5	1.1	4.5	4.7

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25 and married less than 25 years.

Table 4. Percent of women who have never used contraception, by duration of marriage (standardized by the 1970 marriage duration distribution): currently married white women 15-44 years of age,<sup>1</sup> both spouses married once, 1965, 1970, 1973, and 1975

Marriage duration	1975	1973	1970	1965
	Percent			
All durations .....	5.3	9.6	12.2	14.3
Less than 5 years .....	6.0	8.1	11.7	16.5
5-9 years .....	2.1	6.4	8.3	11.7
10-14 years .....	5.1	8.3	10.0	10.9
15-19 years .....	5.8	13.5	16.2	14.0
20-24 years .....	8.3	14.4	17.6	19.4

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25 and married less than 25 years.

Table 5. Percent of women who have never used contraception, by duration of marriage and marriage cohort: currently married white women 18-39 years of age,<sup>1</sup> both spouses married once, 1955, 1960, 1965, 1970, and 1975

Marriage cohort	Duration of marriage in years				
	Less than 5	5-9	10-14	15-19	20-24
	Percent				
1971-75.....	5.2				
1966-70.....	9.6	2.1			
1961-65.....	15.4	8.3	5.1		
1956-60.....	23.7	11.7	10.0	5.2	
1951-55.....	32.4	13.7	10.9	14.9	9.3
1946-50.....		21.5	17.6	14.5	12.9
1941-45.....			23.2	19.9	19.4
1936-40.....				32.8	19.4
1931-35.....					40.6

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25 and married less than 25 years.

NOTE.—Percents on the diagonals refer to the women in each duration group at the time of each survey. Figures in the two bottom diagonals are from the 1955 and the 1960 Growth of American Family Studies; the next three diagonals in ascending order are, respectively, from the 1965, 1970, and 1975 National Fertility Studies. Data in the rows therefore refer to the same marriage cohorts of women represented in the different samples at successive durations of marriage.

Table 6. Percent of women using contraception who are using the most effective methods (sterilization, pill, IUD), by duration of marriage (standardized by the 1970 marriage duration distribution): currently married white women 15-44 years of age,<sup>1</sup> both spouses married once, 1965, 1970, 1973, and 1975

Marriage duration	1975	1973	1970	1965
	Percent			
All durations.....	74.3	67.0	56.9	38.3
Less than 5 years.....	74.4	76.3	66.9	55.0
5-9 years.....	74.8	72.3	62.4	41.6
10-14 years.....	77.5	64.0	51.5	33.7
15-19 years.....	72.5	60.4	50.3	26.5
20-24 years.....	69.9	55.2	46.3	25.7

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25 and married less than 25 years.

Table 7. Percent of women using contraception who are using the most effective methods (sterilization, pill, IUD), by duration of marriage and marriage cohort: currently married white women 15-44 years of age,<sup>1</sup> both spouses married once, 1965, 1970, and 1975

Marriage cohort	Marriage duration in years				
	Less than 5	5-9	10-14	15-19	20-24
	Percent				
1971-75.....	74.4				
1966-70.....	66.9	74.8			
1961-65.....	55.0	62.4	77.5		
1956-60.....		41.6	51.5	72.5	
1951-55.....			33.7	50.3	69.9
1946-50.....				26.5	46.3
1941-45.....					25.7

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25 and married less than 25 years.

NOTE.—The upper diagonal contains data from the 1975 survey; the middle diagonal, 1970 data; and the lower diagonal, 1965 data.

Table 8. Percent of women surgically sterilized or whose husbands were sterilized, by type of operation and duration of marriage (standardized by the 1970 marriage duration distribution): currently married white women 15-44 years of age,<sup>1</sup> both spouses married once, 1965, 1970, 1973, and 1975

Marriage duration	1975	1973	1970	1965
<u>Total sterilized<sup>2</sup></u>				
	Percent			
All durations.....	26.4	21.2	14.3	13.1
Standardized .....	28.1	21.7	14.3	11.9
Less than 5 years .....	1.3	2.1	1.0	0.7
5-9 years .....	17.0	14.9	6.4	5.0
10-14 years .....	40.1	29.0	15.0	16.1
15-19 years .....	50.2	34.1	27.1	20.9
20-24 years .....	53.1	44.3	34.4	27.2
<u>Tubal ligation<sup>3</sup></u>				
All durations.....	9.7	7.2	4.0	3.4
Standardized.....	10.2	7.4	4.0	3.0
Less than 5 years .....	0.6	1.5	0.3	0.0
5-9 years .....	7.9	7.3	2.2	1.8
10-14 years .....	16.1	10.9	5.4	5.4
15-19 years .....	17.5	9.0	7.5	5.7
20-24 years .....	15.5	12.0	7.6	4.2
<u>Hysterectomy</u>				
All durations.....	4.9	5.7	4.0	5.7
Standardized.....	5.4	5.8	4.0	5.2
Less than 5 years .....	0.1	0.1	0.1	0.3
5-9 years .....	1.1	0.6	0.7	0.7
10-14 years .....	4.4	5.4	2.5	6.1
15-19 years .....	11.0	10.4	8.4	9.3
20-24 years .....	16.5	19.3	13.1	15.1
<u>Vasectomy</u>				
All durations.....	11.0	8.1	4.9	3.1
Standardized.....	11.5	8.3	4.9	2.9
Less than 5 years .....	0.6	0.4	0.6	0.3
5-9 years .....	7.5	7.0	3.0	2.1
10-14 years .....	19.0	12.6	5.6	3.9
15-19 years .....	19.5	13.7	8.4	4.4
20-24 years .....	19.5	12.7	10.3	5.9

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25 and married less than 25 years.

<sup>2</sup>Includes other types of operations, multiple operations, and operations of type unknown.

<sup>3</sup>For 1975 includes laparoscopy, a procedure not developed and in use at the time of the earlier studies.

Table 9. Number and percent distribution of women by type of exposure to the risk of conception in 1975, according to type of exposure in 1970: currently married white women,<sup>1</sup> both spouses married once, and married 5-24 years in 1975

Type of exposure, 1970	Number of women	Type of exposure, 1975											
		Total	Not using contraception		Using contraception								
			Pregnant, postpartum, trying to get pregnant	Sterile and other nonusers	Wife sterilized	Husband sterilized	Pill	IUD	Diaphragm	Condom	Foam	Rhythm	Other
All categories.....	2,348	100.0	7.9	10.1	17.8	16.2	19.5	7.0	3.1	8.8	3.0	2.6	3.9
Not using contraception:													
Pregnant, postpartum, trying to get pregnant.....	412	100.0	14.6	10.2	13.6	13.6	20.1	8.7	1.2	9.0	4.1	3.2	1.7
Sterile and other nonusers.....	270	100.0	9.3	40.0	12.6	9.6	9.6	4.1	2.2	4.4	0.4	3.0	4.8
Using contraception:													
Wife sterilized.....	126	100.0	...	...	99.2	...	0.8	...	...	...	...	...	...
Husband sterilized.....	101	100.0	1.0	...	...	99.0	...	...	...	...	...	...	...
Pill.....	609	100.0	8.0	5.3	13.1	14.3	41.5	5.7	1.6	5.1	2.3	1.5	1.5
IUD.....	136	100.0	3.7	2.2	22.1	10.3	10.3	43.4	2.2	2.2	2.9	0.7	-
Diaphragm.....	97	100.0	9.3	8.2	12.4	13.4	4.1	4.1	36.1	6.2	1.0	2.1	3.1
Condom.....	234	100.0	6.0	7.3	11.1	14.5	10.3	1.7	1.3	40.6	1.7	0.9	4.8
Foam.....	121	100.0	9.1	6.6	18.2	14.9	19.0	4.1	1.7	2.5	19.0	-	4.9
Rhythm.....	111	100.0	4.5	7.2	10.8	12.6	9.9	6.3	3.6	14.4	-	20.7	9.9
Other.....	131	100.0	4.6	8.4	16.8	13.7	15.3	3.1	3.1	3.1	4.6	3.1	24.4

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25.

Table 10. Number and percent distribution of women by method of contraception used in 1975, according to method used in 1970: currently married white women,<sup>1</sup> both spouses married once, and married 5-24 years by 1975

Method of contraception used in 1970	Number of women	Method of contraception used in 1975									
		Total	Wife sterilized	Husband sterilized	Pill	IUD	Diaphragm	Condom	Foam	Rhythm	Other
All methods.....	1,479	100.0	22.2	20.1	23.7	8.0	4.1	10.7	3.5	2.8	4.9
Wife sterilized.....	126	100.0	99.2	...	0.8	...	...	...	...	...	...
Husband sterilized.....	100	100.0	...	100.0	...	...	...	...	...	...	...
Pill.....	528	100.0	15.2	16.5	47.9	6.6	1.9	5.9	2.7	1.7	1.7
IUD.....	128	100.0	23.4	10.9	10.9	46.1	2.3	2.3	3.1	0.8	-
Diaphragm.....	80	100.0	15.0	16.3	5.0	5.0	43.8	7.5	1.3	2.5	3.8
Condom.....	203	100.0	12.8	16.7	11.8	2.0	1.5	46.8	2.0	1.0	5.5
Foam.....	102	100.0	21.6	17.6	22.5	4.9	2.0	2.9	22.5	-	5.9
Rhythm.....	98	100.0	12.2	14.3	11.2	7.1	4.1	16.3	-	23.5	11.2
Other.....	114	100.0	19.3	15.8	17.5	3.5	3.5	3.5	5.3	3.5	28.1

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25.

Table 11. Number and percent distribution of women by method of contraception used in 1975, according to whether additional children were intended in each year and method of contraception used in 1970: currently married white women,<sup>1</sup> both spouses married once, and married 5-24 years by 1975

Intention status and method of contraception used in 1970	Number of women	Method of contraception used in 1975									
		Total	Wife sterilized	Husband sterilized	Pill	IUD	Diaphragm	Condom	Foam	Rhythm	Other
<u>Intended more in 1970 and in 1975</u>		Percent distribution									
All methods.....	116	100.0	...	...	45.7	18.1	4.3	9.5	9.5	6.0	6.9
Pill.....	71	100.0	...	...	56.3	16.9	2.8	7.0	8.5	2.8	5.6
All other.....	45	100.0	...	...	28.9	20.0	6.7	13.3	11.1	11.1	8.9
<u>Intended more in 1970 and no more in 1975</u>											
All methods.....	334	100.0	15.0	13.2	35.3	11.4	4.5	10.8	4.8	0.6	4.5
Pill.....	154	100.0	13.6	13.6	50.6	8.4	1.9	6.5	2.6	-	2.6
IUD.....	32	100.0	21.9	12.5	18.8	40.6	3.1	-	3.1	-	-
Diaphragm.....	16	100.0	6.3	31.3	12.5	6.3	37.5	6.3	0.0	-	-
Condom.....	40	100.0	10.0	7.5	20.0	5.0	5.0	45.0	2.5	-	5.0
Foam.....	39	100.0	23.1	10.3	25.6	7.7	-	5.1	23.1	-	5.1
Rhythm.....	27	100.0	14.8	18.5	18.5	18.5	3.7	14.8	-	7.4	3.7
Other.....	26	100.0	15.4	7.7	34.6	3.8	7.7	3.8	3.8	-	23.1
<u>Intended no more in 1970 and in 1975</u>											
All methods.....	1,025	100.0	27.2	24.8	17.1	5.8	4.0	10.8	2.4	3.1	4.8
Wife sterilized.....	126	100.0	99.2	...	0.8	...	...	...	...	...	...
Husband sterilized.....	100	100.0	...	100.0	...	...	...	...	...	...	...
Pill.....	300	100.0	19.7	22.0	44.0	3.3	1.7	5.3	1.3	2.3	0.3
IUD.....	87	100.0	26.4	11.5	6.9	48.3	2.3	3.4	-	1.1	-
Diaphragm.....	62	100.0	17.7	12.9	3.2	3.2	45.2	8.1	1.6	3.2	4.8
Condom.....	156	100.0	14.1	19.9	8.3	0.6	0.6	47.4	1.9	1.3	5.8
Foam.....	55	100.0	23.6	25.5	14.5	1.8	1.8	1.8	23.6	0.0	7.3
Rhythm.....	59	100.0	13.6	15.3	8.5	-	5.1	15.3	-	27.1	15.3
Other.....	80	100.0	22.5	20.0	10.0	3.8	1.3	3.8	5.0	5.0	28.8

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25.

Table 12. Number and percent distribution of women who changed methods of contraception during 1971-75 by prior method, according to method used in 1975: currently married white women,<sup>1</sup> both spouses married once, 1975

Prior method of contraception	Method of contraception used in 1975							
	Wife sterilized	Husband sterilized	Pill	IUD	Diaphragm	Condom	Foam	Rhythm
All women .....	Number							
	249	232	320	152	73	182	95	50
	Percent distribution							
Total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Pill .....	40.2	45.7	...	55.3	52.1	57.1	75.8	58.0
IUD.....	12.4	6.0	14.7	...	9.6	8.8	10.5	4.0
Diaphragm .....	6.8	6.5	7.8	5.9	...	2.2	1.1	8.0
Condom .....	14.1	21.1	35.0	15.1	26.0	...	10.5	14.0
Foam .....	10.0	11.6	24.4	12.5	6.8	12.6	...	6.0
Rhythm .....	6.8	3.0	7.5	3.9	1.4	8.2	2.1	...
Other .....	9.6	6.0	10.6	7.3	4.1	10.9	0.0	10.0

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25 and married less than 25 years.

Table 13. Percent change of method in relation to pregnancy experience for the 1971-75 period: currently married white women married<sup>1</sup> less than 25 years, both spouses married once, 1975

Pregnancy planning status in period	Number of women	Number of pregnancies	Total	Changed method	No change in method
				Percent distribution	
No pregnancy <sup>2</sup> .....	1,893	...	100.0	37.2	62.8
Planned pregnancy <sup>3</sup> .....	473	531	100.0	38.4	61.6
Unplanned pregnancy <sup>4</sup> .....	371	427	100.0	55.5	44.5
Timing failure <sup>5</sup> .....	222	254	100.0	54.7	45.3
Number failure <sup>6</sup> .....	160	173	100.0	56.6	43.4

<sup>1</sup>The population of women represented in this table is further restricted to those married before age 25 and married less than 25 years. Women married less than 30 months are also omitted.

<sup>2</sup>Percent based on number of women; only periods of continuous contraceptive use of at least 30-months duration are considered.

<sup>3</sup>Percent based on number of pregnancies; planned pregnancies where contraception was used before the pregnancy and resumed within no more than 4 months after the pregnancy are included.

<sup>4</sup>Percents based on number of pregnancies; unplanned pregnancies where contraception was used within 6 months before the pregnancy and resumed within no more than 4 months after the pregnancy are included.

<sup>5</sup>Timing failure means birth wanted but at a later time.

<sup>6</sup>Number failure means birth not wanted at all.

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