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DEMOGRAPHIC FOUNDATIONS OF FAMILY CHANGE*

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A longer life means that current cohorts can spend more years as members of a family in the statuses of parent, child, or spouse and in the combination of these statuses that defines the conjugal family. How much has this potential been realized? This question is addressed for the United States through a simulation of demographic conditions in 1800, 1900, 1960, and 1980. Despite declining fertility and higher divorce rates, women in the 1960 and 1980 cohorts spent more years in marriage and as parents than did earlier generations. They also spent more years as children of aged parents. But much of the potential offered by longer life spans has not been achieved. Not only did the number of years in marriage and parental statuses decline between 1960 and 1980, but current cohorts spend a smaller proportion of their adult lives in them. On the basis of these results, we propose some scenarios of the ways that potential increases in the amount of time that people spend in family statuses may provoke social change.

INTRODUCTION

Between 1800 and 1980, improvements in U.S. mortality nearly doubled women's expectation of life, from approximately 40 to nearly 80 years. It is reasonable to suppose that this change has affected family roles. Every individual is at some time a member of a family, and every society defines family roles. The rights and obligations associated with these roles are based not only on family membership but also on the particularities of age, sex, and marital status that specify family positions or statuses. Longer life means that people can spend more time in the statuses of child, parent, and spouse. Longer life thus alters the demographic foundations of family roles.

This paper investigates the degree to which the potential offered by mortality decline has been realized. If mortality were the only change, the findings would be simple—longer durations for all statuses. But reductions in mortality have

been accompanied by changes in fertility and marriage. In 1800 couples on average bore about 8 children, by 1980 about 1.8. In 1800 women married at about age 20 and men 24 and then lived together until one of them died. In 1980, they married at about ages 23 and 25, and about half of married couples lived together until death, the other half until divorce. The joint effect of these trends is not obvious. Improvements in mortality, for example, mean that current cohorts could spend more years as parents because both parents and children live longer, but the reduction in fertility might mean that current cohorts actually spend fewer years as parents.

In this paper we focus on the conjugal family (married couples and their children, whether coresident or not), on women (for whom family roles have been predominant), and on ages at which family roles are likely to be particularly demanding (parents of children under 18 and children of parents over 65).¹ Of particular interest are situations where statuses expected to coincide do not, such as the separation of marriage and parenthood following widowhood or divorce, and situations where an individual occupies several stressful statuses at the same time, such as the child of a parent over 65 and the parent of a child under 18.

Family history has usually been told in terms of the household, in large part because available data generally refer to groups that live together (cf. Laslett 1971; Laslett and Wall 1972; Wall et

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¹ The basic story would be similar for men. Differences would be due primarily to higher male death rates at all ages and higher remarriage rates; they would be most evident at older ages.

al. 1983). But the household is not an adequate substitute for what we think should be at the core of family history: continuities and changes in family roles. To overcome the lack of historical data, we turn to a simulation model that constructs family statuses from mortality, marriage, and fertility patterns.² The model produces two types of cohort measures: (1) the proportion occupying a particular familial status (or combination of statuses) at a particular age and (2) the number of years spent in various family statuses. An example of the first is the proportion of women currently married at age 35; of the second, the average number of married years. These measures are calculated for cohorts assumed to live out their lives under demographic conditions of 1800, when the consequential changes of the demographic transition had just begun, of 1900, when both mortality and fertility had fallen substantially, of 1960, as typical of the baby boom, and of 1980.

The figures provide evidence of family status at given ages, and of how long women remain in these situations. To specify more precisely what it means to occupy these statuses requires additional knowledge. Family roles, for example, may be specific to a class or an ethnic group. Moreover, rights and obligations may change with the passage of individual time and of historical time. Neither these variations nor these changes can be addressed here in any detail. Nonetheless, some expectations and obligations associated with family status are shared, at least ideally, by most social groups, and have changed little since 1800. Spouses, for example, were and are expected to live in the same household, parents to support their children until a certain age, and adult children to provide a safety net for elderly needy parents. Some expectations and obligations apply (though perhaps unevenly) for however long an individual continues in a status (cf. Watkins 1984a).

Thus, we think that the measures calculated here provide an essential skeleton for the social history of the family as well as a perspective from which to view the contemporary family.

They also offer a basis for speculation about the impact of mortality change on family roles.

DATA AND METHODS

Before about the mid-nineteenth century, data to describe even gross changes in mortality and fertility at the national level are sparse; marital status is not given until the 1880 census. Even when marital status and relation to head of household are available, no cross-classification by age and family status is obtainable. The experience of living cohorts is, of course, incomplete. Simulation permits us to compensate for the absence of complete data on the lives of previous and contemporary generations by combining the separate, albeit limited, information available on mortality, fertility, and marriage formation and dissolution.

We will characterize the model only briefly; further details are given in the Appendix and more fully by Bongaarts (1984 and forthcoming). The model constructs a family status life table from input data that are converted to transition rates between various statuses. For women in the cohort, the means of entry and exit from each status are specified in Table 1. In addition, death always means the end of each status.

The model calculates the number of survivors of the original cohort who are in a particular family status s at age x , where s can be a combination of overlapping statuses, e.g., married with five children and a mother over 65. The cohort is followed at yearly intervals from its birth until the last member has died (or until observation is ended at age 90).

The values of the parameters for mortality, marriage, and fertility for each time period are shown in Table 2, and the expectation of life at various ages is shown in Table 3.³

The dates 1800, 1900, and 1980 were chosen to represent long-term changes over the course

³ Those for 1800 are based on relatively few published studies and are the most suspect. Those for 1960 and 1980, are drawn from published vital statistics and the census.

² The attempt to recreate family relationships from demographic patterns has a long pedigree. We have benefitted from work on analytic and simulation models of kinship (e.g., Keyfitz 1985; Goldman 1984; Goodman et al. 1974). Hammel, Wachter, and their colleagues who developed SOCSIM (Wachter et al. 1978) have simulated the kinship universe of the aged and the position of the middle generation in a three-generational structure for the period 1957–2000 (Hammel et al. 1981). We acknowledge a particular debt to Ryder (cf. 1967; 1975; forthcoming), and call attention to the work of Uhlenberg (1980) and Anderson (1985). Menken (1984) presented early work with the model described here.

Table 1. Means of Family Status Entry and Exit for Women

	Entrance to Status	Exit from Status
Child	Birth	Death of last remaining parent
Single Spouse	Birth Marriage or remarriage	Marriage Death or divorce of spouse
Postmarried	Death or divorce of spouse	Remarriage
Parent	Birth of child	Death of last remaining child

Table 2. Parameters

	Year			
	1800	1900	1960	1980
<i>Mortality</i>				
Female expectation of life at birth	40.0	50.0	73.1	78.1
<i>First marriage (female)</i>				
Average age	20.0	22.5	21.0	23.0
Proportion ever married	.95	.90	.97	.90
<i>Fertility</i>				
Total fertility rate	8.0	3.7	3.6	1.8
<i>Widowhood</i>				
Male expectation of life at birth	38.0	48.0	66.8	70.7
Age difference between spouses	4.0	2.5	2.0	2.0

of the past two centuries. We do not argue that the precise dates are significant; instead, they are taken to represent typical pretransition, transition, and posttransition demographic regimes. We include 1960 because the baby boom was such a major departure from the long-term trends in fertility and marriage patterns (Cherlin 1983). We expect some comparisons of today's cohorts with those of the baby boom to exaggerate change, and comparisons with earlier cohorts to emphasize continuities.

In interpreting the figures that follow, we need to keep in mind that simulations are abstractions from reality, and the degree of realism in their assumptions—some of which specify input parameters and some of which are embedded in the model—can always be debated. Because of scanty data, the problems of estimating input parameters are particularly large for 1800 and 1900. Fortunately, however, trends over time are so strong that results are not particularly sensitive to variation, within reasonable ranges, in the values chosen to represent the early periods.

There are four important assumptions in the model. First, although the experience of an actual birth cohort occurs over the better part of a century under changing conditions of fertility and mortality, the experience of a simulated cohort is

taken for a single year. Thus, the birth cohort and its parents are subject to the same demographic conditions. Consequently, results pertaining to survival of parents are biased upwards, since they lived mostly under earlier, more severe, mortality conditions than those of the particular year from which the data are taken.⁴

Second, as described in the Appendix, standard demographic models describing typical age patterns of demographic behavior form the basis of the family status model used here. These models fit a wide variety of populations rather well, but in the absence of direct data we cannot evaluate their appropriateness to U.S. historical populations.

Third, the cohort is assumed to be homogeneous, in that all its members live under the same sets of risks and all life course variation is random. The picture offered for the entire cohort hides much variation among individuals and groups defined, for example, by race, religion, or class. Lastly, the experience of single parenting is always underestimated since the model does not allow for fertility outside of marriage. Because nearly all single parents eventually marry, this problem is not important for entire populations. It does mean, however, that we cannot assess what happens to groups where the link between marriage and fertility is weak.

Our simulations piece together a collage from the experience of a single year. They answer a set of "what if" questions: What would the lives

Table 3. Female Expectation of Life at Selected Ages

	Year			
	1800	1900	1960	1980
<i>Expectation of life</i>				
At birth	40.0	50.0	73.1	78.1
At age 15	42.5	47.9	60.2	63.9
At age 35	29.2	32.7	41.0	44.1
At age 50	19.3	21.7	27.3	29.8
At age 65	10.4	11.8	15.0	16.7
At age 80	4.0	5.0	6.4	7.1
<i>Percentage surviving</i>				
To age 15	68	79	97	99
To age 35	56	70	96	98
To age 50	46	60	92	97
To age 65	29	42	80	89
To age 80	8	14	40	52

⁴ Simulation results cannot characterize any real population. However, where comparison of the simulated 1900 cohort with the actual U.S. population in 1910 was feasible, agreement was reassuringly close. For example, 10.8 percent of white women aged 40–44 in 1910 were never married and 10.4 percent of the ever-married were childless (U.S. Bureau of the Census 1943). Assuming only ever-married women became mothers, these figures imply that 20 percent of women were childless, close to our estimated 18 percent. In 1910, of women 30–34, 44 percent had children under 5; in our simulations, 47 percent of women exact age 35 had children under 5. In view of the continued decline in fertility between 1900 and 1910, these figures are close.

of a cohort have looked like if the simulation model is an acceptable reflection of reality and if 1800 conditions, for example, had persisted from birth to death? The problems described are rather minor because our purpose is to sketch broadly the dramatic consequences of demographic change. Since our results are based on simulations, the precise magnitude of change may be questioned, but the direction is the same under reasonable alternative assumptions. For this reason, we have chosen to present the results graphically rather than in tabular form.⁵

RESULTS

When parents live longer, people remain sons and daughters longer. The proportion of women with at least one surviving parent has risen dramatically, especially at older ages (Figure 1). At age 55, for example, nearly 60 percent would have a living parent under 1980 conditions, about 10 times more than under 1800 conditions.⁶ Using the 1980 life table, just under half of 55-year-olds would still have living mothers, again about 10 times as many as in 1800 (Menken 1985).

For women who survive to adulthood (age 15), the years with at least one living parent nearly double between 1800 and 1980 (Figure 2); the years with both parents alive more than triple. The changes are due to longer life spans

⁵ Tables are available from the authors upon request.
⁶ Most of this change is attributable to increased survival, but part is due to decrease in the age of childbearing, so that parents of a woman aged 35, for example, are younger. This bias is countered to some extent because variation in the age of childbearing is ignored: all women in the cohort are assumed to be born at the mean age of childbearing of their mothers. Since variation was greater in 1800 than later, 1800 survival probabilities may be biased upward.

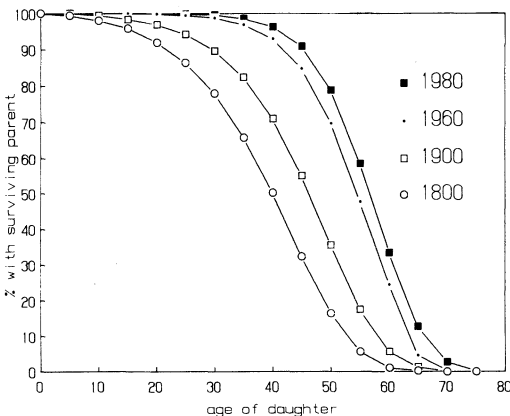


Fig. 1. Proportion with at Least One Surviving Parent

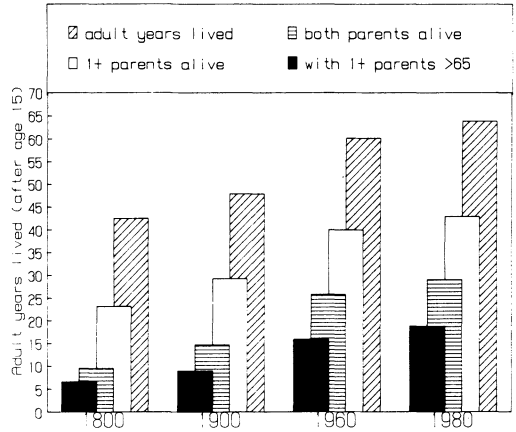


Fig. 2. Adult Years Lived: Total, with at Least One Surviving Parent, with Both Parents Alive, and with at Least One Parent over 65

both for the cohort and, especially, for its parents.

In Figures 1 and 2, as in those that follow, parents are parents as long as both they and their children are alive. Although the influence that parents have over their children attenuates when children reach adulthood and the content of responsibilities changes, or even reverses, nonetheless most children recognize a special child-parent relationship as long as their parents are alive—a much longer time now than in the past.⁷ Sociologists often focus on those ages of children and parents where obligations are allegedly most demanding: when children are young and likely to be at home and when parents are old (over 65). No notable change in dependency occurs when parents reach 65. Indeed, a recent study of noninstitutionalized elderly found that only after age 80 had over 50 percent lost the ability to function independently (Katz et al. 1983). Nonetheless, after age 65 the likelihood increases that parents will become ill or experience such normal effects of aging that they may make sudden or heavy claims on their children. Moreover, in modern times attainment of age 65 has been highly associated with retirement from the labor force; retirement, in turn, is associated with changes in daily activities and in perceived social roles.

Mortality alone accounts for the increases in the number of years successive cohorts spend as children, but both mortality and marriage patterns determine how long cohorts spend as spouses. The increase in divorce has been at least as dramatic and steady as the decrease in mortality rates. Marriages now are subject to the risk of dissolution from both divorce and death:

⁷ For a thoughtful discussion of the implications of longer lives in the “interwoven biographies” of parents and children, see Hagestad (1986).

more marriages are terminated by the former than by the latter (Glick 1984). Patterns of entry into marriage have fluctuated. During the nineteenth century, age at marriage rose and the proportion ever marrying declined. The trends subsequently reversed, so that during the baby boom marriage was approximately as early and widespread as in 1800. Between 1960 and 1980, ambivalence about marriage increased once again: marriage age rose (Glick 1984), social approval of those remaining single increased (Thornton and Freedman 1982), and remarriage declined (McCarthy et al. 1981).

Discussions about the decline of the American family often compare cohorts with recent generations, those who married and bore children during the baby boom. When changes in marital patterns are examined in the context of long-run changes in mortality, however, the results qualify conventional interpretations in several ways.⁸ Figure 3 shows that for women of all ages the proportion married was as high or higher under baby-boom conditions than it had been in 1800 or 1900. Subsequently, the experience of younger women (age 35) and older women (age 65 and age 80) diverged. Between 1960 and 1980 divorce and later marriage countered the effect of lowered mortality for younger women. In 1980, they are less likely to be married than they were at any of the earlier dates. They are also more likely to be postmarried, though with different distributions between divorce and widowhood. Somewhat surprisingly, for younger and middle-aged (age 50) women the differences in both the percentage currently married and postmarried appear rather less than speculation based on rising divorce rates would suggest. The comparison

⁸ Our tabulations combine first with higher-order marriages. Although Furstenberg and Spanier (1984) have found that those in second marriages see marked contrasts with their first marriages, from the point of view of the laws and conventions that define the respective conjugal obligations, the differences are slight.

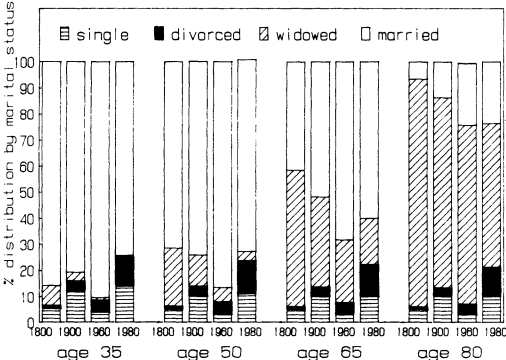


Fig. 3. Percent Distribution of Cohort by Marital Status at Ages 35, 50, 65, and 80

between the current situation and that of the past is most dramatic when the cohorts of 1980 and 1960 are compared, less so when 1980 is compared with 1800 or 1900.

For older women the situation is quite different. At every age above 50 the proportion currently married is *higher* under 1980 conditions than under the demographic regimes of 1800 and 1900. If the marriage customs of 1980 continue, the elderly will be more likely to share life with a spouse than were their ancestors.⁹ Elderly women were and are, however, less likely to be currently married than elderly men. If the simulations had been done for men, the results would have differed most for measures that include marital status. The current 7-year difference in life expectancy of men and women, combined with the tendency for men to marry (and especially to remarry) women younger than themselves, still implies that a smaller proportion of women than of men will be married and that most of the oldest women are not likely to be married.

What happens when we combine the experience of younger and older women, and examine cohorts over their whole life span? Late twentieth-century cohorts spend more years in *all* marital statuses except widowed—single, currently married, and postmarried—than in the past (Figure 4). A more interesting question is

⁹ Marital status life tables for the United States constructed by Schoen et al. (1985) show increasing remarriage at older but not younger ages; if this trend were taken into account, it would most likely increase the proportion married at older ages slightly. We would caution against using estimates for the 1980 cohort to predict future marital status of those who are now young. We see little likelihood that either fertility or mortality in the near future will change as significantly as they have in the past; marriage, divorce, and remarriage, however, may be somewhat more volatile.

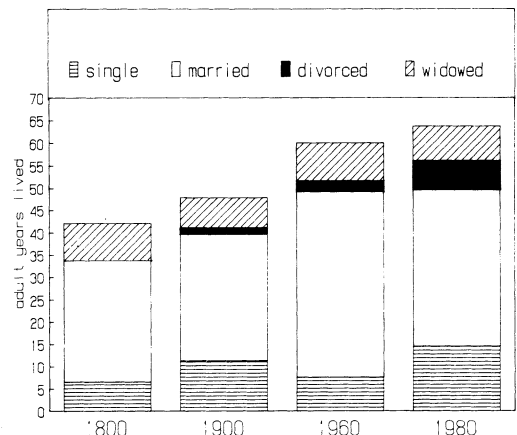


Fig. 4. Adult Person-Years Lived, According to Marital Status

the relative change in the amount of time spent married and postmarried. Here the increase in the former has been greater than the latter. Increases in divorce rates and delayed marriage have not overcome the effects of improved adult mortality on the time spent married. In 1800 women spent about 27 years in marriage; now, after a peak of 42 years during the baby boom, they are married for a total of 35 years. The number of postmarried years has increased less, from nearly 9 to just over 14. The rise has been steady and especially dramatic since the 1940s and 1950s when divorce rates were low compared with 1880 and adult mortality was low compared with 1800 (Menken 1985).

We have concentrated on the differences between the currently married and the postmarried, but in some respects the two groups are more similar to each other than either are to the single (Watkins 1984b). Some concomitants of marriage do not disappear when the marriage itself ends. For example, although kinship bonds with in-laws are more likely to be strained following divorce than following death, they may continue to be a source of support or conflict. Similarly, in contemporary societies widows and the divorced may have access to financial support (social security, pensions) as a consequence of their former marriage that are not available to the never-married.

The currently and the formerly married are also similar in that they are likely to share the role of parent. Most women become parents, but they are now parents of fewer children, who live longer. For all women there were truly remarkable declines in fertility and in the experience of the death of children (Figure 5). In 1800, a woman of 35 had born on average 5.9 children and had seen 1.7 of them die. High mortality conditions persisted beyond infancy and childhood, so that if a woman survived to 65, nearly half of her eight children had already died.

Today it is rare for a child's death to precede the mother's.

If only mortality had changed, the number of years with children would have increased even beyond the estimates for the baby boom. If only fertility had changed, the number of years with children would have shrunk nearly to half of the 1800 level. But both innovations happened. Despite women's reluctance to bear children over the whole period between marriage and menopause (reflected in the long-term decline in the total fertility rate), improvements in mortality increased years spent with surviving children of any age (Figure 6). The effect of declining mortality alone is vividly demonstrated by comparing 1900 and 1960, years with nearly identical fertility. After 1960, as in the nineteenth century, improvements in the mortality of dependent children and their parents were unable to counteract the renewed decline in fertility, and the number of years with surviving children fell.

With the exception of the baby-boom years, time spent with children of the most demanding ages, those under 18 and under 5, has decreased. The significance of fertility decline for this outcome can be highlighted by considering a conditional situation. If only mortality had changed between 1800 and 1980, years spent with children under 18 and under 5 would have risen to 30 and 17, respectively, nearly double and triple the corresponding actual 1980 figures.

The precise relation between mortality and fertility declines is not yet well understood, even in countries where the declines have been far better documented than in the United States. Though the broad descriptions of mortality and fertility declines have obscured important detail, the story is suggestive. Reduction of mortality would have increased the already large number of years with children at the ages when they

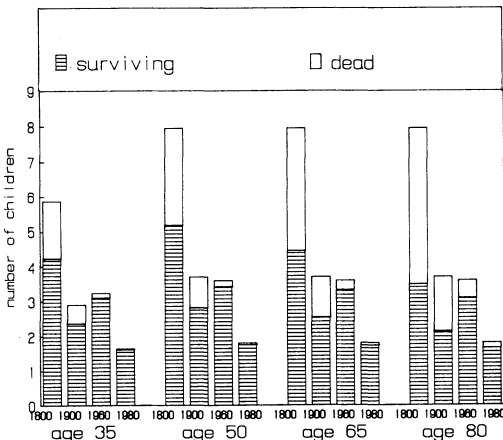


Fig. 5. Number of Children Ever Born, Surviving, and Dead, by Age of Woman

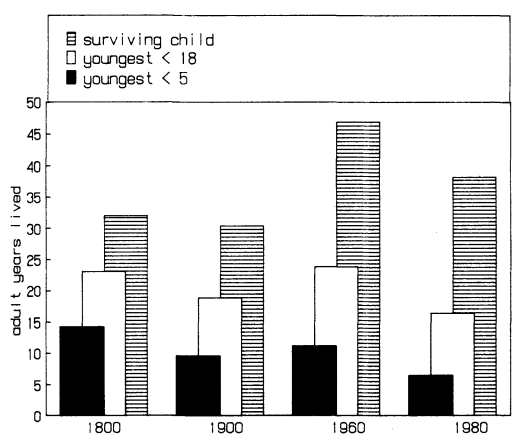


Fig. 6. Adult Years Lived with Children Surviving, under 18 and under 5

most demand parental attention. Instead, the potential was constrained both by a decline in the number of children and by a compression of the responsibilities for children under 18, and especially under 5, into fewer years and years when the mothers were younger.

The combined effect of the changes in mortality, marriage, and fertility can be summarized first by examining the conjugal family unit and then by comparing it to postmarried women and their children. The left side of Figure 7 represents women with a spouse and at least one child. Since the baby boom the delays in marriage, the increase in divorce, and the decline in fertility have reduced the time spent in the conjugal family. But over the longer run, the effect of continued mortality decline counterbalanced nuptiality and fertility changes: current cohorts spend more years in the conjugal family than they did in 1800 or 1900. Viewed from the perspective of the atypical baby-boom year 1960, one might question whether the family is here to stay. From the perspective of 1800 or 1900, however, its survival would not seem to be endangered.

If the demise of the conjugal family needs to be qualified with a long-run perspective, so also does the picture of the postmarried. The right side of Figure 7 represents a situation where several statuses expected to overlap do not: mothers with children but without a spouse. The increase in the probability that women become postmarried mothers and that children will spend at least some time in a female-headed, postmarried household has been well documented. If we ask, however, the more meaningful question—how long women under current demographic conditions can expect to live as postmarried parents—and compare contemporary cohorts with those of a past more distant than the low-mortality and low-divorce years of

the baby boom, our findings are somewhat surprising. Although the number of years spent as a postmarried parent has indeed increased, the total, particularly with young children, was relatively small in 1980 and has changed rather little since 1800.¹⁰

Any change in real circumstances between 1960 and 1980 is attributable to increases in nonmarital fertility, which we cannot estimate with our model. We can, however, make a very rough estimate of an upper bound to single parenting. According to 1980 vital statistics, 18 percent of all births were outside of marriage. Many of the mothers eventually married or remarried. Even if we assume that 15 percent of mothers remain unmarried for the first 18 years of the child's life, in 1980 the years spent as a single parent (either never married or postmarried) with a child under 18 would be slightly over 4, and with a child under 5, 1.4.

Our final perspective deals with the middle generation that has obligations to both children and parents. Adult years with parents over 65 nearly tripled (Figure 2), while adult years with children under 18 decreased by almost 30 percent (Figure 7). The combined effect of these two changes on the magnitude of the dependency burden and on its distribution between young and old is shown in Figure 8. The dependency burden has increased. The total years with either children under 18 or parents over 65 increased from about 24 in 1800 to 31 during the baby boom, and then fell to 28 in 1980. Over the long run, the greater likelihood of having a living parent over 65 has more than compensated for the lesser likelihood of having a child under 18. In 1800, 1900, and 1960, the middle generation spent more years with children under 18 than with parents over 65. By 1980, the seesaw tipped in the other direction: years with parents over 65 exceeded years with children under 18.

Not only has time spent with old and young dependents increased but so has the number of years with simultaneous obligations to both groups. The increase in overload can be seen in Figure 8, especially under 1960 conditions. But because of subsequent fertility decline, the 1980 figure is a mere 1.6 years higher than the 1800 estimate. The measure of overload can be refined further by looking only at women who have children. For them, the increase in overload has been more substantial, 4 years instead of 1.6, and the change between 1960 and 1980 is slight.

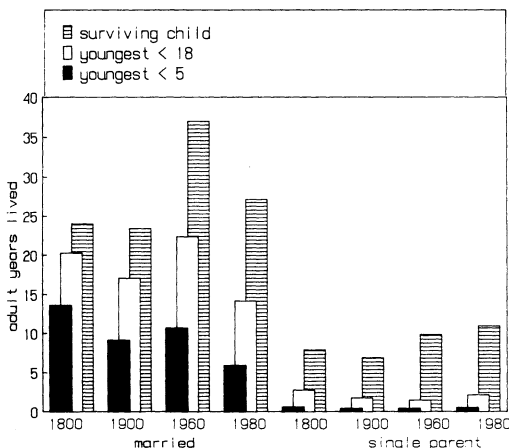


Fig. 7. Adult Years Lived with Children Surviving, under 18 and under 5, According to Marital Status

¹⁰ Richards et al. (forthcoming) calculated that recent cohorts of American women spent approximately 4 years as single parents of children under 18, a finding that is in close agreement with ours for 1980.

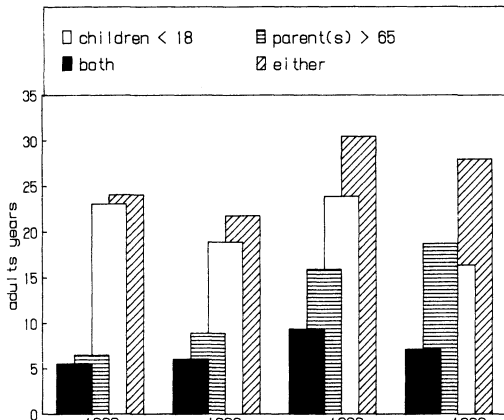


Fig. 8. Adult Years Lived with Children under 18, Parents over 65, Either, or Both

DISCUSSION

Although declines in mortality have made it possible to spend more years in every family status under the demographic conditions of 1980 than under those of 1800 or 1900, only some of this potential has been realized. Despite the declines in fertility and increases in divorce, the 1980 simulated cohort spent more years as children, as parents, as currently married spouses, and in conjugal family units than people in the 1800 or 1900 cohort. The 1980 cohort spent about 27 adult years with spouse and surviving children, 4 years more than 1800 cohort. If number of years spent in these family statuses is taken as a rough measure of investment in the family, clearly this investment has increased, not decreased.¹¹

These results are due to the combined effects of declines in mortality and concomitant or subsequent change in marriage and fertility on family time. While mortality can be considered exogenous with respect to the family, fertility and marriage cannot. Being a child of living parents is not, for the child, a choice; occupying the status of parent or spouse is. We can ask a set of conditional questions: for example, if *only* mortality had changed, how would years have changed for the child, spouse, and parental statuses? The counterfactual simulations described below make vivid the potential offered by mortality change.

The discrepancy between potential and actual change in time spent as a child with surviving

parents is insignificant, since it is due only to changes in ages at which people become parents. Not only have the years spent with at least one parent over 65 risen but, as a result, so has the proportion of adult lifetime spent in this status, from 15 to 29 percent.

Time spent as a spouse is, however, far lower than its potential. If 1800 marriage patterns obtained concurrently with 1980 mortality, years married would increase from 27 to 45 (Figure 9). The actual 1980 figure is 35. Marriage change has prevented the realization of 10 potential spousal years. On the other hand, if 1800 mortality were combined with 1980 marriage, nearly 15 of the 1980 years married would be lost, showing the preponderant effect of mortality. Postmarried years are little affected under these various assumptions. If, however, there were no remarriage, today's patterns of marriage and marriage dissolution would have an even greater effect. Under 1980 conditions women would be married for only 23 years and would live longer after marriage. Although sociologists have paid much attention to the decline in marriage and problems of the formerly married, they have overlooked the dramatic effect of the reformation of spousal units.

A major source of discrepancy in the life situations of older men and women is higher male mortality. To explore how female marital status would change if male mortality improved, we simulated a "Utopia," in which men and women have approximately the same high life expectancy. The effect is minor: years married increased only by 3; and proportions married at the oldest ages rose only slightly: at age 65, from 60 to 66 percent, at age 80, from 24 to 31 percent.¹²

¹² If, however, improved male mortality were to lead to a rise in female remarriage rates, the effect on female marital status might be greater.

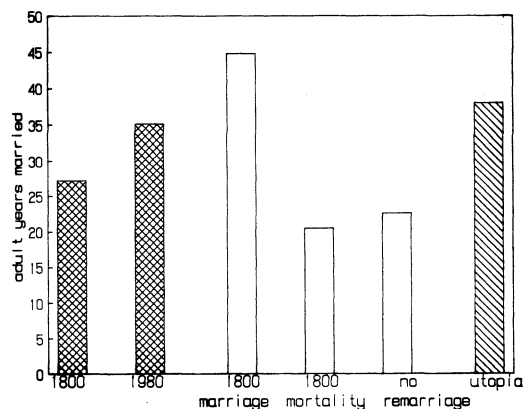


Fig. 9. Years Married under Different Mortality and Marriage Patterns

¹¹ The new home economists have based much of their work on the intuition that time, in addition to market goods, is used by a household to produce commodities of value to the household (cf. Becker 1981).

If only mortality had changed, the increase in years with a spouse and surviving children would have been twice as large as observed—8 years rather than 4. As mortality declines, the increase in years spent with spouse and young children is small. If fertility in 1980 had been the same as in 1800, only 2 years would have been added to the 1800 time with spouse and children under 18. Not only was this potential not realized, but for 1980, the level was 6 years below that for 1800. Results for the conjugal family with children under 5 showed an even more dramatic decline.

Compared to earlier cohorts, contemporary cohorts have chosen to spend a smaller proportion of their adult years as a spouse, as a parent, especially of a young child, or as a member of a conjugal family unit. The percent of adult lifetime spent married was lower in 1980 (55 percent) than at any other time, and the percent of adult lifetime spent as a parent has fallen even more. The largest declines have been in the proportion of lifetime spent as a parent of young children under 18 or under 5. These proportions have declined by about half and two-thirds, respectively, partly because parents live longer, but also because they choose to have fewer or no children. Time spent with spouse and children declined from 56 percent in 1800 to 43 percent of adult lifetime in 1980, down from the 1960 high of 62 percent.

We can speculate about the social changes that may be provoked by demographic changes. It would be foolish to exaggerate the consequences of mortality change, but it would also be foolish to ignore its possible impact. We offer three lines of speculation.

First, alteration in potential time in various family statuses may itself be one of the sources of demographic change. Fertility decline is usually considered the result of a fall in the *number* of children desired by the couple due to changes in the economy and increased expectation of child survival. An alternative explanation, however, would emphasize the possible effect of a perceived increase in the expected years of obligations to dependent children. If standards of child quality became more stringent, as some have argued (Aries 1962; Becker 1981), parents might base their fertility decisions not only on the number of surviving children they desire but also on the years they want to spend with obligations to children, especially at ages when they are likely to be at home.

Because of changes in fertility and marriage, current cohorts realize only some of the potential offered by mortality change for the expansion of life with a spouse, or with children at ages when they are likely to be at home. The baby boom appears to be a turning point. Low

mortality, relatively early and widespread marriage, relatively low divorce rates, and relatively high fertility all combined to increase the proportion of adult lifetime spent with a spouse and children well over the 1900 level. Subsequently, mortality continued to improve but marriage rates declined, divorce rates rose, and fertility dropped precipitously. It is as if having approached the full potential for family life inherent in low mortality, subsequent cohorts trimmed the sails sharply.

A second reaction to mortality change may be to shift some of the more costly and burdensome family obligations to the community. For example, except for the early childhood years, education has been almost entirely turned over to the public sector. The public sector also funds a substantial proportion of health care and an increasing proportion of the expenses of the elderly. The documentation of this shift has been a major theme in family history and family sociology (cf. Goode 1963), but it is usually linked to structural rather than demographic change. A better understanding of the demographic context, however, may offer a fuller understanding of this shift in obligations from family to community.

Just as the number of years with dependents, either children under 18 or parents over 65, have increased, so also have public expenditures increased for these groups. And just as years with parents over 65 have become greater than the years with children, so also have public expenditures for the elderly grown larger than expenditures for children. Preston (1984) shows that though public spending for both children and the elderly has increased, it has increased more for the elderly. Preston's evidence was for the decades following 1960, the years when the combined dependency burden on families was greater than it had ever been. Although mortality change is not the only factor relevant to this story, its effects should enhance our understanding of this aspect of social change. Evidence is more abundant and precise for recent decades, but we think it important to investigate whether the similar changes in the past had consequences similar to those Preston explicates.

Lastly, although some of the obligations associated with family membership and with family status have been persistent, others have been redefined. Davis and van den Oever (1982) have beautifully related demographic change to redefinition of sex roles. We think a similar process may have occurred with respect to family roles. The expectation that one will live with one's first spouse until death has certainly weakened, as has the expectation that mothers will spend time with young children, as measured by the rise in the labor force

participation rates of married women with husband present and with children under 18.

The sources of this redefinition are surely varied. The assumption by the public sector of fiscal responsibilities formerly reserved to the family may have had the consequence of altering the expectations and obligations of family members (Watkins 1985). In addition, an increasing attentiveness to individual as opposed to family claims seems evident both in attitudes and in behavior (Bellah et al. 1985; Goode 1984; Lesthaeghe 1983; Preston forthcoming), and it could be expected to affect marriage particularly (Swidler 1983). But just as mortality improvement may have stimulated demographic change and a shifting of responsibilities from family to community, so also family obligations may be redefined by the perception of the years left to live in that status. For example, although women would spend more years married under 1980 than 1900 demographic conditions, they may not spend these years in the same marriage. The view from the present forward to a long remaining life with a spouse may provoke a revision of what is owed to that spouse, or of what could be gained by a new contract negotiated under new conditions.

What will happen in the future? It is reasonable to expect some further mortality change. Since the improvements in infant and child survival will be relatively small, the effect of improved mortality on family status is likely to increase the years spent with very aged parents. The fiscal obligations for elderly parents are likely to be met even more by the public sector, for the reasons that Preston suggests—the voting power of those who are old, their children, and those who are not children but expect to be old themselves some day. It may be that future cohorts will be increasingly willing to take on family obligations. If they do not, the likelihood of a demographic response will likely be more limited in the future than in the past. The possibilities of children refusing obligations toward a living parent are constrained, but the possibilities of spouses refusing to assume the obligations of having children are increasingly attractive to many (Bloom and Pebley 1979). In the short run, we expect some increase in fertility, as younger women harken to the concerns about infertility that women now in their thirties express about delayed childbearing (Menken 1985). Over the long run, however, we expect fertility to remain low. A reduction from two to no children has a far greater effect on years spent with children than a decline in fertility from eight to two. Most women continue to report on surveys that they expect to bear at least one child, but it is also the case that

childbearing is increasingly seen as discretionary, and we expect this to be reflected in a higher proportion of childless women (Blake 1979; Thornton and Freedman 1982).

We also expect more vigorous debate on the appropriate allocation of financial support for dependent children between the family and the community. The relative deterioration of the standard of living of children following the divorce of their parents (cf. Weitzman 1985) can be expected to lead to further efforts to collect child support payments from the absent parent. On the other hand, if current low fertility persists after the baby boom passes out of the reproductive years, the United States will for the first time experience a negative rate of natural increase. Public concern for population extinction may then become as popular as concern about population explosion in the 1960s. In this case, we would expect increased pressure for pronatalist policies, and particularly for publicly subsidized day care.

Lastly, we expect the continued redefinition and blurring of family roles. Just as cohabitation smudges the distinction between married and unmarried, so also divorce blurs the distinction between single parents who are once married and those who are never married. Women in the workforce are no longer much more likely to be single, widowed, divorced, and/or childless than they are to be married with husband present and children under 18.

We are more certain of the demographic skeleton than of the flesh with which we have draped it. The results presented here have used the best available demographic data in conjunction with the power of simulation models to compensate for the lack of direct evidence on the family status of cohorts of women assumed to live under pretransition, transition, and posttransition demographic conditions in the United States. Though our discussion of the consequences of these changes is frankly speculative, we hope that we have demonstrated the need to pay more attention to changing time spent in various family statuses and how this is a potential source of societal change.

APPENDIX

The Model

Bongaarts (1984; forthcoming) extended Schoen's (1975) approach to marital status life tables to construct the more complex and more general family status life tables. Four marital statuses are distinguished: single, married, divorced, and widowed. Marital status change occurs at first marriage, divorce, a spouse's death, or remarriage; the probability of a change depends only on current marital status and age. At any point, women can become sterile and move from the fecund to the sterile state. Only married women who are fecund can have children. Their birth rates (or rates of parity transition) depend upon age

and parity. The survival of a child to each subsequent age of the mother depends upon the common level of mortality used for the woman, her husband, and children. The program tabulates the total number of children a woman has ever born and the number living, which can be subdivided by age of the child (e.g., under 5, under 18), sex, or residential status.

To bring in the parental generation, which is not simulated in the Bongaarts model, we assumed that all members of the cohort were born when their mothers were at the mean age of childbearing, that the age difference between parents was a constant, and that the mothers and fathers lived under the same mortality conditions as their daughters' generation. Time in various family statuses was calculated from the Bongaarts model's output of distributions by status reported at 5-year age intervals from 15 to 85.

Model schedules, which depend upon a limited set of input parameters, were used to generate the transition rates from each possible state. The model schedules employed and their required parameters are listed below. The parameter estimates used in the simulations shown in Table 2 are indicated by an asterisk; the remainder are given in Table A.1.

Mortality. Age-specific mortality rates for males and females are taken from the Coale, Demeny, and Vaughan (1983) West model life tables. Input parameters are the male and female life expectancies at birth(*).

Sterility onset. The age-specific risk of becoming sterile is derived from the age-specific proportions sterile estimated by Henry (1965).

First marriage. The age-specific risks of first marriage are derived from the Coale-McNeil (1972) marriage model. This model is estimated from three input parameters: the average age at first marriage (*), the initial age at marriage, and the proportion ever marrying(*).

Fertility. Three parameters are required: the total fertility rate (*), the degree of marital fertility control (as defined in the Coale and Trussell (1974) fertility model), and an index for the change in fertility with increasing parity.

Widowhood. The age-specific rate of widowhood is set equal to the mortality rate of males whose age is a predetermined number of years higher (or lower) than

that of their female spouses. This age difference is the same for all couples and is an input parameter(*).

Remarriage and divorce. Age-specific remarriage rates for widowed and divorced women and the age-specific divorce rates for married women are derived from standard schedules. These standards are set equal to the U.S. 1975 patterns estimated by Schoen (1983). The actual remarriage and divorce rates used in the family status life tables are calculated from these standards by multiplying by an index, chosen to result in the proportion of marriages ending in divorce and dissolutions ending in remarriage for the four historical dates. Three parameters are thus needed: the index of remarriage for divorced women, the index of remarriage for widowed women, and the index of divorce.

Information for estimating the required input parameters was obtained from various sources. Mortality estimates for 1900 were based on Preston and Haines (1984), and for 1800 on unpublished estimates provided by Fogel (personal communication) and his colleagues and drawn from their ongoing examination of historical mortality in the U.S. Parameter values for the Coale-McNeil marriage model for both 1800 and 1900 are based on Sanderson (1979), as are the total fertility rate and the index of marital fertility control. The age difference between spouses in 1800 was taken from Wells (1982), and for 1900 from Schoen et al. (1985); combined with the mortality schedule, it determines the age at widowhood. Parameters for 1960 and 1980 were taken from vital statistics, the U.S. Census, and other published sources. Following McCarthy et al. (1981) and Bloom and Pebley (1979), we used a lower value for the proportion ever married among women aged 45-49 in 1980 than that recorded in the census, since the later marriage of current young cohorts suggests a rise in the proportion never marrying. The index of parity progression trend was set at 1 for 1800 to reflect the absence of parity-specific control, and estimated for the other years. The index of divorce was defined to be 1.00 in 1975. It was lowered for the earlier years to reflect a very modest proportion ending in divorce and raised for 1980 to be consistent with 50 percent of marriages ending in divorce in 1980 (cf. Preston 1979). The index of remarriage was taken to be 1.00 in 1975 and assumed to be the same in 1800 and 1900, but slightly higher in 1960 and slightly lower in 1980.

Table A1. Additional Parameters

	Year			
	1800	1900	1960	1980
<i>First marriage (female)</i>				
Initial age ($A_{(0)}$)	14.00	14.00	14.00	14.50
<i>Fertility</i>				
Index of marital fertility control	0.00	.60	1.50	2.00
Index of parity progression trend	1.00	.75	.70	.50
<i>Divorce</i>				
Index of divorce	.04	.20	.44	1.10
<i>Remarriage</i>				
Index of remarriage after divorce	1.00	1.00	1.20	.94
Index of remarriage after widowhood	1.00	1.00	1.20	.79

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