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Women's Education and Family Behavior
Trends in Marriage, Divorce, and Fertility

Adam Isen and Betsey Stevenson

3.1 Introduction

The family is a constantly changing institution. In the last half century, marriage and fertility rates have fallen, divorce rates have risen (and subsequently fallen), and the character of marriage has changed. These developments have occurred in the wake of widespread social, legal, and technological changes that have impacted the incentives for individuals to form and invest in marriages and children. These changes have not impacted all families equally, and in this article, we investigate how family behavior has changed for men and women of different educational backgrounds.

To understand how these changes have impacted the incentives for people to form families, it is useful to start by understanding the gains from forming a family. Gary Becker's 1981 *Treatise on the Family* proposed an economic theory of families based on "production complementarities," in which husband and wife specialize in the market and domestic spheres, respectively, and hence, are more productive together than apart. Becker emphasized

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that families are production units that produce both goods in the house (like clean laundry and well-cared for children) and in the marketplace. By having one person specialize in domestic responsibilities (most often a wife as homemaker), while the other supports the spouse and children financially (typically a husband as breadwinner), couples are more efficient than singles.

This view of the family as a source of production efficiencies has become less relevant over time. The twentieth century brought the development of labor- and skill-saving technological progress in the home.[1] This technological change simplified clothes washing and drying, cooking (through the development of preprocessed foods and microwaves), dishwashing, and housecleaning. Technological progress also encouraged the shift from home production to purchasing items in the market through the development of cheaper mass-produced items like ready-made clothes. These changes have impacted home production through three channels: by making home production more efficient; by reducing the returns to specialized domestic skills as these technologies substitute capital for skilled labor; and by making market-produced goods a closer substitute for home-produced goods, which in turn makes market work a closer substitute for domestic work. While some of the effect of these changes was likely an increase in the amount and/or quality of home-produced goods and services (such as investing more in the care of children), overall time spent in home production fell. Moreover, there was a shift in home production away from specialists toward nonspecialists. Between 1965 and 2003, home production by women fell by twelve hours a week on average, while home production by men rose by four-and-a-half hours (Aguiar and Hurst 2007). In the wake of these changes, the production efficiencies realized by families have been eroded.

During this period, the costs of having such a specialist also rose. Women's increased control over fertility (allowing them to better time and plan pregnancies), their improved access to education, and a decline in labor market discrimination all led to higher market wages for women (Goldin and Katz 2002; Blau and Kahn 1997, 2000). These higher wages represent a greater opportunity cost for a couple contemplating a stay-at-home spouse. Further, changes in divorce law have made specialization in the home riskier (Stevenson 2007).

The declining value of production efficiencies from marriage decreases the value of marriage and, if this is the only relevant margin along which the value of family life is changing, it should lead to a decline in marriage rates overall. Indeed, Greenwood and Guner (2009) develop a model in which technological change in household production is used to explain the fall in marriage rates since World War II. However, the recent technological changes should not impact all women equally. The Beckerian model

1. For an overview of the research on these changes see Stevenson and Wolfers (2007).

of the family suggests that those best positioned to benefit from household specialization will gain the most from marriage and, therefore, be the most likely to marry. When many of the benefits of marriage arise from the greater efficiency achieved through household specialization, women who are uninterested in, or not well-suited for, specializing in home production will have fewer gains from marriage. Thus, these women will be less likely to find it in their interest to marry. This prediction is consistent with an empirical fact: college-educated women have historically been the least likely group of women to marry. The declining value of household specialization affects these women less, as they were less likely to enjoy the benefits in the past.

While the past several decades have witnessed a decline in marriage rates, it has been small relative to the large decline in specialized homemakers. In 1970, among women with children under the age of five, the majority, 70 percent, were out of the labor force—presumably full-time homemakers. In the ensuing decades, labor market participation became the norm for mothers with young children and only 36 percent were out of the labor force in 2007. In contrast, the decline in marriage was less dramatic: in 1970 94 percent of women had married by age forty, declining to 84 percent by 2007.[2]

One explanation for why marriage rates have not fallen further is that other dimensions of family life have become relatively more important and have also changed in absolute terms. Families have experienced an increase in leisure and consumption that has likely increased the benefits of shared public goods (Aguiar and Hurst 2007). Housing and health insurance costs, both important family public goods, have increased (Newhouse 1992; Glaeser, Gyourko, and Saks 2005). Moreover, there may be consumption and leisure complementarities that become more valuable as the time and money available to pursue consumption and leisure has risen. These changes in family life offer increased benefits from marriage, partly offsetting some of the decrease in the returns to specialization. Such changes in the returns to married life—from production efficiencies to consumption complementarities—should impact not only the probability that matches form, but the type of matches that form.

A shift from production-based marriage to consumption-based marriage should make marriage more appealing to those with more disposable income relative to those with less. Since personal and household income within a marriage is a bargained outcome reflecting the skills of each spouse and the preferences for home production and leisure, one would prefer to measure potential earnings, rather than actual earnings (Pollak 2005). A reasonable proxy for potential earnings is education and, as such, one would similarly

2. Sharper decreases in marriage rates are seen when one looks at younger women due to the rising age of first marriage. In 1970, 84 percent of twenty-five-year-olds had married, compared to 42 percent of twenty-five-year-olds in 2007.

predict that marriage should become more appealing to those with more education relative to those with less education among both men and women. In addition, there is an important gender shift occurring. While woman with more education are less likely to find the old specialization model of marriage useful, a modern marriage based on consumption complementarities is likely more enticing for educated women as the new model of marriage thrives when households have the time and resources to enjoy their lives. In contrast, less educated women have less to gain through household specialization in marriage today than in the past.

In addition to differences in the probability of ever marrying, there are differences by education in the optimal timing of first marriage. As Becker (1981) argued, those who plan to be specialist homemakers have an incentive to enter marriage early to begin to invest in their skills as a homemaker and reap the returns to specialization. Among women who do not plan to be household specialists, this incentive is not present. Indeed, it is likely that these women face an opposite incentive, to invest in their career before finding a spouse and children.

The hypothesis that the benefits of marriage are shifting from production efficiencies to consumption complementarities has a number of testable implications. The first implication is that marriage should become more common among those with more disposable income and/or more leisure time, relative to those with less. The second is that in a consumption-based model of marriage people will be more likely to marry someone with similar preferences, which will likely manifest itself as an increase in positive assortative mating along dimensions such as age, educational background, and occupation, as well as consumption and leisure preferences. The third is that, among couples without kids, their hours of work should become increasingly similar, as the value of an hour of leisure is greater when it is coordinated with one's spouse. Child care makes this coordination more complicated for those with children. Finally, similar (albeit oppositely signed) patterns should be seen for divorce, with divorce being less common among those who work similar hours, have more shared interests, and more disposable income (with which to enjoy consumption complementarities).

This chapter focuses on two of these implications by carefully documenting the changes over recent decades in family formation, dissolution, and expansion by education.[3] We show that while college-educated women used to be the least likely to marry, today they are about as likely as those without a college degree to marry. There are large racial differences in this trend: college-educated white women remain less likely to marry than those with

3. With regards to the second implication, see Schwartz and Mare (2005), who find an increase in educational assortative mating since 1960. See also Sweeney and Cancian (2004), who document an increase in earnings homogamy.

less education, while college-educated nonwhite women are the most likely to marry among nonwhites. This difference is due to the larger shift away from marriage among blacks, particularly among those with less education. College-educated whites and blacks have also become less likely to marry in recent decades; however, the downward shift has been less than that experienced by women with less education. Women of all educational backgrounds have delayed marriage, although the delay has been longer among the more highly educated.

Turning to the divorce rate, we show that it initially rose for all groups but has, in recent decades, dropped off more sharply among college graduates. Remarriage rates have fallen for everyone, and while the drop has been larger for those with less education, college-educated white women are still less likely to remarry than those with less education. Lastly, while trends in the average number of children ever born have been similar across groups, the delay in fertility is concentrated almost exclusively among women who have attended college.

The rest of the chapter is organized as follows: section 3.2 examines trends from the 1950s through 2007 in the timing and propensity to enter marriage by education. The patterns of marriage and the differences by education differ significantly by race, and thus, we will examine white and black women separately and will compare the patterns for both to the experiences of men. Section 3.3 turns to marital stability, examining divorce and remarriage rates for women and men, separately by race and education, while section 3.4 focuses on changes in fertility. Section 3.5 explores subjective well-being data and finds that there are important differences in marital and family happiness by education. Section 3.6 concludes with a discussion of the interpretation of the results, noting that many of the changes over time in family behavior by women's educational attainment may simply reflect the shift of many women into higher educational categories.

3.2 Marriage Patterns

In figure 3.1 we examine the proportion of women who have ever married, by age, among those with and without a college degree. Examining the most recent large-scale data—the 2007 American Community Survey—we see in the first panel of figure 3.1 that among white women, those with a college degree are less likely to have ever married and that this holds at every age. A very different pattern is seen for black women in the second panel, for whom marriage rates are highest for those with the most education after the early twenties. While previous research (Goldstein and Kenney 2001) had forecasted a demographic shift in marriage with college-educated women more likely to marry today than noncollege graduates, the gap has not closed as fast as predicted and the higher rates of marriage for college-educated

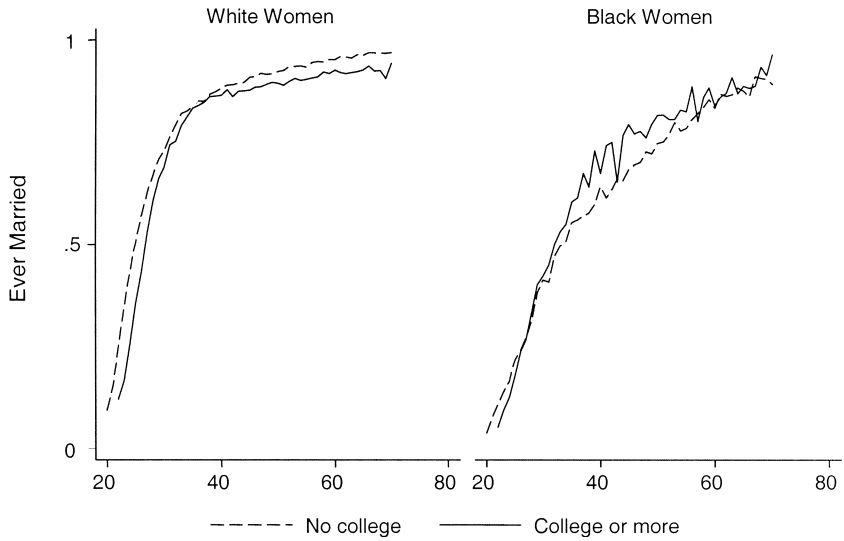

Fig. 3.1 Proportion of white and black women ever-married by age in 2007

Source: 2007 American Community Survey.

Notes: The percent who have ever married at each age are shown in the left and right panels for white and black women, respectively. Each panel shows ever-married rates separately for those with and without a college degree.

women born in 1950 to 1965 that they forecasted had not occurred by the time these women were forty years old.[4]

At the turn of the last century, women attended college at rates similar to that of men, yet few of these women ever married (Goldin, Katz, and Kuziemko 2006). Thirty percent of college-educated women born in the last twenty years of the nineteenth century remained unmarried at age fifty, a rate four times that of women without a college degree (Goldin 2004). While the marriage gap has clearly closed, the data in figure 3.1 point to the fact that for no generation of women have we witnessed a crossover in which college-educated white women are marrying at higher rates compared to white women with less education. Among forty-six- to sixty-year-old white women there is a fairly stable gap in which college-educated women are around 3 percentage points less likely to have married compared to women with less education. The stability of this gap among older women illustrates that the lower likelihood of college-educated women ever marrying persisted for some time, even as the number of women completing college was rising.

Among older women, the differences in ever-married rates are indicative

4. Martin (2004b), using more recent data also finds that the shift is taking longer than earlier forecasts had suggested but predicts that the crossover may occur for women born after 1965.

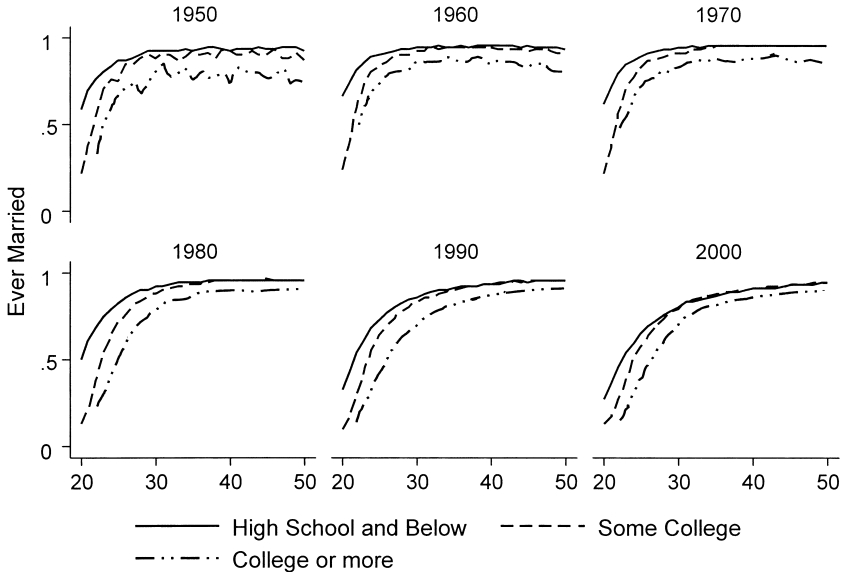

Fig. 3.2 Proportion of white women ever-married by age, 1950–2000

Source: 1950, 1960, 1970, 1980, 1990, and 2000 Censuses of Population.

Notes: Each panel shows the percent who have ever married at each age in a specific decade for those with high school or below, some college, or a college degree for white women.

of changing behavior across cohorts. Ever-married rates were falling slightly for all women in the birth cohorts from 1937 to 1961, while education was increasing rapidly.[5] Differences in the gap in marriage rates by education at younger ages reflect both changing behavior across cohorts and differences in the life cycle pattern of marriage by educational attainment.

Examining life cycle patterns of marriage by cohort reveals that the "marriage gap" between college-educated women and their less-educated counterparts has been shrinking for many generations. Figure 3.2 uses the decennial censuses of population from 1950 through to 2000 to show the evolution over time in both the marriage gap and the timing of first marriage by education for white women. For each decade, the percent of white women who have ever married is shown at each age for those with a high school degree or less and separately for those who attended some college, but did not receive a four-year college degree, and college graduates. In each decade white female college graduates are clearly less likely to ever marry compared to women with no or some college. The graphs show that between 1950 and

5. Goldin (2006) notes that the increase in women's college attendance and completion relative to men began with the birth cohorts of the late 1940s and that this is also the cohort for whom an inflection point in the growth in female enrollment in graduate programs is seen.

2000 marital behavior has changed for all groups both in terms of the timing of marriage in the life cycle and in the probability of ever marrying.

Women with a college degree increasingly delayed marriage to older ages both earlier, and to a greater extent, than women with either a high school degree or some college. The age at first marriage of female college graduates began to rise with those graduating in the late 1960s (Goldin 2004). In 1970, 74 percent of twenty-five-year-old college graduates had ever married; this compares to 53 percent, 43 percent, and 36 percent in 1980, 1990, and 2007, respectively. In contrast, the percent of twenty-five-year-old high school graduates who had ever married was 90 percent, 83 percent, 73 percent, and 52 percent in 1970, 1980, 1990, and 2007, respectively. Indeed, in the last seventeen years there has been a larger decrease in marriage among women in their early twenties with no college compared with previous decades, while the largest shift away from early marriage among college-educated women occurred between 1970 and 1980.[6] The pattern among women with some college has been similar to that of those with no college, although the shift toward later marriage happened a decade earlier for these women.

Overall, the increased delay in marriage is consistent with the changing incentives affecting individuals. Goldin and Katz (2002) demonstrate that the availability of the birth control pill enabled later marriages and greater labor force participation among college-educated women. The technological advance of the birth control pill was complemented by other technological changes that lowered the relative cost of maintaining a household as a single (Greenwood and Guner 2009) and reduced the value of specialization in the home. More recent increases in marital postponement among college-educated women likely reflect increasing returns to education and experience, both of which increase the incentives to postpone potential career disruptions. Finally, a shift toward spousal matching on consumption and leisure preferences may lead to greater heterogeneity in matching and thus an increased benefit of time spent searching.

The large gaps in marriage rates by education seen among women in their twenties dissipate by their thirties. To get a better understanding of marital outcomes it is useful to look at ever-married rates for women at older ages; as such, we turn to the end data points in figure 3.2, when the women are age fifty. For white women born in 1900, 76 percent of those who were college-educated women had ever married by age fifty.[7] In contrast, 90 percent of high school graduates in this cohort had married by age fifty.[8] Marriage rates for college-educated women grew rapidly for women born between 1900

6. Goldin (2006) finds similar movement in those years for college-educated women using the CPS Marital and Fertility Supplements.

7. This comes from the 1950 Census. By examining women at age fifty in each of the Censuses from 1950 to 2000, we are presenting ever-married rates (by age fifty) for the 1900 to 1950 birth cohorts.

8. As previously noted, women born two decades before were even less likely to marry and the gap between college-educated women and those without a college degree shrunk in the decades before the turn of the twentieth century (Goldin 1997).

and 1930 and by the 1980 Census, 91 percent of college-educated fifty-year-old women had married. During this period, marriage rates were also growing for women in this cohort with less education and ever-married rates hit 97 percent for those with a high school degree or less. Thus, between the 1950 and 1980 Censuses, the closing of the educational marriage gap for white women was driven by large increases in the marriage rates of college-educated women, much of which occurred at older ages.[9]

Since 1980, there has been little change in the likelihood that college graduates ultimately marry. Between 1980 and 2007 the percent ever-married fell by 4 and 2 percentage points among forty- and fifty-year-old college graduates, respectively. The fall in marriage among high school graduates was somewhat greater, with ever-married rates falling by 8 and 4 percentage points among forty- and fifty-year-olds, respectively. The ever-married rates of those with some college are similar to high school graduates. In sum, those with less education had larger relative declines in marriage between 1980 and 2007 and it is this relatively larger decline in marriage rates among those with less education that led to further decreases in the educational marriage gap since 1980.

Two facts seen in figure 3.2 are worth noting: among white women, while marriage rates have fallen overall in recent decades, they are still similar to that seen in the 1950s. Indeed, among those with a high school degree, by age forty, a greater percentage had entered into marriage in 2007 than had done so in 1950. A similar increase was also seen among women with some college and, as has already been noted, a large increase in marriage rates has occurred among women with a college degree. Marriage rates immediately following World War II were at a historic high, leading to historically high ever-married rates for women who were of marrying age during this period, and thus, high ever-married rates in the 1960 and 1970 Censuses (Stevenson and Wolfers 2007). The second fact is that between 1950 and 1980 the percent ever-married plateaued, and did so at a relatively early age. In contrast, between 1990 and 2007 ever-married rates continue to increase among women over the age of forty. While some of the upward age slope at older ages seen in figure 3.2 reflects the decline in marriage among more recent cohorts, marriage rates among older adults have risen in recent decades. For example, 93 percent of forty-year-old white women had married in 1990 and this had risen to 94 percent by age fifty in 2000 for this cohort. Thus, in the decade after age forty, 15 percent of those who had never married did so.

As previously discussed, the age of first marriage has risen for all white women, but markedly more for those with a college degree. In 2000, by age twenty-two, 50 percent of white women with less than a high school degree had married. In comparison, the 50 percent threshold was crossed at age twenty-three, twenty-four, and twenty-seven for those with a high school degree, some college, and a college-degree, respectively. While some

9. These facts are similar to those presented in Goldin (1997) and Goldin (2004).

education may occur later, an examination of marital history data suggests that these patterns hold even when education is measured at a later point in life.[10]

While white women with a college education are increasingly postponing marriage, as previously noted, they have also increased their likelihood of ever marrying. In contrast, women with less education are postponing marriage, albeit to a lesser extent, and, in recent decades, they have also become somewhat less likely to ever marry. What is less known is how much of this shift reflects the changes in the composition of women in each of the educational categories, a change in how educational attainment may impact the desire or value of marriage for these women, or a change in how educational attainment affects the attractiveness of women to men in the marriage market. We will return to these issues in section 3.6.

A different picture emerges when we examine marital trends among black women by education. Figure 3.3 shows the percent of black women by education who have married by each age across the decades.[11] The most striking fact is the large declines in marriage rates among black women of all educational backgrounds. While the ever-married rates of forty-year-old white female college graduates fell only 4 percentage points between 1980 and 2007, the fall among black female college graduates was 19 percentage points. Among high school graduates the ever-married rates of black women fell by 25 percentage points, compared to a fall of 8 percentage points among whites. Moreover, black women who have not married by age forty have a smaller probability of marrying in the ensuing decade compared to white women in their cohort. In 1990, 82 percent of black women had married by age forty. Ten years later, we see that 83 percent of fifty-year-old black women have married—a closure of the never-married rate of about 10 percent.

In the 1960s through to the 1980s, black women with any college education married later than those with no college. However, after accounting for differences in the age of first marriage, black female college graduates have historically been as likely to marry as black women with less education. By 1990, black women with any college education had become more likely to ever marry compared with those with no college, and this trend has continued. As with white women, the decrease in marriage rates was lower among college-educated black women. These shifts have led to a positive gap in

10. Since most people who will complete college have done so by their late twenties, we examine twenty-eight- to thirty-year-old women in the 2004 SIPP, an age group that allows the most comparability with those in the 2000 Census. For these women, the age at which 50 percent had entered a first marriage was twenty-three, twenty-three, twenty-four, and twenty-six, for women with less than high school, high school, some college, and college, respectively.

11. The panel begins in 1960 for blacks because there are too few African Americans with education beyond high school in 1950 to generate meaningful estimates. In the 1950 Census only 2 percent of eighteen- to fifty-year-old black women had any education beyond high school; by 1960, the proportion had tripled to 6 percent.

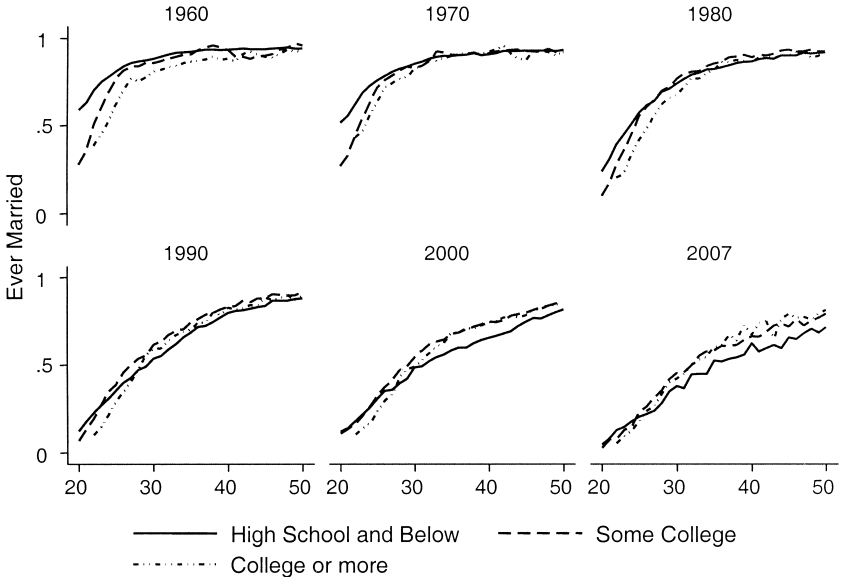

Fig. 3.3 Proportion of black women ever-married by age, 1960–2007

Source: 1960, 1970, 1980, 1990, and 2000 Censuses of Population and the 2007 American Community Survey.

Notes: Each panel shows the percent who have ever married at each age in a specific year for black women with high school or below, some college, or a college degree. Because of small sample sizes a three-year moving average centered at each age is used for 1960 and 1970.

which college-educated black women are more likely to marry compared to black women with less education.

Turning to men, we see smaller differences in marital formation behavior by educational backgrounds than is seen for women. Figures 3.4 and 3.5 show ever-married rates by age and education for white and black men, respectively, from 1960 through 2007. As with women, men with more education tend to marry at later ages and the age of first marriage has been rising for all men. Among white men, there have historically been few differences in the eventual likelihood of marrying by educational attainment. However, between 1990 and 2007, male college graduates became slightly more likely than those with less education to ever marry and, as with women, this change has arisen because of overall declines in marriage that have been sharpest for those with the least education.

A similar pattern is seen among black men, although the timing differs by several decades and, as with black women, there have been much steeper declines in marriage among blacks regardless of education. Starting in 1980, black male college graduates became more likely than black high school graduates to ever marry. This gap widened in the ensuing decades, a pattern that, as with whites, largely reflects bigger declines in marriage among those

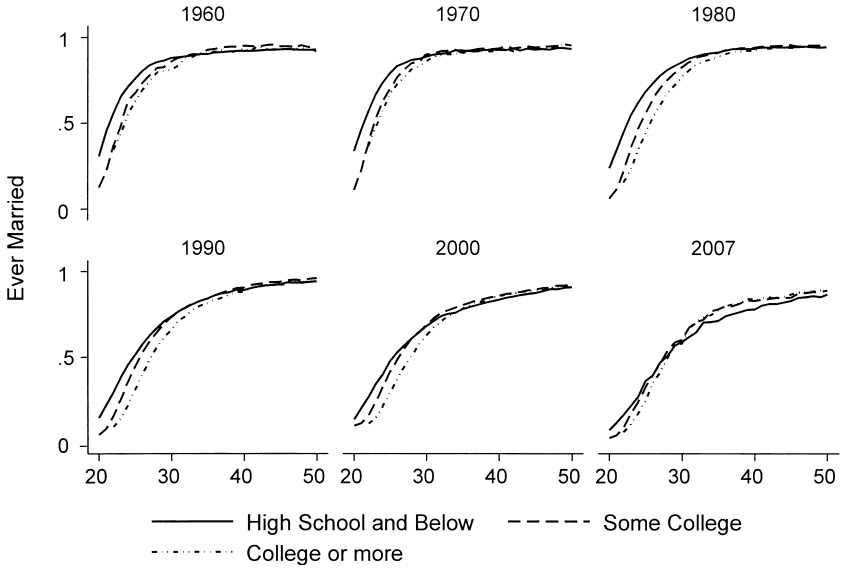

Fig. 3.4 Proportion of white men ever-married by age, 1960–2007

Source: 1960, 1970, 1980, 1990, and 2000 Censuses of Population and the 2007 American Community Survey.

Notes: Each panel shows the percent who have ever married at each age in a specific year for white men with high school or below, some college, or a college degree.

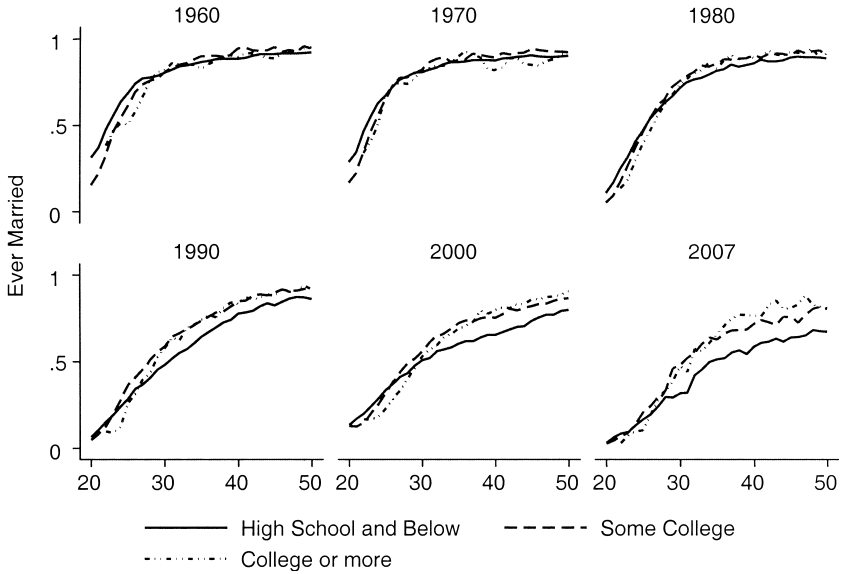

Fig. 3.5 Proportion of black men ever-married by age, 1960–2007

Source: 1960, 1970, 1980, 1990, and 2000 Censuses of Population and the 2007 American Community Survey.

Notes: Each panel shows the percent who have ever married at each age in a specific year for black men with high school or below, some college, or a college degree. Because of small sample sizes a three-year moving average centered at each age is used in 1960 and 1970.

with less education. In 2007, college-educated black men in their forties were 5 percentage points less likely to have ever married, compared with college-educated white men, yet they were more likely to have married compared to black men with less education or compared to black women of any educational background. Thus, college-educated men remain the most likely to marry among blacks.

In summary, for both men and women, marriage rates have declined since the 1980s among people of all educational backgrounds. However, these declines have been steeper among those with less education. Because college-educated white women had historically been less likely to marry, these shifts in marital behavior have led to a closing of the education gap in marriage for white women and there has been little difference by education in the likelihood of a woman marrying during her lifetime for recent generations. Among white men, a small gap has emerged in recent years in which those who attend college are more likely to marry than are those who do not.

Among blacks, the decline in the proportion marrying began in the 1950s. Between 1950 and 1980, the proportion of blacks who had married by the end of their thirties fell for all education groups, while the marriage rate rose for all whites. These different trends reversed the racial trends in marriage, opening a new gap in which whites were more likely to marry than were blacks. In the ensuing period the declines in marriage have been most stark among blacks and a wide gap has opened in marriage rates by race. Additionally, there are now large differences in marriage by education among both black men and women in which those with more education have become more likely to marry.

3.3 Marital Stability

Divorce rates rose for much of the twentieth century, reaching a peak in 1979 and falling thereafter (Stevenson and Wolfers 2007). One explanation for the high divorce rates of the 1970s may be that this period reflected a transition, with many having married the right partner for the old specialization model of marriage, only to find that pairing inadequate for the modern consumption-based marriage (Stevenson and Wolfers 2008a). As such, it is perhaps not surprising that current divorce rates are similar to those witnessed at the end of the 1960s. This fall in divorce rates is seen whether divorces are measured relative to the population or the stock of married people. Moreover, examining individual marriages, those who have married in recent years have been more likely to stay together than their parents' generation (Stevenson and Wolfers 2008b).

These patterns have not, however, occurred equally among those with more and less education. We examine the trends in divorce using the marital histories collected in the 2004 Survey of Income and Program Participation (SIPP). In general, divorce rates are lowest among those with a college degree, are the highest for those with some college, while those with a

high school degree or below have divorce rates that fall in between the two groups.[12] The fact that it is those with "some college" that are the most at risk of divorce illustrates the potential role of selection in explaining why marital and divorce outcomes differ by educational attainment. Those with "some college" have either attended a two-year program or have failed to complete a four-year program.[13] As such, those with some college disproportionately represent those without the stamina or resources to complete their education. It is perhaps not surprising that this group would have similar difficulties maintaining their marriage.[14]

The inverted u-pattern of divorce rates by educational attainment is seen for both men and women and for both blacks and whites, across most decades. However, the magnitude of the differences in divorce by education has changed over time. Divorce rates rose during the 1960s and 1970s and couples who married during this time period experienced more marital dissolutions when compared to the men and women who married in the 1950s. The rise in divorce culminated in smaller differences by education in divorce rates twenty-five years post-marriage for those marrying in the 1970s. Among white men and women with a high school degree or less, 43 percent and 42 percent, respectively, of their marriages had ended within twenty-five years. For those with a college degree, 41 percent of women and 37 percent of men had divorced, and for those with some college, the percent divorcing hit the 50 percent mark for women and was just below—48 percent—for men.

These patterns can be seen in figures 3.6 and 3.7, which show the proportion of women's and men's first marriages, respectively, ending in divorce by cohort, educational attainment, and race.[15] The top row of each figure shows the divorce hazard for blacks, while the bottom row shows the divorce hazard for whites.[16] In addition, table 3.1 reports the percent of women and men who have divorced following ten and twenty years of marriage.

12. Several recent papers using different data sets have examined marital dissolution by education and also find a trend in lower divorce rates among college graduates (Raley and Bumpass 2003; Sweeney and Phillips 2004; and Martin 2006).

13. Among adults in the 2000 Census, around 78 percent of those with some college had received no degree.

14. For a similar argument, see Glick (1957).

15. Divorce is measured using retrospective marital histories from the 2004 SIPP in which individuals report the year of their first marriage and, if that marriage has ended by divorce, the year that the divorce occurred. In addition, individuals report the year of death if their marriage ended via their spouse's death (deaths that occur after a divorce are not reported). Marriages that end through the death of a spouse, and for which no divorce occurred, are included in the denominator. Excluding these marriages from the analysis has little effect on divorce rates in the first twenty years of marriage and raises divorce rates at twenty-five years post-marriage by a few percentage points. The reason for including these marriages is that excluding them mechanically raises the divorce rate as people age, since all marriages must end either through death or divorce.

16. We concentrate on first marriages so that the divorce hazards reflect the average person's experience rather than the average marital experience. The patterns are similar for second marriage, although second marriages are more likely to end in divorce.

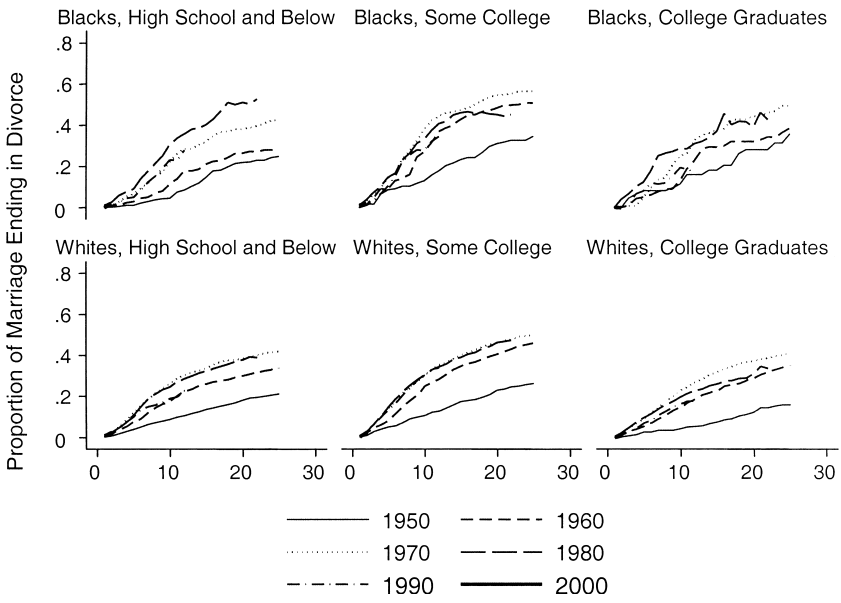

Fig. 3.6 First marriages of women ending in divorce, by year of marriage

Source: 2004 Survey of Income and Program Participation. Data are from marital histories in which respondents report the year a marriage began and, if it ended by divorce, the year the divorce occurred.

Notes: Each panel reports the proportion of women's first marriages ending in divorce at each year since the marriage occurred for six decadal cohorts. Cohorts are formed based on the year of marriage.

The divorce experience subsequent to the overall rise in divorce among those marrying in the 1970s has differed by education. For college graduates, the cohort marrying in the 1970s was the most likely to divorce. Subsequent cohorts of college graduates have had greater stability in their marriages. Marriages of college graduates that began in the 1980s have been less likely to end in divorce than those that began in the 1970s, and those that began in the 1990s were even less likely to do so.

Table 3.1 illustrates these trends by showing the percent divorcing within ten and twenty years of marriage. Among those marrying in the 1950s, only 12 percent of the marriages of white female college graduates and 17 percent of those of white male college graduates ended by divorce within the first twenty years of marriage. For those marrying in the 1960s, the dissolution rates had roughly doubled. They rose even further for those marrying in the 1970s, with 37 percent and 34 percent of the marriages of female and male college graduates ending within twenty years. The trend reversed after the 1970s cohort, and, among those marrying in the 1980s, the divorce rates of this marriage cohort had fallen back to rates similar to those experienced by the 1960s marriage cohort. For more recent cohorts, it is only possible to assess their marital dissolution rates earlier in marriage, but, in the first

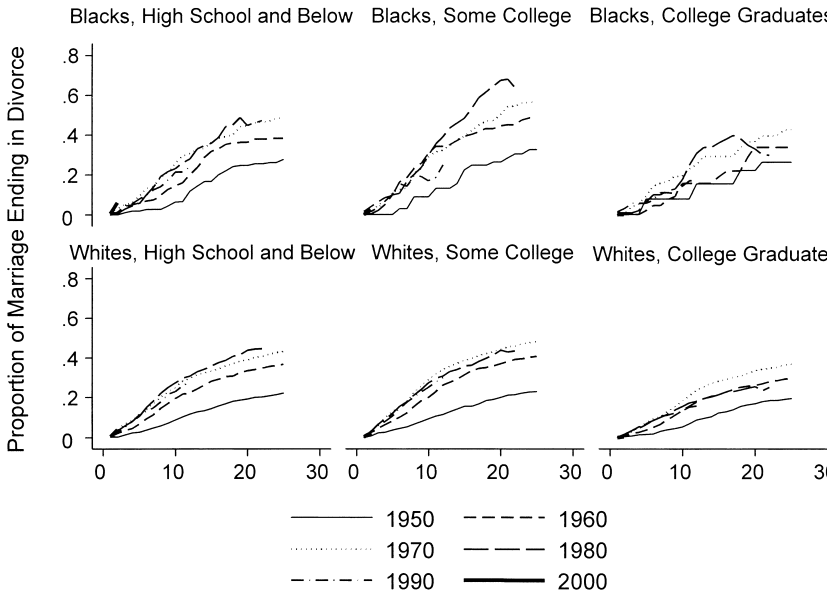

Fig. 3.7 First marriages of men ending in divorce, by year of marriage

Source: 2004 Survey of Income and Program Participation. Data are from marital histories in which respondents report the year a marriage began and, if it ended by divorce, the year the divorce occurred.

Notes: Each panel reports the proportion of men's first marriages ending in divorce at each year since the marriage occurred for six decadal cohorts. Cohorts are formed based on the year of marriage.

decade of marriage, divorce rates for those marrying in the 1990s were lower than those experienced by the previous cohort.

The experience of black college graduates is similar; however, the estimated divorce hazards for black college graduates are higher. Indeed, among all educational groups the estimated divorce rates are often higher among blacks. Yet, it is important to note that the much smaller sample size yields imprecise estimates. In nearly all cases the divorce rates of blacks are not statistically significantly different from those of whites.

Turning to those without a college degree we see that the high divorce rates experienced by those marrying in the 1970s continued for those marrying in the 1980s. Examining those marrying in the 1990s, it appears as if the divorce rates for those with less than a college degree have begun to fall with this most recent marriage cohort, particularly among those with a high school degree or less. Those with no college who married in the 1990s were about as likely to have made it to their tenth anniversary as were those who married in the 1960s. In contrast, among those with only some college, a statistically significant fall in divorce rates by the tenth anniversary occurred only among African American males.

Table 3.1 **Percent of marriages ending in divorce within ten and twenty years of marriage**

	Divorced by 10 years following marriage				Divorced by 20 years following marriage			
	White		Black		White		Black	
Education	Women (1)	Men (2)	Women (3)	Men (4)	Women (5)	Men (6)	Women (7)	Men (8)
				1950				
College	4	5	11	8	12	17	28	22
	(1.2)	(1.1)	(4.7)	(7.6)	(1.8)	(1.8)	(7.5)	(11)
Some college	11	9	13	9	23	20	31	26
	(1.1)	(1.2)	(4.0)	(5.4)	(1.6)	(1.8)	(5.4)	(7.4)
High school or less	9	9	4	6	18	19	22	25
	(.7)	(.9)	(1.2)	(2.4)	(1.0)	(1.3)	(3.1)	(4.2)
				1960				
College	15	13	13	16	29	26	32	34
	(1.4)	(1.2)	(4.4)	(6.5)	(1.7)	(1.6)	(6.4)	(9.5)
Some college	25	20	27	31	41	37	48	44
	(1.3)	(1.3)	(4.2)	(5.3)	(1.5)	(1.6)	(4.6)	(5.5)
High school or less	18	20	11	14	30	34	27	36
	(1.0)	(1.2)	(2.1)	(2.9)	(1.2)	(1.5)	(3.1)	(4.0)
				1970				
College	23	18	25	19	37	34	44	36
	(1.4)	(1.2)	(5.2)	(5.4)	(1.6)	(1.5)	(5.9)	(6.9)
Some college	30	29	38	29	46	44	54	50
	(1.2)	(1.3)	(3.4)	(4.1)	(1.3)	(1.4)	(3.5)	(4.4)
High school or less	26	25	22	26	39	39	38	45
	(1.1)	(1.1)	(2.9)	(3.5)	(1.3)	(1.4)	(3.5)	(3.9)
				1980				
College	20	15	29	17	31	25	39	33
	(1.2)	(1.1)	(5.7)	(4.9)	(2.0)	(1.9)	(8.5)	(8.5)
Some college	30	27	33	30	46	44	45	67
	(1.1)	(1.2)	(3.2)	(3.7)	(1.7)	(2.0)	(4.8)	(5.3)
High school or less	25	27	31	23	38	44	51	45
	(1.1)	(1.2)	(3.6)	(3.1)	(1.8)	(1.9)	(5.8)	(5.4)
				1990				
College	16	13	19	14				
	(1.5)	(1.4)	(5.0)	(5.6)				
Some college	31	25	28	17				
	(1.7)	(1.7)	(3.9)	(4.0)				
High school or less	19	23	23	21				
	(1.5)	(1.6)	(4.4)	(5.1)				

Source: 2004 Survey of Income and Program Participation.

Notes: Divorce rates are measured from marital history reports and include all marriages that formed during the decade under consideration. Marriages that end by the death of one spouse are included in the denominator. Standard errors are in parentheses.

While forecasting divorce rates is tricky, the data point to divorce happening earlier in marriage among more recent cohorts. Across all education groups, the divorce rate in the first five years has been little changed since the 1970s, even when the divorce rate at ten or twenty years has fallen. This pattern suggests that divorces that do happen are increasingly happening earlier in the marriage. This shift toward divorce earlier in marriage has been even more pronounced among those with a high school degree or less. Thus, differences in marital survival by education in recent decades are more extreme when looking at only the first decade of a marriage. Therefore, the early signs of further falls in divorce for those marrying in the 1990s are suggestive of greater declines in divorce rates in the coming decade for this group.

In sum, both men and women with a college degree have been consistently less likely to divorce and have also experienced a larger decline in divorce probabilities in the last few decades.

3.4 Remarriage

The high divorce rates of the 1970s and the increasing age of first marriage both contribute to thicker remarriage markets. As such, one might suspect that remarriage rates would have risen over time. What we see instead is that remarriage rates have fallen over time for all groups of women. Figures 3.8 and 3.9 show remarriage hazards among divorced white and black women, respectively.[17] The percent who have remarried is shown for each year post-divorce for women by their educational attainment.

In 1971, the majority of divorced women had remarried within five years following a divorce. Among whites, college-educated women were the least likely to remarry with only two-thirds remarried ten years post-divorce, compared with three-quarters of those with a high school degree or less. In contrast, there was little difference in remarriage rates among black women of differing educational backgrounds, with around 70 percent of all black women having remarried within ten years of a divorce. The 1980 sample shows a retreat from remarriage that is most pronounced among black women with a high school degree or less and among white women with a college degree. Ten years post-marriage, only 55 percent and 58 percent of these two groups had remarried. The percent of white women with a high school degree or less who had remarried after ten years was only 2 percentage points lower than that seen in the 1971 sample, while the percent of college-educated white women had fallen 7 percentage points.

In 1995, remarriage rates are somewhat higher among whites and are similar to those seen in 1971. Remarriage rates for all educational groups

17. Remarriage rates are calculated from marital histories collected in 1971, 1980, and 1995 from the Current Population Survey (CPS) and in 2004 from the SIPP.

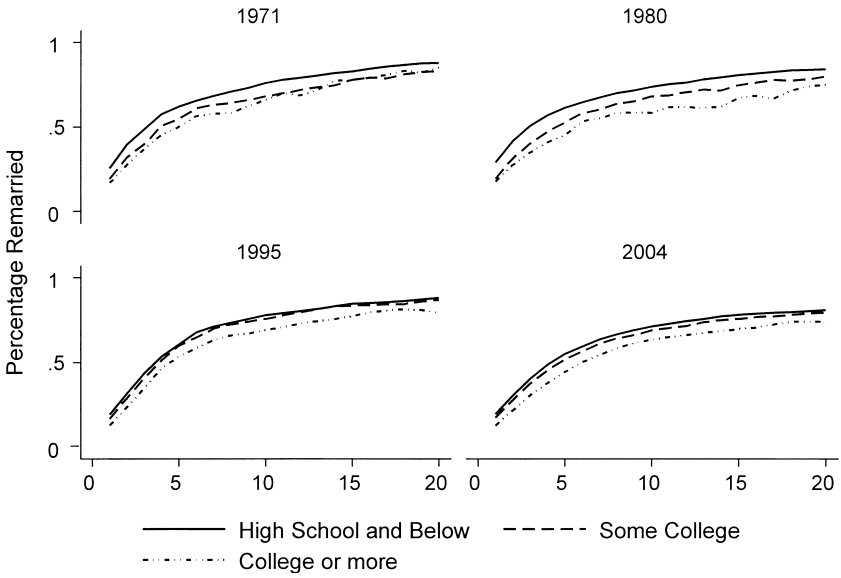

Fig. 3.8 Proportion of white women remarried by years since divorce 1971–2004

Sources: Current Population Survey (June 1971, 1980, and 1995) and Survey of Income and Program Participation (2004). Data are based on reports of marital history.

Notes: Each panel reports the proportion of white women who experienced a divorce who had remarried for each year since divorce separately by education.

of white women are, however, lower in the 2004 sample. Turning to black women, a different picture emerges. The fall in remarriage among black women has been greater and was most pronounced in the 1980 sample among those with a high school degree or below. As such, in 1980 these less educated black women were the least likely to remarry. The fall in remarriage among black women has continued in the 1995 and 2004 samples and the differences by education have largely been eroded. By the 2004 sample, it is ten years post-marriage before the majority of black women have remarried.

Figure 3.10 shows that a similar decrease in remarriage has occurred among both white and black men of all educational groups. However, remarriage is more common among men than among women and, unlike women, remarriage rates rise with education among both black and white men.[18] In 1971, 85 percent of white, and 87 percent of black, college-educated men had remarried within ten years following a divorce. In 2004, these rates had fallen to 76 percent and 61 percent, respectively. Remarriage rates for those with a high school degree or below also fell, but to a lesser extent, thereby eroding some of the remarriage gap by education.

18. See also Bumpass, Sweet, and Martin (1990), who note this phenomenon when examining the 1980 and 1985 CPS.

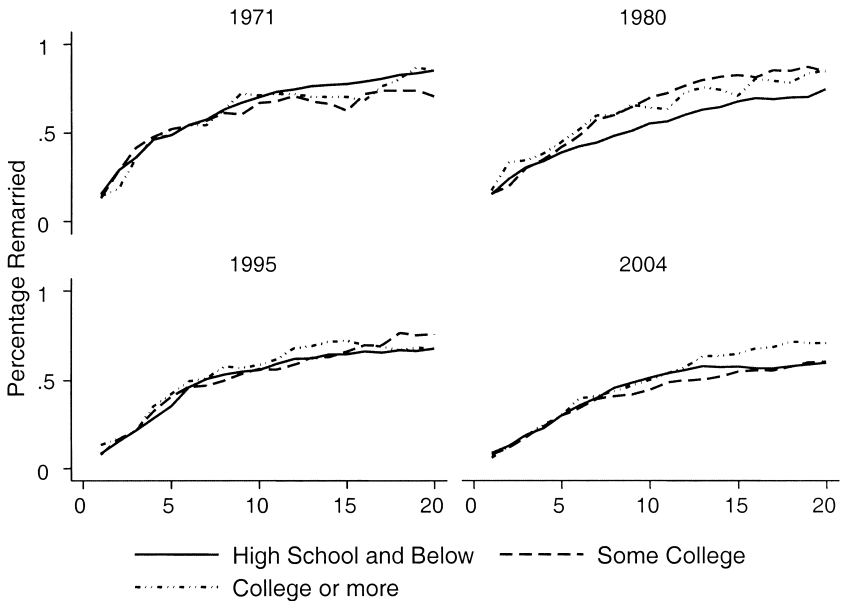

Fig. 3.9 Proportion of black women remarried by years since divorce 1971–2004

Sources: Current Population Survey (June 1971, 1980, and 1995) and Survey of Income and Program Participation (2004).

Notes: Each panel reports the proportion of white women who experienced a divorce who had remarried for each year since divorce separately by education.

Table 3.2 shows the decline over time in the likelihood of remarriage in a regression context, using alternative data sources.[19] The first column shows that remarriage rates have been lower in each survey wave we examine. In the second column we add controls for changes in first marriage behavior as measured by cohort and age of first marriage. These controls suggest that remarriage has fallen even more steeply over time. The next four columns examine the trends separately by race and sex. Since 1980, white men, the group most likely to remarry, have experienced sharper declines in remarriage compared to white women. However, the largest declines in remarriage have occurred among blacks. Both black men and women have become substantially less likely to remarry.

Some of the decline in remarriage may reflect couples cohabiting rather than remarrying. Remarriages are more likely than first marriages to be preceded by a period of cohabitation. In the 2000s, 75 percent of those entering a second or higher order marriage had cohabited prior to the marriage,

19. The regression analysis uses data from the 1970 and 1980 decennial Censuses and the 1991, 1992, 1993, and 2004 Panels of the SIPP. We turn to the SIPP beginning in 1991, as questions used to infer remarriage from the Census were discontinued after 1980.

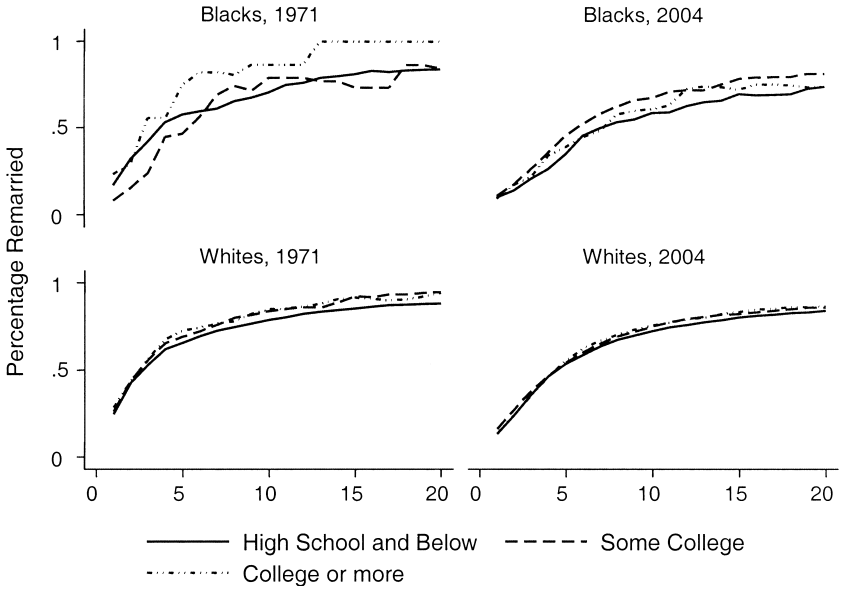

Fig. 3.10 Proportion of men remarried by years since divorce 1971–2004

Sources: Current Population Survey (June 1971) and Survey of Income and Program Participation (2004).

Notes: Each panel reports the proportion of white or black men who experienced a divorce who had remarried for each year since divorce separately by education.

Table 3.2 Trends in remarriage

	Full sample		White women	Black women	White men	Black men
Regression coefficients	(1)	(2)	(3)	(4)	(5)	(6)
1980 dummy	–.074***	–.062***	–.054***	–.139***	–.050***	–.104***
	(.001)	(.002)	(.002)	(.005)	(.002)	(.005)
1990 dummy	–.086***	–.094***	–.068***	–.220***	–.105***	–.159***
	(.004)	(.004)	(.005)	(.015)	(006)	(.021)
2004 dummy	–.105***	–.135***	–.087***	–.256***	–.167***	–.261***
	(.004)	(.004)	(.006)	(.016)	(.007)	(.021)
Age at marriage		–.012***	–.017***	–.010***	–.016***	–.009***
		(.001)	(.000)	(.001)	(.001)	(.001)
Age		.007***	.006***	.011***	.009***	.009***
		(.001)	(.001)	(.001)	(.001)	(.001)
Sample size	1,503,866	1,503,866	698,836	96,519	590,483	71,772

Sources: Census of Population 1970 and 1980. Survey of Income and Program Participation 1991, 1992, 1993, and 2004. Marginal effects reported.

Note: Probit regression dependent variable: Remarried. Robust standard errors in parentheses.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

while 59 percent of those entering a first marriage had done so (Stevenson and Wolfers 2007). Additionally, the thicker matching market may lead to an increased duration of search by increasing the option value of continued search and/or by increasing one's utility while single (aside from the potential to meet mates, being single may be more enjoyable when there are lots of singles in one's age bracket).

While remarriage rates have fallen overall, the pattern of remarriage by education has not changed. Remarriage among white women falls with educational attainment, while there are little differences in remarriage by education among black women. Among men, remarriage rises with education. These patterns are similar to what we see when examining first marriages, with the exception that college-educated white women remain much less likely to remarry compared to those with less education. Unlike the education gap in first marriages, the remarriage gap by education has not closed in recent years.

One explanation for this may lie in the changing patterns of first marriage. Table 3.3 shows that a college degree is associated with a lower likelihood of having remarried among white women in the 2004 SIPP. However, adding controls for length of marriage and years since the divorce reduces the coefficient on the college indicator variable, and adding a control for the age at marriage attenuates the coefficient further. In recent years more highly educated women have tended to marry later and have longer duration marriages. It is these differences in the patterns of first marriage that explain much of the recent differences in remarriage rates by education among white women. However, this is not the case in earlier periods. Examining remarriage in the 1971, 1980, and 1995 Current Population Survey (CPS) marital

Table 3.3 Education and remarriage

	2004 SIPP			1995 CPS	1980 CPS	1971 CPS
Regression coefficients	(1)	(2)	(3)	(4)	(5)	(6)
College dummy	–.078***	–.032**	0.025	0.005	–0.039*	–.095***
	(0.015)**	(.015)	(0.015)	(.016)	(.023)	(.030)
Yrs. since divorce		.016***	.014***	.023***	0.016***	.013***
		(.001)	(0.001)	(.001)	(.001)	(.001)
Length of marriage		–.015***	–.016***	–.014***	–.008***	–.009***
		(.001)	(.001)	(.001)	(.002)	(.001)
Age at marriage			–.028***	–.028***	–.028***	–0.012***
			(.002)	(0.002)	(.002)	(.003)
Sample size	8,319	8,319	8,319	8,851	7,303	5,252

Notes: Probit regression dependent variable: Remarried. Robust standard errors in parentheses. Marginal effects reported. The 1971 CPS survey only asked about the first and most recent marriage. If individuals are married three or more times, their second marriage is assumed to begin halfway between the end of their first marriage and the beginning of their latest marriage.

history supplements, columns (4) through (6) show that college-educated women in the 1971 and 1980 samples were less likely to remarry even once controls are added for timing of their first marriage. In 1995, however, this difference by education was, as in 2004, explained by the patterns of first marriage. Remarriage has thus largely followed the patterns seen in first marriage, with remarriage rates falling over time and a closing over time of the education gap among white women.

3.5 Fertility

Fertility declines starkly as maternal education rises and the educational differences have not changed despite enormous increases in the educational attainment of women. Figure 3.11 shows the number of children in the household from 1950 to 2007 for white women by age and level of education. As with marriage, these graphs show both differences in fertility timing and changes in fertility across cohorts. In 1950, college graduates had the fewest number of children in the household at every point in the life cycle. However, in subsequent decades, the number of children in the homes of older women became greatest for college graduates—illustrating a shift toward later fer-

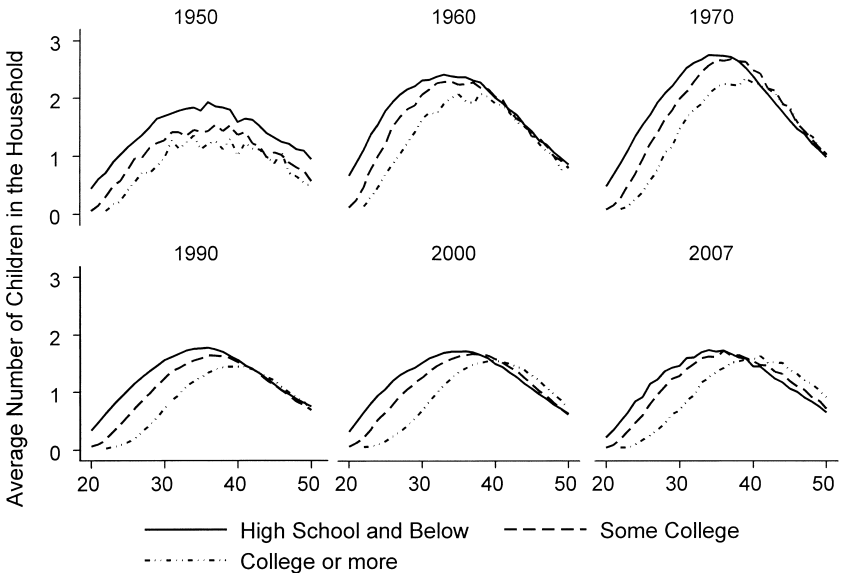

Fig. 3.11 Average number of children in the household by age (white women)

Sources: 1950, 1960, 1970, 1990, and 2000 Censuses of Population and 2007 American Community Survey.

Notes: Each panel shows the percent of white women with children in the household at each age in a specific decade for those with high school or below, some college, or a college degree for white women.

tility that has continued through to the present time.[20] In each successive Census there is a steady decrease in the probability that college-educated women have children in the home in their twenties and thirties. Since the 1970s, college graduates in their thirties have become more likely than they were in the past, and more likely than other women, to have children (Martin 2000). This rise in maternal age is also illustrated by the fact that the median age at which mothers with a college degree have an infant in the household has risen by four years over this period.

In contrast, there has been little increase in the likelihood that those with less education have children later in life and the age distribution of women with children in the home among those with a high school degree or less is little changed. This is further illustrated by the fact that there has been no change in the median age at which mothers without any college education have an infant in the household. Thus, the well-publicized delay in fertility has been occurring almost exclusively among women with more education.[21]

Figure 3.12 shows a similar pattern among black women. Ellwood and Jencks (2002) highlighted the fact that black women with less education have increasingly delayed marriage, yet have not delayed or reduced childbearing to the same extent. The result is a rise in out-of-wedlock births, which has happened for both black and white women with less education. As the ever-married rates of black women with no college fell by three times as much as the fall among white women with no college, the rise in out-of-wedlock childbirths has been greatest among black women with less education. Thus changes in marriage, not fertility, account for the rise in out-of-wedlock childbirth.

Greater access to education and higher potential wages, combined with improved control over fertility, has altered the incentives that women face. Birth control has lowered the cost of postponing pregnancy, while better human capital and market options and the rising returns to work experience have increased the opportunity cost of career disruptions, particularly in the early stages of one's career. That the delay has occurred most strongly among women at the top of the educational ladder point to the fact that these developments have most sharply affected those with more education. Although only suggestive evidence has been provided that the costs to fertility have risen over time (Loughran and Zissimopoulos 2007), Miller (2007) shows in a cross-section of women that delaying fertility increases lifetime

20. Completed fertility by birth cohort was calculated from the 1980 and 1990 Censuses. In the 1980 and 1990 Censuses children ever born peaked for forty-seven- and fifty-seven-year-old women, respectively, or those born in 1933. Among college-educated women, the peak occurred a few years earlier with the 1930 birth cohort (women who were ages fifty and sixty in the 1980 and 1990 Censuses, respectively).

21. Rindfuss, Morgan, and Offut (1996); Martin (2004a); and Yang and Morgan (2004) examine the issue through the early 1990s and similarly find a larger delay for more educated women.

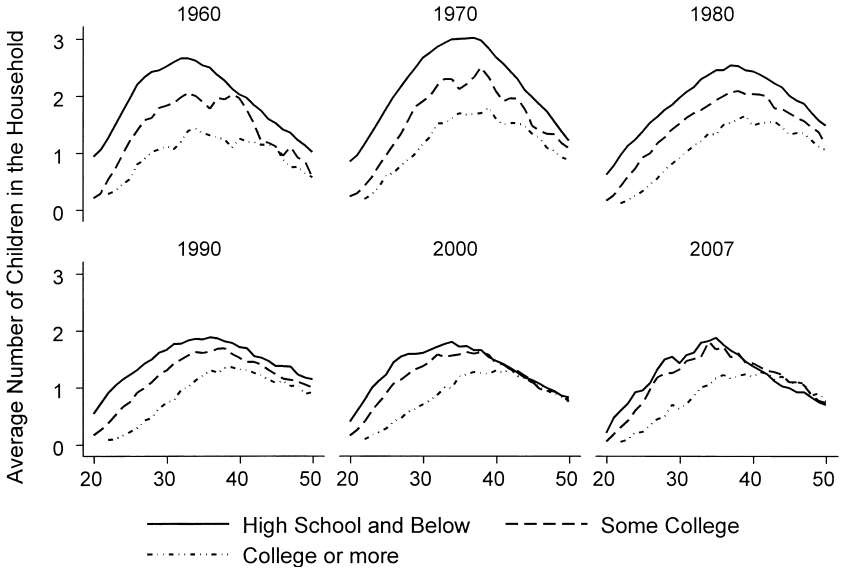

Fig. 3.12 Average number of children in the household by age (black women)

Sources: 1960, 1970, 1980, 1990, and 2000 Censuses of Population and 2007 American Community Survey.

Notes: Each panel shows the percent of black women with children in the household at each age in a specific decade for those with high school or below, some college, or a college degree for white women. Because of small sample sizes a three-year moving average centered at each age is used in 1960 and 1970.

earnings, and the gains are highest for college graduates. Further evidence comes from Goldin and Katz (2008), who examine the family and work behavior of multiple cohorts from Harvard/Radcliffe. Patterns for women from this selective institution, who tend to be more strongly tied to the labor market, indicate a much larger increase in fertility delay relative to other college graduates.

In addition to changes in the timing of fertility, total fertility has fallen steadily since the baby boom for white and black women of all educational backgrounds. Table 3.4 shows the number of children ever born to forty-five- to fifty-year-old women (a reasonable proxy for completed fertility) over the past five decades.[22] Despite changes in total fertility across the decades, the pattern of falling fertility with education is similar in all time periods for all women, and this is seen when examining the National Survey of Family Growth as well (Preston and Sten Harnett 2008)[23] College graduates have the

22. The Census stopped asking about children ever born after the 1990 Census and thus the most recent data come from the 2004 SIPP.

23. Goldin (2004) shows a similar pattern by education in the percent that never have children.

Table 3.4 Children ever born among forty-five- to fifty-year-old women

	College graduates	Some college	HS graduates	HS dropouts	All
White women					
1950	1.22	1.75	1.74	2.69	2.33
1960	1.50	1.81	1.84	2.50	2.18
1970	2.22	2.49	2.46	2.92	2.63
1980	2.40	2.90	2.92	3.39	2.99
1990	1.85	2.33	2.49	2.99	2.40
2004	1.56	1.90	1.97	2.86	1.91
Black women					
1950	1.73	1.99	2.13	2.76	2.67
1960	1.37	1.69	1.96	2.84	2.62
1970	1.80	2.32	2.64	3.49	3.19
1980	2.10	3.23	3.45	4.37	3.80
1990	1.89	2.54	2.85	3.63	2.92
2004	1.50	2.22	2.22	2.78	2.13

Sources: Census of Population (1950–1990) and Survey of Income and Program Participation (2004).

Notes: The "Children Ever Born" question was asked in 1950 and 1960 only of women who had ever married. To provide numbers that are representative of all women, the above statistics are constructed from the ever-married women of 1950 and 1960, and the never-married women aged sixty-five to seventy and fifty-five to sixty, respectively, from the 1970 Census. The number of never-married forty-five- to fifty-year-olds in 1950 and 1960 that had married by 1970 is negligible.

fewest children, followed by those with some college, then high school graduates, and finally high school dropouts have the greatest number of children. Fertility for all groups of forty-five- to fifty-year-olds rose between the 1950 and 1980 Censuses, and has decreased thereafter such that fertility rates in 2004 are similar, albeit slightly higher, to those seen in 1960 for each education group. However, total fertility has dropped throughout the period, as women's educational attainment has risen enormously with no subsequent erosion of the negative relationship between fertility and education.

3.6 Marital Happiness

Families have clearly changed their behavior in terms of formation, expansion (through children), and dissolution in a way that is correlated with education. Subjective well-being data can perhaps help us better understand more subtle differences in the family experience between people with differing educational backgrounds. Data from the General Social Survey (GSS) asks individuals how satisfied they are with their family life and how happy they are with their marriage as well as other attitudinal questions such as whether married people are happier than unmarried people. The GSS is a nationally representative sample of about 1,500 respondents each year from

1972 to 1993 (except 1992), and continues with around 3,000 respondents every second year from 1994 through to 2004, rising to 4,500 respondents in 2006. Analyzing these data, we quickly see that the perceived benefits of marriage differ by education. Nearly four times as many noncollege graduates as college graduates agree that "financial security is the main benefit of marriage," and are slightly more likely to agree that "children are the main purpose of marriage." Not surprisingly, those with a college degree are less likely to see "production complementarities" as the main benefit of marriage.

Turning to expectations of marital happiness, we see in table 3.5 that when people are asked generally whether they would agree with the statement that married people are happier than unmarried people (1988, 1994, and 2002), there is a clear trend, with fewer people agreeing over time. Consistent with the changing marital behavior patterns, college-educated women have become slightly more likely to believe that married people are happier; while women without a college degree have become substantially less likely to agree that married people are happier. Moreover, in 1988, women without a college degree were more likely than college graduates to agree that married people are happier and, by 2002, they were much less likely than college graduates to agree. A similar pattern has not occurred among men, rather both those with and without college degrees became less likely to agree over time. Despite this fall, men remain more likely than women to believe that married people are happier than unmarried people.

Turning to actual happiness in their marriage, tables 3.6 and 3.7 show that people with more education are happier in their marriages and with their family life, just as they are more likely to think that married people are

Table 3.5 **Trends in expectations regarding marriage and happiness: "Married people are generally happier than unmarried people?"**

	Women			Men		
	Agree	Disagree	Neither	Agree	Disagree	Neither
1988						
College graduate	47.4	11.1	41.6	62.2	5.6	32.2
Noncollege graduate	53.7	14.7	31.6	57.8	12.5	29.7
1994						
College graduate	46.6	17.8	35.6	57.8	8.0	34.2
Noncollege graduate	45.2	19.0	35.8	48.5	22.2	29.3
2002						
College graduate	50.7	19.5	29.9	47.9	18.8	33.3
Noncollege graduate	37.4	24.9	37.8	49.2	17.5	33.3

Notes: Data are from the General Social Survey in 1988, 1994, and 2002. The "Agree" category includes those that "strongly agree" and "agree," while the "Disagree" category includes those that "strongly disagree" and "disagree." The "Neither" category includes those who "can't choose" and those who "neither agree nor disagree."

happier than unmarried people. The college/noncollege differential is particularly stark for women. And as with expectations regarding the happiness of married people, the marital happiness data reveal that men are typically happier in their marriages than are women.

In table 3.6 we run ordered probits by gender on how happy respondents are with their marriage. College-educated white women have been consistently happier in their marriages, with no apparent time trend in these differences. However, the coefficient is reduced by 40 percent when we add

Table 3.6 **Trends in marital happiness**

	Women		Men	
Regression coefficients	(1)	(2)	(3)	(4)
College*white	.222***	.132***	.106***	.094***
	(.032)	(.037)	(.032)	(.035)
College*black	.004	–.105	–.015	–.034
	(.114)	(.117)	(.121)	(.121)
College*time trend	–0.004	–.001	.014***	.014***
	(.005)	(.005)	(.004)	(.004)
Time trend	–.005**	–.009***	–.009***	–.010***
	(.002)	(.003)	(.002)	(.003)
Black	–.379***	–.329***	–.364***	–.388***
	(.046)	(.048)	(.049)	(.051)
Controls		✓		✓
Percent very happy	White women	Black women	White men	Black men
College				
1970s	74	59	70	49
2000s	67	55	74	51
Noncollege				
1970s	66	46	70	55
2000s	59	55	63	54

Notes: Ordered probit regression dependent variable: "Taking things all together how would you describe your marriage?" [3] Very happy [2] Pretty happy [1] Not too happy. Sample size for women is 11,228 and for men is 10,111. Data are from the General Social Survey from 1973–2006. Robust standard errors in parentheses. "Employment status" includes indicators for full-time, part-time, temporary illness/vacation/strike, unemployed, retired, in school, keeping house, and other; "Income" is based on imputations of real family income, collapsed into indicator variables, one for each decile; "Children" includes indicator variables for the number of children ever born, up to eight; "Education" variables are coded the highest degree earned by the respondent, respondent's father, and respondent's mother, including separate variables for <high school, high school, associates/junior college, bachelor's, or graduate degrees; "Religion" includes separate indicators for Protestant, Catholic, Jewish, None, and Other; "Region" includes indicator variables for each of nine regions. Separate dummy variables are also included for missing values of each control variable. Check marks indicate that control variables are added to the regressions for columns (2) and (4).

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

controls, a reduction that is being driven by differences in the number of children, income, and parents' education. College-educated white men are also more likely to be happier in their marriage compared with noncollege-educated white men, and this difference increases over time. On the other hand, college-educated black men and women appear to be no happier in their marriages than are those without college degrees.

Table 3.7 explores how much satisfaction respondents get from their family life by education, again using ordered probits. We find that, as with marital satisfaction, college-educated white women consistently get more satisfaction from their family life, although the relationship is being driven solely by college-educated white women who were married at the time of their interview. Black college-educated women do not appear to get any more satisfaction than those with no college, and we can reject that the black-white college estimates are the same when controls are added. However, college-educated black and white men get more satisfaction at a marginally significant level without covariates, although no difference is found for men of either group when controls are added.

3.7 Discussion

This chapter has documented changes in the family experience for women and men at the bottom and top of the educational distribution by race. College-educated women born at the beginning of the last century were the women least likely to marry. As we enter the twenty-first century these women are poised to become the most likely to ever marry. This shift occurred in two stages. In the first stage, college-educated women had rapid increases in the probability of marrying. In the second stage, college-educated women had smaller falls in marriage compared to those with less education. Both of these stages have contributed to a closing of the marriage gap by education. Like women, male college graduates in the latter period had smaller falls in marriage compared to men with less education, opening a small marriage gap in which men with the most education have the greatest likelihood of marriage.

Since 1950 the percent of women earning college degrees has increased tremendously. This substantial increase in educational attainment, shown in table 3.8, might mean that compositional shifts explain the trends in family behavior by women's education. That is, it might be that the family behavior of the women who would have been in each educational group in an earlier period has not changed, but rather that recent cohorts of college graduates have expanded to include those with greater preferences for marriage. To look at the role of compositional changes we divided college graduates in 2007 into two groups. The first represents the proportion of women in 1950 who went to college—roughly 6 percent of women. This group was assigned the marriage rates of women who went to college in 1950. The second group—the remaining quarter of women who were college graduates in

Table 3.7 Trends in family satisfaction

	Women		Men	
Regression coefficients	(1)	(2)	(3)	(4)
College*white	.155***	–.064	.052*	–.082
	(.034)	(.058)	(.031)	(.061)
College*black	.150	.129	.221*	.227
	(.099)	(.131)	(.126)	(.166)
College*time trend	–.005	–.003	.003	–.003
	(.007)	(.007)	(.006)	(.006)
Black	–.336***	–.207***	–.258***	–.106**
	(.036)	(.040)	(.046)	(.051)
Time trend	.002	–.003	–.003	.000
	(.003)	(.004)	(.006)	(.004)
College*married*white		.258***		.073
		(.070)		(.070)
College*married*black		–.250		–.277
		(.193)		(.229)
Married		.403***		.933***
		(.030)		(.038)
Controls		✓		✓
Percent very great deal	White women	Black women	White men	Black men
College				
1970s	53	33	44	44
1990s	53	24	47	39
Noncollege				
1970s	45	32	41	32
1990s	46	28	40	31

Notes: Ordered probit regression dependent variable: "How much satisfaction do you get from your family life?" [7] A very great deal [6] A great deal [5] quite a bit [4] A fair amount [3] Some [2] A little [1] None. Sample size for women is 11,321 and for men is 8,699. Data are from the General Social Survey from 1973–1994. Robust standard errors in parentheses. "Employment status" includes indicators for full-time, part-time, temporary illness/vacation/strike, unemployed, retired, in school, keeping house, and other; "Income" is based on imputations of real family income, collapsed into indicator variables, one for each decile; "Children" includes indicator variables for the number of children ever born, up to eight; "Education" variables are coded the highest degree earned by the respondent, respondent's father, and respondent's mother, including separate variables for <high school, high school, associates/junior college, bachelor's, or graduate degrees; "Religion" includes separate indicators for Protestant, Catholic, Jewish, None, and Other; "Region" includes indicator variables for each of nine regions. Separate dummy variables are also included for missing values of each control variable. Check marks indicate that control variables are added to the regressions for columns (2) and (4).

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Table 3.8 **Educational attainment of women ages forty-five to fifty, by decade**

	College graduates	Some college	HS graduates	HS dropouts
White women				
1950	6	10	20	65
1960	7	11	27	56
1970	7	13	41	39
1980	11	16	44	29
1990	20	27	36	17
2000	30	33	28	9
2007	30	32	30	8
Black women				
1950	2	2	4	92
1960	3	4	9	84
1970	4	6	19	71
1980	8	13	29	51
1990	13	23	31	33
2000	18	33	30	20
2007	19	33	34	14

Notes: 1950–2000 data are from the Censuses of Population. The 2007 data are from the American Community Survey. Each cell represents the percent of white or black forty-five- to fifty-year-old women with that level of educational attainment.

2007—was assigned the marriage rates of women who did not go to college in 1950. For forty-five- to fifty-year-old women in 2007, this exercise replicates almost perfectly the actual percent that have ever married. A similar exercise shows that simple compositional shifts cannot, however, explain the trends in fertility.

However, Goldin (2004) notes that many of the trends in marital behavior among college-educated women can be seen when the group is limited to a particular college. For example, (Goldin and Katz 2008) find that men and women attending Harvard in the late 1960s and early 1970s experienced a divorce rate that was nearly twice that of those graduating two decades later. The divorce patterns seen among the Harvard graduates are similar to those seen when one examines college graduates in general.

The differences in marital behavior that we have documented yield very different marital experiences over the life cycle. The growing difference in the patterns of marriage entry for women of different educational backgrounds and race combined with different patterns in divorce and remarriage rates has led to stark differences in the probability of being married at specific ages. In figure 3.13, we show the percent of white and black women who are currently married by education. In 1960, college-educated women were less likely to be married at every age. Today, those without a college degree are the most likely to be married in their twenties, while those with a college degree are more likely to be married in their thirties and forties. These

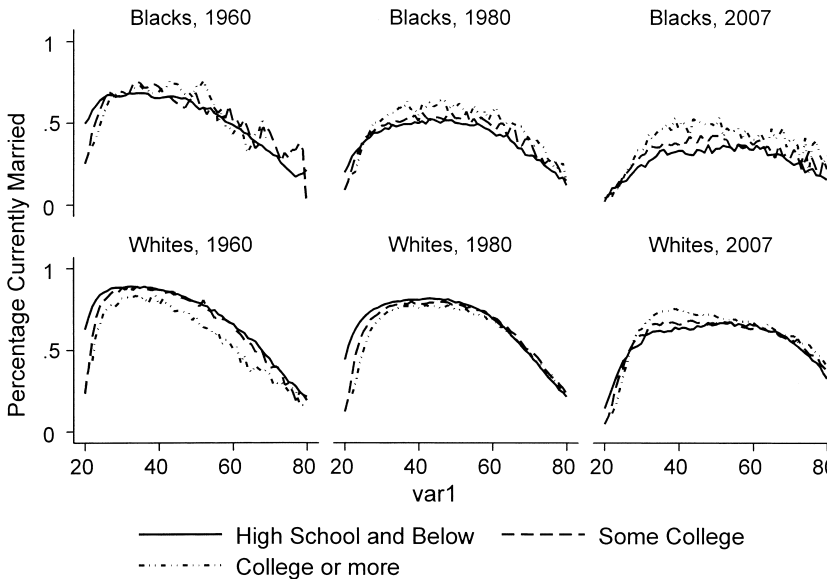

Fig. 3.13 Proportion of white and black women currently married

Sources: 1960 and 1980 Censuses of Population and 2007 American Community Survey.

Notes: Each panel shows the percent of white and black women who are currently married at each age in a specific decade for those with high school or below, some college, or a college degree for white women. Because of small sample sizes a three-year moving average centered at each age is used in 1960 for black women. The sample size for black college graduates aged seventy and older in 1960 is too small to warrant any form of inference and hence is excluded.

differences reflect the different patterns of age at marriage and the likelihood of divorce.

What is missing from our analysis is cohabitation. Unfortunately cohabitation data is relatively sparse and so does not lend itself easily to the long-run analysis that we pursue here. Yet it is likely that such an analysis would reveal that cohabitation cannot explain the entire decline in marriage and remarriage. Adults today are spending more time as singles. For college graduates those years tend to occur early in the life cycle, with most spending much of their twenties outside marriage, while those with less education are more likely to spend some of their thirties and forties outside of a marital relationship.

In 1981 Andrew Cherlin described the new typical life course as "marriage, divorce, remarriage." Today, marriage is happening later, divorce is less likely, and remarriage is less common. Moreover, the typical life pattern differs by race and education. Among college graduates the typical life pattern now involves a prolonged period of being single before entering marriage and having children. Divorce and remarriage are now experienced by a shrinking minority of the college-educated. Among those with no college, the typical life experience remains marriage, children, divorce, remarriage,

but is quickly shifting toward children, marriage, divorce, and a prolonged period of being single or cohabiting before remarriage.

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Comment Enrico Moretti

This chapter is motivated by the observation that, over the past several decades, there has been a marked decline in the value of production efficiencies

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