WOMEN'S EDUCATION AND FAMILY BEHAVIOR: TRENDS IN MARRIAGE, DIVORCE AND FERTILITY*

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Abstract

The production efficiencies of household specialization have declined with the development of technologies simplifying household production. Additionally, the opportunity cost of having a household specialist has risen as barriers to women in the workplace have been eroded. These developments, which have made way for an increase in the relative importance of the consumption benefits from marriage, have not impacted all families similarly. This paper examines how marital and fertility patterns have changed along racial and educational lines for men and women. Marriage and remarriage rates have risen for women with a college degree relative to women with fewer years of education, eroding a long-standing gap caused by greater marriage propensities among less educated women. In contrast, there has been little change in marital patterns by education for men. Divorce has been falling for all groups, but fell earlier and more sharply among college graduates. Fertility has historically declined with women's educational attainment and that pattern continues, with the total number of births having changed little by educational, despite the large increases in educational attainment for women. Women with more education have increasingly delayed their fertility, while there has been little change in fertility timing for those with less education.

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I. 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 similarly and, in this article, we investigate how family behavior has changed for men and women of different educational backgrounds.

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 that families are production units that produce both goods in the house (like clean laundry, 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. This technological change simplified clothes washing and drying, cooking (through the development of pre-processed 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. The first is by making home production more efficient. The second is by reducing the returns to specialized domestic skills as these technologies substitute capital for skilled labor. And the third is 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

non-specialists. Between 1965 and 2003 home production by women fell by 12 hours a week on average, while home production by men rose by 4.5 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 relative 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 (2008) develop a model in which technological change in household production is used to explain the fall in marriage rates since World War II. However, these technological changes should not impact all women equally. The Beckerian production efficiencies model 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. Many of the benefits of marriage arise from the greater efficiency achieved through household members specializing in either market or non-market work, then 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.

As the gains from household specialization fall, the benefits of marriage fall for all people, but there is also a decline in the relative advantage of marriage for women with less education (or more generally, women with fewer market skills). While the past several decades have witnessed a decline in marriage rates, it has been small relative to the large declines in specialized homemakers. In 1970, among women with children under the age of 5, the majority, 70%, 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% were

out of the labor force in 2007. In contrast, the decline in marriage was less dramatic: in 1970 94% of women had married by age 40, declining to 84% 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 loss of benefits stemming from the decrease in the returns to specialization. Such changes in the returns to married life should impact not only the probability that matches form, but the type of matches that form.

This hypothesis has a number of testable implications. This 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. 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. Childcare makes this coordination more complicated for those with children. And 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 paper focuses on the first and fourth implications by establishing the facts behind the changes over recent decades in family formation, dissolution, and expansion by education. 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

[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% of 25 year olds had married compared to 42% of 25 year olds in 2007.

this trend: college-educated white women remain less likely to marry than those with less education, while college-educated non-white women are the most likely to marry among non-whites. 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. The divorce rate initially rose for all groups but in recent decades has dropped off more sharply among college graduates. 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 paper is organized as follows: Section II examines trends from the 1950s through to 2007 in the timing and propensity to enter marriage among women with a high school degree or less, those with some college, and those with a college degree. 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 III turns to marital stability, examining divorce and remarriage rates for women and men, separately by race and education, while Section IV focuses on changes in fertility. Section V explores subjective well-being data and finds that there are important differences in marital and family happiness by education. Section VI 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.

II. Marriage Patterns

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 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. Several decades ago, a woman earning a graduate degree was unlikely to find the old specialization model of marriage to be useful, and many therefore chose to remain single. But 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.

In Figure 1 we start by examining 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 1 that among white women, those with a college-degree are less likely to have ever-married and that this holds at every age.[3] 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 20s, but are significantly lower than those of whites at most ages.

At the turn of the last century, women attend 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 20 years of the 19th century remained unmarried at age 50, a rate four times that of women without a college degree (Goldin, 2004). While the marriage gap has clearly closed, the data in Figure 1 point to the fact that for no generation of women have we witnessed a cross-over in which college-educated white women are marrying at higher rates

[3] Goldstein and Kenney 2001 forecast a demographic shift in marriage with college-educated women becoming more likely to marry today than at any other time in the. However, the gap has not closed as fast as predicted and the higher rates of marriage for college-educated women born in 1950-1965 that they had forecasted had yet to be seen by the time these women were at least 40 years old.

compared to white women with less education. For white women from ages 46 to 60 there is a fairly stable gap in which college-educated women are around 3 percentage points less likely to have ever-married compared with 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. The continued rise in ever-married rates with age for these cohorts are indicative of changing behavior across cohorts. During this period, representing birth cohorts from 1937 to 1961, ever-married rates were falling slightly for all women and education was increasing rapidly.[4] 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 counter-parts has been shrinking for many generations. Figure 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 college degree, and college graduates. In all decades 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 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% of 25 year old college graduates had ever-married; this compares to 53%, 43%, and 36% in 1980, 1990, and 2007 respectively. In contrast, the percent of 25 year old high school graduates who had ever-married was 90%, 83%, 73%, and 52% in 1970, 1980,

[4] 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.

1990, and 2007 respectively. Indeed, in the last 17 years there has been a larger decrease in marriage among women in their early 20s with no college compared with previous decades, while the largest shift away from early marriage among college-educated women occurred between 1970 and 1980.[5] 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 2008) 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 20s dissipate through the 30s. 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 2, when the women are age 50. For white women born in 1900, 76% of those who were college-educated women had ever-married by age 50.[6] In contrast, 90% of high school graduates in this cohort had married by age 50.[7] Marriage rates for college-educated women grew rapidly for women born between 1900 and 1930 and by the 1980 Census, 91% of the college-educated 50-year old women had married. During this period, marriage rates were also growing for women in this

[5] Goldin 2006 finds similar movement in those years for college educated women using the CPS Marital and Fertility Supplements.

[6] This comes from the 1950 census. By examining women at age 50 in each of the Censuses from 1950 to 2000, we are presenting ever-married rates (by age 50) for the 1900-1950 birth cohorts.

[7] 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 20th century (Goldin 1997).

cohort with less education and ever-married rates hit 97% for those with a high school degree or less. However, the increase in marriage was greater among those with a college degree and, 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.[8]

Subsequent to 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 40 and 50 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 40 and 50 year olds, respectively. The ever-married rates of those with some college are similar to high school graduates, while the decrease in marriage among high school dropouts was sharper than that seen for either high school graduates or those with some college—declining by 7 percentage points among 50 year olds between 1980 and 2007. 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 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 40, 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 40. While some of the upward age slope at older ages seen in Figure 2 reflects the decline in marriage among more recent cohorts, marriage rates among older adults have risen in recent decades. For example, 92% of 40

[8] These facts are similar to those presented in Goldin (1997) and Goldin (2004).

year old white women had married in 1990 and this had risen to 94% by age 50 in 2000 for this cohort. Thus, in the decade after age 40, a quarter 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 22, 50% of white women with less than a high school degree had married, in comparison, the 50% threshold was crossed at age 23, 24, and 27 for those with a high school degree, some college, and a college-degree, respectively. Since some education may occur later, the education of women who marry at younger ages is biased downwards, a factor that may exacerbate the differences in the age at first marriage by educational attainment. An alternative approach is to use marital history data among older women to look retrospectively at the age they married and their ultimate educational attainment. Since most people who will complete college have done so by their late 20s, we examine 28-30 year old women in the 2004 SIPP.[9] This age group in the 2004 SIPP also allows the most comparability with the cohort represented by the 2000 Census. For these women, the age at which 50% had entered a first marriage was 23, 23, 24, and 26 for women with less than high school, high school, some college, and college, respectively. The data show remarkably similar patterns, suggesting that very little of the gap in age at first marriage by educational attainment is due to educational attainment being completed after marriage.

While white women with a college education are increasingly postponing marriage, 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 VI.

A different picture emerges when we examine marital trends among African-American women by education. Figure 3 shows the percent of black women ever-married by age and

[9] A similar pattern is seen examining women at older ages as well, although this represents an earlier cohort. The age at which 50% of women aged 40-45 in the 2004 SIPP had married was 21, 21, 22, and 25 with less than high school, high school, some college, and college, respectively. In comparison, the ages at which 50% of women in the 1990 census had married were 21, 22, 24, and 26 for those with less than high school, high school, some college, and college, respectively.

education across the decades.[10] In the 1960s through to the 1980s the timing of marriage was similar among college-educated women regardless of race with black women with any college marrying later than black women with no college. However, black female college graduates have historically been more likely to marry compared with white college graduates and, after accounting for differences in the age of first marriage, they were as likely to marry as were African-American women with less education. By 1990, black women with any college education had become slightly more likely to ever marry compared with those with no college and this trend continued through to 2007. As with white women, black women of all educational backgrounds became less likely to marry in recent decades. Yet, an increase in marriage rates for black college graduates relative to those with less education occurred because women with less education became increasingly unlikely to marry between 1980 and 2007 at a faster rate compared to those with more education. These shifts have led to a positive gap in 2007 in which college-educated black women are more likely to ever marry than are black women with less education.

Aside from differences in marital patterns by education, there have been striking changes in marital formation behavior by race. Black women of all educational backgrounds have experienced larger decreases in marriage rates relative to the decline in marriage among whites. While the ever-married rates of 40 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 40, have a smaller probability of marrying in the ensuing decade compared to white women in their cohort. In 1990, 81% of black women had married by age 40. Ten years later, we see that 83% of 50 year old black women have married—a closure of the never-married rate of about 10%.

Turning to men, we see smaller differences in marital formation behavior by educational backgrounds than is seen for women. Figures 4 and 5 show ever-married rates by age and education for white and black men, respectively, from 1960 through to 2007. As with women,

[10] The panel begins in 1960 for blacks because of the scarcity of African-Americans with education beyond high school in 1950. In the 1950 Census only 2% of 18 to 50 year old black women had any education beyond high school. By 1960, the proportion had tripled to 6%, thereby yielding sample sizes sufficient to examine marital status by age.

men with more education tend to marry at later ages and the age of first marriage has been rising for all men. In recent decades, white men have become decreasingly likely to have married by their 20s. Among white men, there are few differences in the eventual likelihood of marrying by educational attainment. Although 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, while all men have become less likely to marry, the declines in marriage 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, the overall fall in marriage has been greater among black men. 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 larger declines in marriage among those 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, as with whites, black, 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. In contrast, among black women and all men, these marital shifts have created an education gap in which those with more education have become more likely to marry. Among both men and women, the movement away from marriage has happened most sharply among blacks and while the shift has been somewhat smaller for those with more education, these differences are small compared to the overall shift.

III. Marital Stability

Divorce rates rose for much of the 20th 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 marrying 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 2008b). 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 2008a).

These patterns have not, however, occurred equally among those with more and less education. 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. 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 2 year program or have failed to complete a 4-year program.[11] 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.

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 25 years post-marriage for those marrying in the 1970s. Among white men and women with a high school degree or less, 43% and 42%, respectively, of their marriages had ended within 25 years. For those with a college degree, 41% of women and 37% of men had divorced, and for those with some college, the percent divorcing hit the 50% mark for women and was just below—48%—for men.

[11] Among adults in the 2000 census, around 78% of those with some college had received no degree.

These patterns can be seen in Figures 6 and 7 which show the proportion of women's and men's marriages, respectively, ending in divorce by cohort, educational attainment, and race.[12] The top row of each figure shows the divorce hazard for blacks in first marriages, while the bottom row shows whites in first marriages.[13] In addition, Table 1 shows the percent of women and men, by race, who have divorced following 10 and 20 years 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 divorce rates rose through the 1970s, peaked at the end of the 1970s and have been falling ever since. Marriages of college-graduates that began in the 1980s were more stable than those that began in the 1970s and those that began in the 1990s were even more so. Among those marrying in the 1950s, only 12% of the marriages of white female college-graduates and 17% of those of white male college-graduates ended by divorce within the first 20 years of marriage (Table 1). By the 1960s, the dissolution rates for these women and men had risen to 29% and 26% respectively and they rose even further in the 1970s to 37% and 34%. But for those marrying in the 1980s, a greater percentage of college-educated men and women remained married 20 years later and the divorce rates of this marriage cohort had fallen back to the rates experienced by those who married in the 1960s. For more recent cohorts, it is only possible to assess their marital dissolution rates earlier in marriage, and Table 1 shows similar patterns at 10 years post-marriage. Divorce among in the first decade of marriage peaked for college graduates in the 1970s, falling for those who married in the 1980s, and falling further for those who married in the 1990s.

The experience of black college-graduates is similar; however the point estimates 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

[12] Divorce is measured using retrospective marital histories 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 20 years of marriage and raises divorce rates at 25 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.

[13] 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 marriages, however second marriages are more likely to end in divorce.

significantly different from those of whites. Thus, we are unable to reject the possibility that there are no differences in divorce rates by race.

Turning to those with some college or no college we see that, unlike college graduates, the high divorce rates they experienced in the 1970s continued into 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 10th 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 10th anniversary occurred only among African-American males.

While forecasting divorce rates is tricky, the patterns of divorce point to divorce happening earlier in marriage among more recent cohorts. Across all education groups the divorce rate in the first 5 years has been little changed since the 1970s, suggesting 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. These patterns suggest that 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. A different picture emerges, however, when we consider remarriage. Figure 8 and 9 show remarriage hazards among divorced white and black women, respectively. The percent who have remarried is shown for each year post-divorce for women by their educational attainment. These remarriage rates are calculated from marital histories collected in 1971, 1980, and 1995 from the Current Population Statistics (CPS) and in 2004 from the SIPP. Most striking is the fact that remarriage rates have fallen over time for all groups of women.

In 1971, among those who had experienced a divorce, the majority of women had remarried within 5 years following a divorce. Among whites, college-educated women were the least likely to remarry with only two-thirds remarried 10 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% of all black women having remarried within 10 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% and 58% of these two groups had remarried. The percent of white women with a high school degree or less who had remarried after 10 years was only 2 percentage points lower than that seen in the 1971 sample, while the percent of college-educated black women had fallen 7 percentage points.

In the 1995 sample, remarriage rates are somewhat higher among whites and are similar to those seen in the 1971 sample. Remarriage rates for all educational groups 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 10 years post-marriage before the majority of black women have remarried, with 51%, 45%, and 50% of black women with no college, some college, and college, respectively, having remarried by this point.

Figure 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. In 1971, 85% of white, and 87% of black, college-educated men had remarried within 10 years following a divorce. In 2004, these rates had fallen to 76% and 61% respectively. In comparison, the rates for white and black men with a high school degree or below were 79% and 70% in 1971 and fell to 72% and 59% in 2004. Thus, while remarriage rates fell substantially, remarriage remains higher for both white and black men with more education.

The fact that remarriage has fallen substantially at a time when the number of divorced individuals has increased, thereby creating a thicker matching market, is somewhat surprising. We therefore turn to alternative data sets to examine whether this finding is robust across many data sets. Using data from the 1970 and 1980 Census samples and the 1991-3 and 2004 SIPP,

Table 2 shows in a regression context the decline over time in the likelihood of remarriage.[14] Adding controls for changes in first marriage behavior—as measured by cohort and age of first marriage—has little impact on the period dummy variables. Across men and women remarriages rates have steadily decreased in each period, with the largest declines occurring among blacks. It should be noted that some of the decline in remarriage may reflect couples cohabiting rather than remarrying. Stevenson and Wolfers (2007) point out that remarriages are more likely than first marriages to be preceded by a period of cohabtation. In the 2000s, 75% of those entering a second or higher order marriage had cohabited prior to the marriage, while 59% of those entering a first marriage had done so. 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 remains. 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 the remarriage gap by education has not closed in recent years while the education gap in marriage has been closing. One explanation for this may lie in the changing patterns of first marriage. Table 2 shows, as expected, 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 suggesting that some of this relationship is coming from the longer duration of marriage prior to divorce among college-educated women and the shorter average time since divorce. Adding a control for the age at marriage attenuates the coefficient further as more highly educated women tend to marry later and a later age of first marriage is associated with a lower likelihood of remarriage conditional on divorce. Thus, much of the difference in remarriage rates by education among women in 2004 can be explained by the differential patterns of first marriage. It is notable however that this is not the case in earlier periods. Examining remarriage in the 1971, 1980, and 1995 CPS marital history supplements, columns 4-6 show that college-educated women in the 1971 and 1980 samples were less likely to remarry

[14] We turn to the SIPP in 1991 as questions used to infer remarriage from the Census were discontinued after 1980.

even once controls are added for timing of their first marriage. In 1995, however, this difference by education was, as in 2004, largely 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.

IV. Fertility

Fertility declines starkly with rising maternal education in the US and this relationship has not changed despite enormous increases in the educational attainment of women. Figure 11 shows the number of children in the household from 1950-2007 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 by age 40 the number of children in the homes of college graduates was similar to that, or greater than that, of women with less education. While the completed fertility of all women born between 1900 and 1933 rose, a shift towards later fertility is apparent among women with more education by the 1960s census and that shift has continued through to the present time.[15] In each successive Census there is a steady decrease in the probability that college-educated women have children in the home in their 20s and 30s. In contrast, the age distribution of women with young children in the home among those with a high school degree or less has changed little.

Figure 11 shows that the distribution of ages at which white women have children in the household is little changed between 1950 and 2007 for women with no college, while the distribution has shifted slightly to the right among those with some college, and strongly to the right for those with a college degree. Similarly, we find no change between 1950 and 2007 in the median age at which mothers have an infant in the household for women with no college, versus an increase in the median age of one year among women with some college and four years among college graduates. Figure 12 shows a similar pattern among black women. Thus, the well-publicized delay in fertility has been occurring almost exclusively among women with

[15] Completed fertility by birth cohort was calculated from the 1980 and 1990 Censuses. In the 1980 and 1990 Censuses children ever born peaked for 47 and 57 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 50 and 60 in the 1980 and 1990 Censuses respectively).

more education. The delay in fertility is unsurprising given the rising returns to work experience for women over this period; that the delay has occurred most strongly among women at the top of the educational ladder point to the fact that these returns have increased most sharply for those with more education.

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. The fertility patterns point to changes in marriage, not fertility, as the important driver 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 have increased the opportunity cost of career disruptions, particular in the early stages of one's career. 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 earnings, and the gains are highest for college graduates. This finding matches the trends seen in Figures 11 and 12. 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 4 shows the number of children ever born to 45-50 year old women (a reasonable proxy for completed fertility) over the past five decades.[16] Despite changes in total fertility across the decades, the pattern of falling fertility with education is similar in all time periods for all women.[17] College graduates have the fewest children, followed by those with some college, high school graduates,

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

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

and finally high school dropouts have the greatest number of children. Fertility for all groups of 45-50 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.

V. 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 1972-1993 (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. Four times as many non-college 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 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 6 and 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 happier than unmarried people. The college-non-college differential is particularly stark for women. 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 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 forty percent when we add controls, a reduction which 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 non-college 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 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.

VI. Discussion

This paper 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 21st 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 ever-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.

The differences in marital behavior that we have documented yield very different marital experiences over the lifecycle. 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, and indeed now minority, subset 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 before remarriage.

These changing life-cycle patterns are apparent when one considers currently married rates by age. 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 13, we show the percent of white and black women who are currently married by education. Among blacks in 1960 we see stark differences by education in the probability of being married reflecting the later age of marriage of those with more education. By 1980, college educated women are the most likely to be currently married by the time women are in their 30s. This marriage gap reflects a shift toward more entry into marriage about more highly educated black women, lower divorce rates for those with more education, and, when divorce occurs, higher rates of remarriage among African-American women with more education. These patterns become even starker over the ensuing decades, and by 2007 college-educated women are the most likely to be married at every age except the early 20s.

A similar pattern is seen among whites, although they are substantially more likely to be married than are blacks. In earlier decades (illustrated by 1960 in Figure 13), white college graduates of all ages were less likely to be married than white non-college graduates reflecting their lower likelihood of marriage and few differences in marital behavior by education beyond this. By 1980, there was little difference in the likelihood of being currently married after age 30 by education. Yet these similarities were driven by the greater likelihood of both marriage and divorce by those with less education. By 2007, we see that white college graduates are less likely to be married in their 20s, but by the time they are in their 30s they are more likely to be currently married and that gap holds for people throughout the 30s and early 40s and erodes thereafter.

What is missing from our analysis is cohabitation. Unfortunately cohabitation data is relatively sparse and so does not lend itself easily to the multiple-decade 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 lifecycle with most spending much of their 20s outside marriage, while those with less education are spending more likely to spend some of their 30s and 40s outside of a marital relationship.

While we have provided a narrative for why the changing incentives faced by women of different educational levels (and the men who are matching with them) might have produced the trends in the data, it is unclear how much the shift reflects the changing causal effect of, or selection into, higher education. Since 1950 the educational attainment of women has increased over fourfold (Table 8). This substantial increase in educational attainment might mean that compositional shifts explain the trends in the percent that marry and the number of children ever born. That is, it might be that the family behavior of the average women in each educational group in 1950 has not changed differentially, but only that the college graduate group in 2007 has expanded to include a certain segment of the population that were previously average non-college graduates.

We conclude by using a decomposition, similar to an Oaxaca decomposition, to investigate how much compositional shifts can explain the changes by education in both the percent ever-married and the number of children ever born for 45-50 year old white women (Oaxaca 1973). To undertake this exercise, we assume that 1) college graduates in 2007 are

comprised of all college graduates in 1950 with the remaining proportion average non-college graduates from 1950 and 2) everyone is equally likely to marry or have children (as denoted by $\bar{Y}$) in 2007 as the average women in the 1950 group to which they belong except for any across the board changes. Formally, this amounts to

$$\bar{Y}_{College,2007} = \left(\frac{\%\ College_{1950}}{\%\ College_{2007}}\right)\left[\bar{Y}_{College,1950} - \left(\bar{Y}_{All,1950} - \bar{Y}_{All,2007}\right)\right]$$
$$+ \left[1 - \left(\frac{\%\ College_{1950}}{\%\ College_{2007}}\right)\right] * \left[\bar{Y}_{Non-College,1950} - \left(\bar{Y}_{All,1950} - \bar{Y}_{All,2007}\right)\right]$$

$$\bar{Y}_{Non-College,2007} = \left[\bar{Y}_{Non-College,1950} - \left(\bar{Y}_{All,1950} - \bar{Y}_{All,2007}\right)\right]$$

This exercise replicates almost perfectly the actually percent that have ever married in 2007 (within fewer than .2points for both college graduates and non-college graduates), and therefore, we cannot rule out that a pure compositional effect drives the trends in the percent that ever marry. 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.

Turning to fertility, the decomposition exercise illustrates that a pure compositional effect cannot explain the trends in the average number of children ever born. Compositional shifts can only explain about 69% of the change (the exercise overstates the actual change in number of children for college graduates by 31%). Instead, women must have changed their fertility behavior in a non-random manner vis-à-vis selection into college, whether it is causal or not.

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Table 1: Proportion of Marriages Ending in Divorce within 10 & 20 Years of Marriage

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

Notes: 2004 Survey of Income Participation. 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.

Table 2: Trends in Remarriage Probabilities

Probit Regression	Everyone		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)
1991-93 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	1503866	1503866	698836	96519	590483	71772

Notes: ***, ** and * denote statistically significant at 1%, 5% and 10%, respectively. (Robust standard errors in parentheses). Census of Population 1970 and 1980. Survey of Income and Program Participation 1991-93 and 2004. Marginal effects reported.

Table 3: Trends in the Association between Women's Education and Remarriage Probabilities

Probit Regression	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	8319	8319	8319	8851	7303	5252

Notes: ***, ** and * denote statistically significant at 1%, 5% and 10%, respectively. (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.

Table 4: Children Ever Born Among 45 to 50 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

Notes: Census of Population (1950-1990) and Survey of Income and Program Participation (2004)
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 65-70 and 55-60, respectively, from the 1970 Census. The number of never married 45-50 yr olds in 1950 and 1960 that had married by 1970 is negligible.

Table 5: Trends by Gender and Education 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
Non-College 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
Non-College 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
Non-College 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."

Table 6: Trends and Differences by Race and Education in Marital Happiness

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**		
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)
Sample	Women		Men	
Controls:		✓		✓
Percent Very Happy:	White Women	Black Women	White Men	Black Men
College				
1970's	74	59	70	49
2000's	67	55	74	51
Non-College				
1970's	66	46	70	55
2000's	59	55	63	54

Notes: ***, ** and * denote statistically significant at 1%, 5% and 10%, respectively. Sample size for women is 11228 and for men is 10111. Data are from the General Social Survey from 1973-2006. (Robust standard errors in parentheses)

(a) 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 9 regions. Separate dummy variables are also included for missing values of each control variable.

Table 7: Trends and Differences by Race and Education in Family Satisfaction

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		
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)
Sample	Women		Men	
Controls:		✓		✓
Percent Very Great Deal:	White Women	Black Women	White Men	Black Men
College				
1970's	53	33	44	44
1990's	53	24	47	39
Non-College				
1970's	45	32	41	32
1990's	46	28	40	31

Notes: ***, ** and * denote statistically significant at 1%, 5% and 10%, respectively. Sample size for women is 11321and for men is 8699. Data are from the General Social Survey from 1973-1994. (Robust standard errors in parentheses)

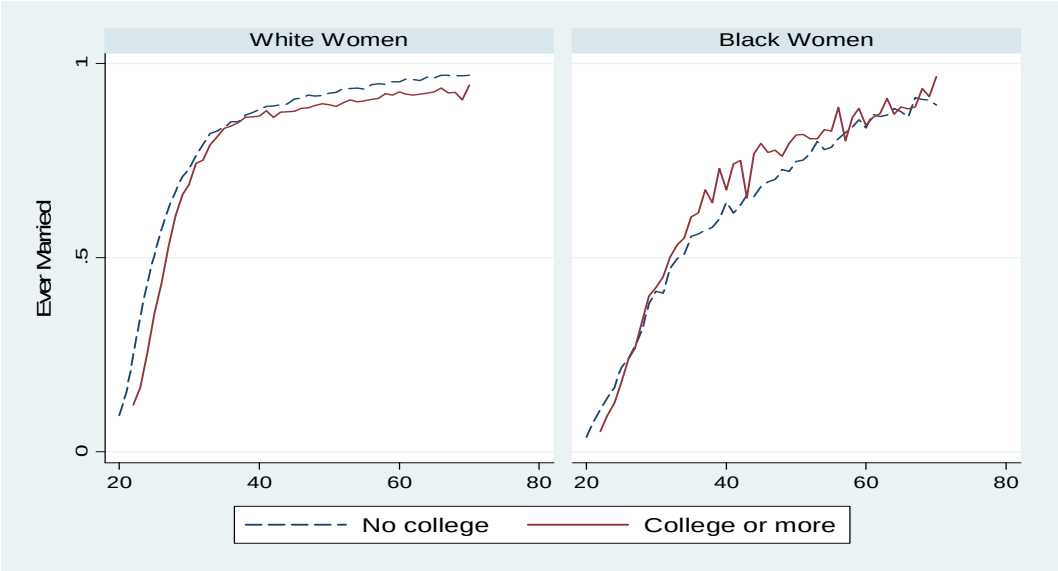
(a) Employment status includes indicators for full-time, part-time, temporary illness/vacation/strike, unemployed, retired, in school, keeping house, and other; Income is based on imputations of real family income, collapsed into indicator variables, one for each decile; Children includes indicator variables 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 9 regions. Separate dummy variables are also included for missing values of each control variable.

Table 8: Educational Attainment by Decade of Women Ages 45-50

	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 numbers are from the Censuses of Population. 2007 numbers are from the American Community Survey. Each cell represents the percent of white or black 45-50 year old women with that educational attainment.

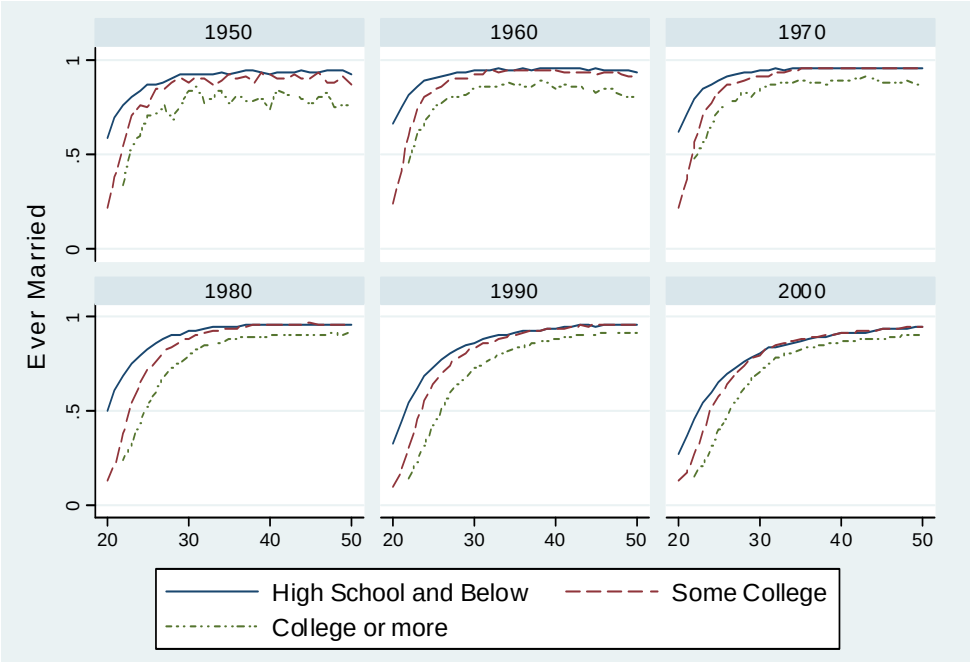
Figure 1: Percent of White and Black Women Ever Married by Age in 2007



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.

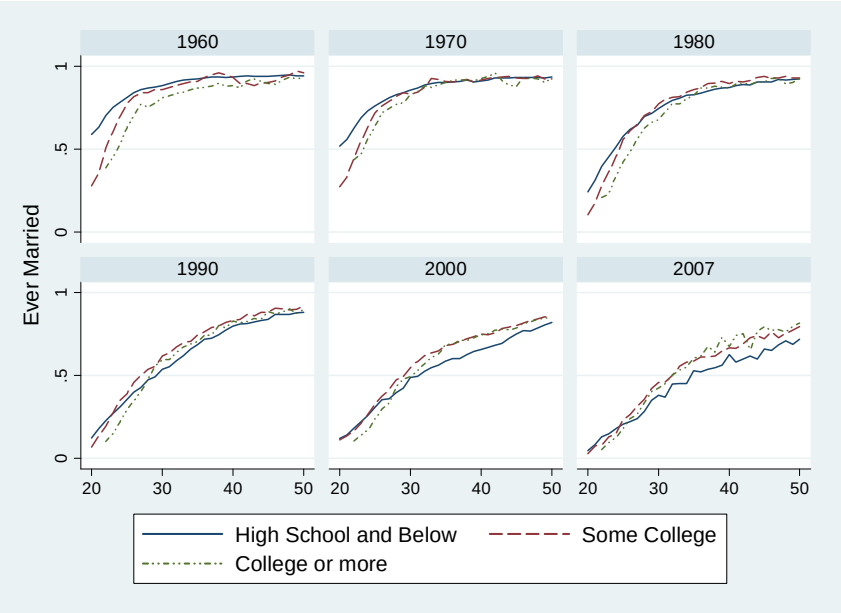
Figure 2: Percent of White Women Ever-Married by Age 1950-2000



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

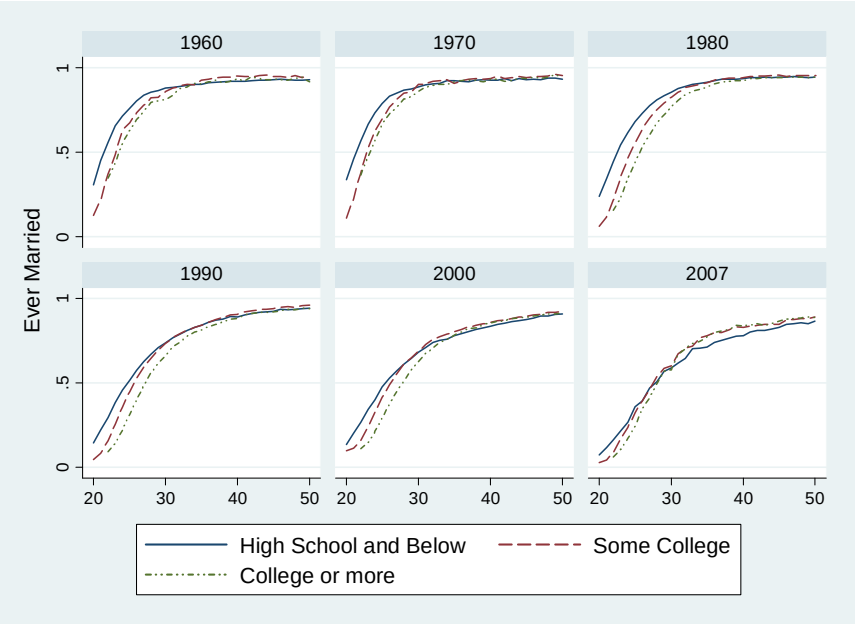
Notes: Each panel shows the percent who have ever married at each age in a specific decade for those with high school or below, some college, or a college degree for white women.

Figure 3: Percent of Black Women Ever-Married by Age 1960-2007



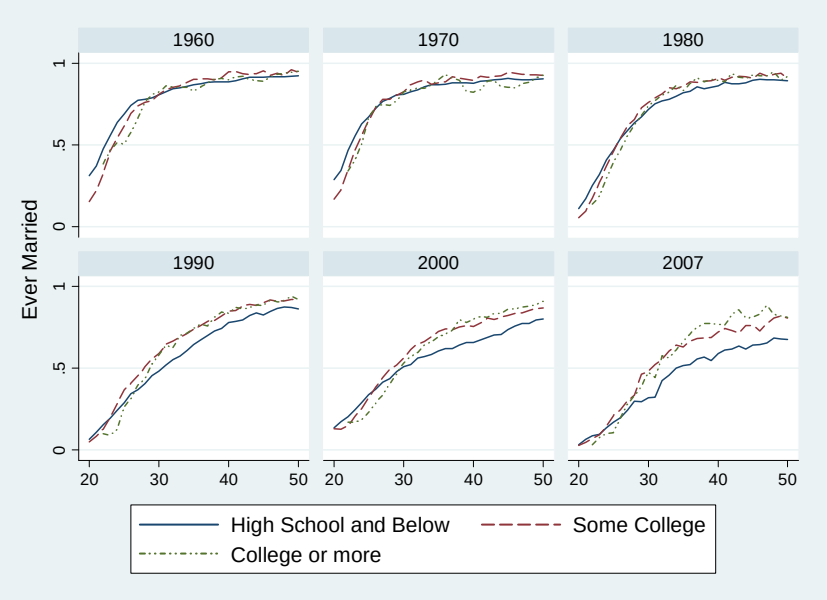
Source: 1960, 1970, 1980, 1990, and 2000 Censuses of Population and the 2007 American Community Survey
Notes: Each panel shows the percent who have ever married at each age in a specific year for black women with high school or below, some college, or a college degree. Because of small sample sizes a three-year moving average centered at each age is used for 1960 and 1970.

Figure 4: Percent of White Men Ever-Married by Age 1960-2007



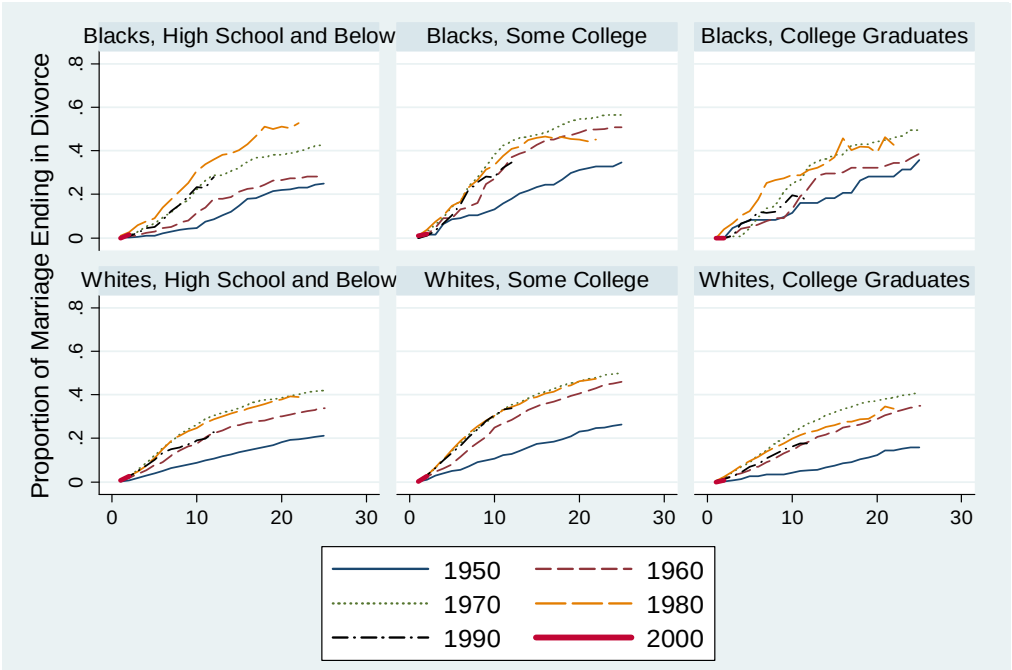
Source: 1960, 1970, 1980, 1990, and 2000 Censuses of Population and the 2007 American Community Survey
Notes: Each panel shows the percent who have ever married at each age in a specific year for white men with high school or below, some college, or a college degree.

Figure 5: Percent of Black Men Ever-Married by Age 1960-2007



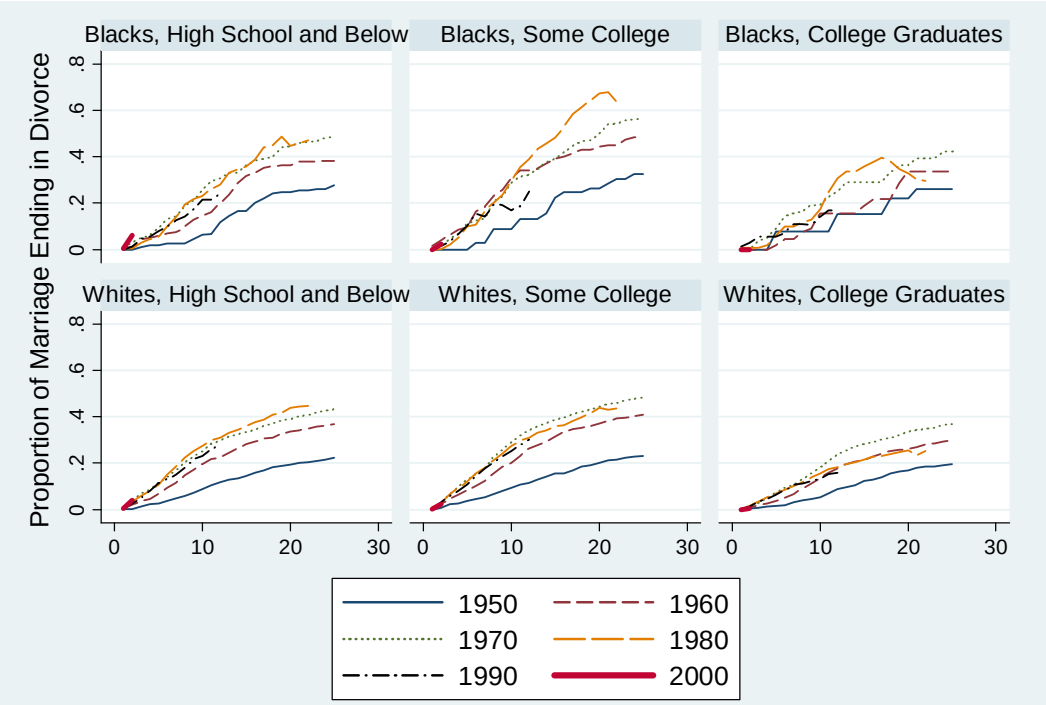
Source: 1960, 1970, 1980, 1990, and 2000 Censuses of Population and the 2007 American Community Survey
Notes: Each panel shows the percent who have ever married at each age in a specific year for black men with high school or below, some college, or a college degree. Because of small sample sizes a three-year moving average centered at each age is used in 1960 and 1970.

Figure 6: Percent Divorced by Year of Anniversary (Women in first marriages)



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.

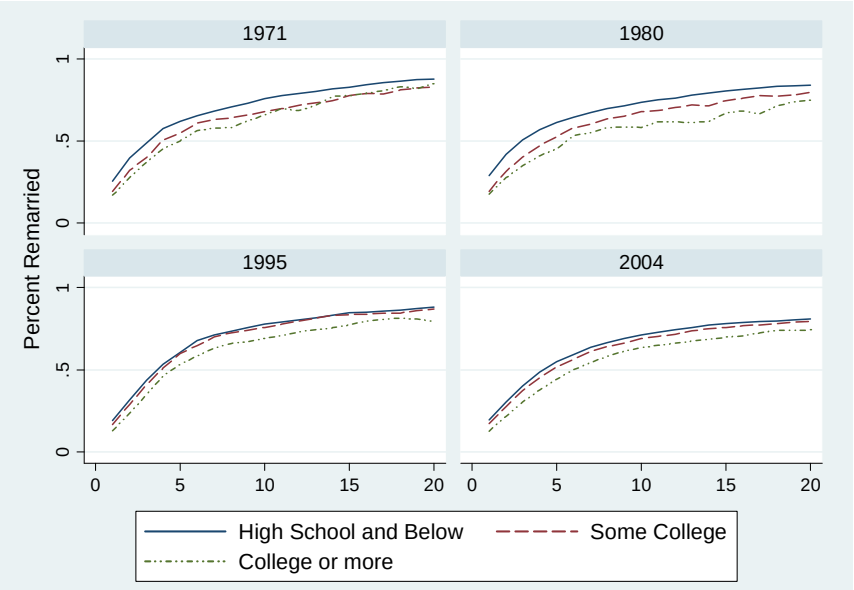
Figure 7: Percent Divorced by Year of Anniversary (Men in first marriages)



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.

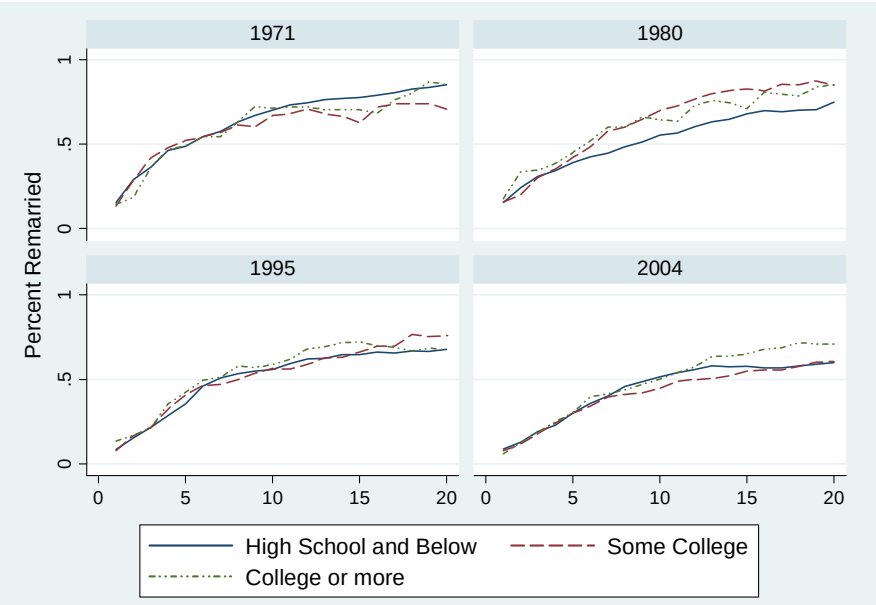
Figure 8: Percent of White Women Remarried by Years since Divorce 1971-2004



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

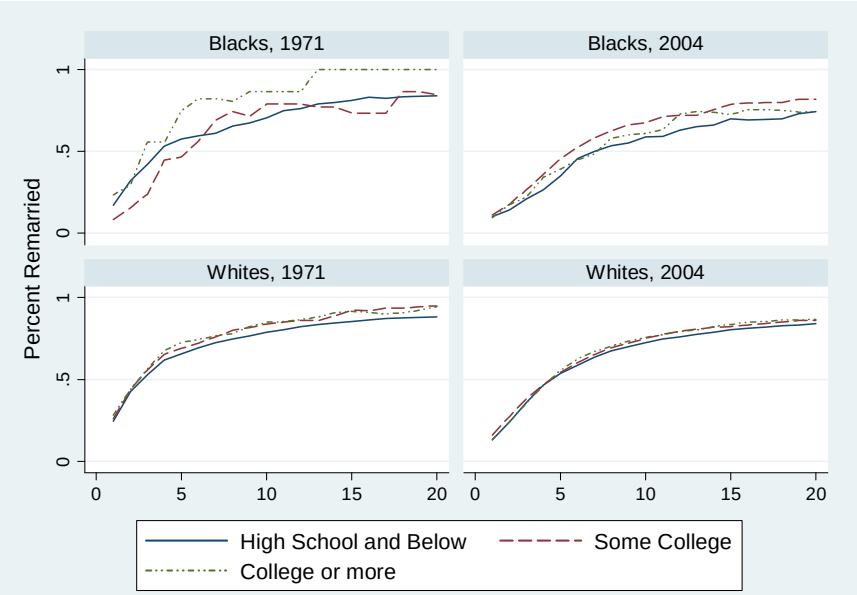
Notes: Each panel reports the proportion of white women who experienced a divorce who had remarried for each year since divorce separately by education.

Figure 9: Percent of Black Women Remarried by Years since Divorce 1971-2004



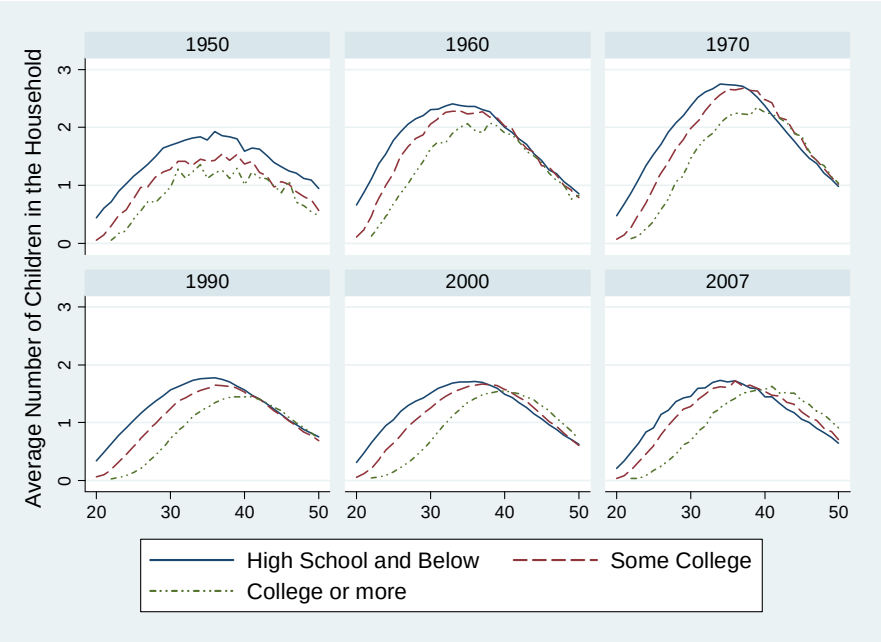
Source: Current Population Survey (June 1971, 1980, 1995) and Survey of Income & Program Participation (2004)
Notes: Each panel reports the proportion of white women who experienced a divorce who had remarried for each year since divorce separately by education.

Figure 10: Percent of Men Remarried by Years since Divorce 1971-2004 Percent



Source: 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.

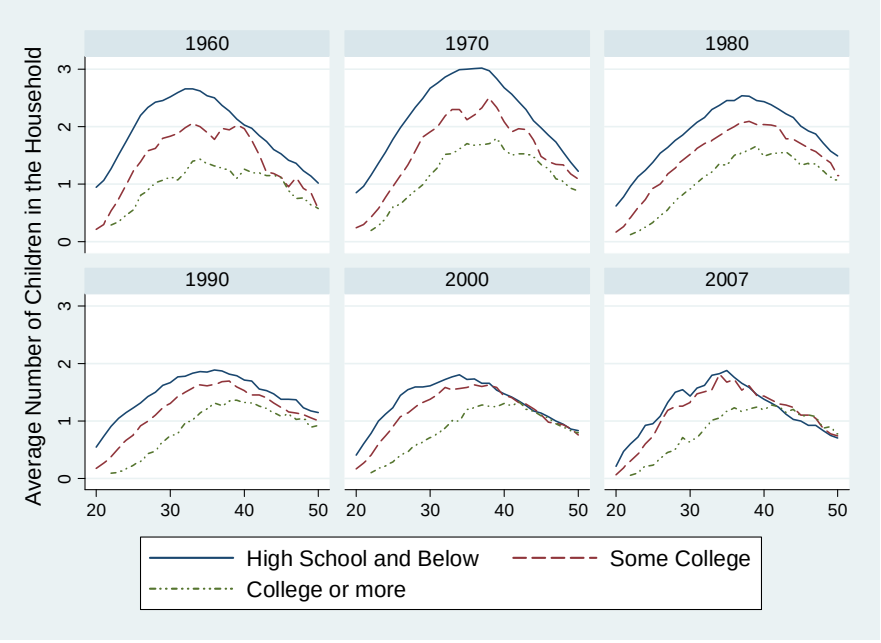
Figure 11: Average Number of Children in the Household by Age (White Women)



Source: Census 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.

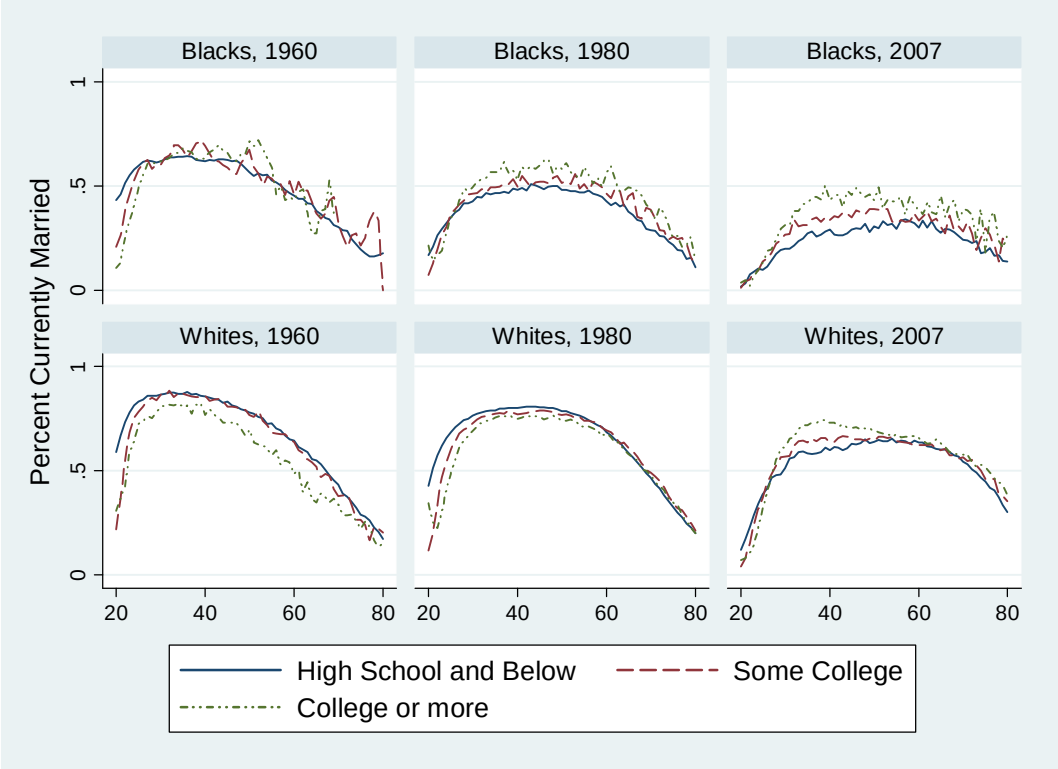
Figure 12: Average Number of Children in the Household by Age (Black Women)



Source: Census 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.

Figure 13: Currently Married Rates of White and Black Women



Source: 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 samples size for black college graduates aged 70 and older in 1960 is too small to warrant any form of inference and hence are excluded.