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Family Inequality: Diverging Patterns in Marriage, Cohabitation, and Childbearing*

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In 1950 the family arrangements of college graduates and high school graduates were very similar. Men and women married early and most remained married. About 70 percent of 30-44 year old female college graduates and 80 percent of female high school graduates were currently married in 1950. By 2010, women's marriage rates had fallen and the educational gradient had reversed: 69 percent of college graduate women were married, compared to 56 percent of those with a high school degree. Births to unmarried women were uncommon in 1950 but as marriage rates fell, non-marital childbearing increased. In 1980, 5 percent of births to college graduates were to unmarried mothers, compared to 24 percent for high school graduates. By 2013, non-marital childbearing among college graduates had risen to 11 percent, compared to 58 percent for high school graduates (Manning, Brown, and Stykes 2015). Not surprisingly, the divergence in the family arrangements of female college graduates and high school graduates is paralleled by a similar divergence in those of men. In 1950 about 85 percent of 30-44 year old men were currently married at all levels of education. In 2010 only 70 percent of male college graduates and 53 percent of high school graduates were married.

Popular discussions of changes in American families over the past 60 years have revolved around the "retreat from marriage." Concern has focused on increasing levels of non-marital childbearing as well as falling marriage rates that stem from both increases in the age at first marriage and greater marital instability. Often lost in these discussions is the fact that the decline of marriage has coincided with a rise in cohabitation. Many "single" Americans now live with a domestic partner and a substantial fraction of "single" mothers are cohabiting, often with the child's father. The share of women who have ever cohabited has nearly doubled over the past 25 years, and the majority of non-marital births now occur to cohabiting rather than to unpartnered mothers at all levels of education. The emergence of cohabitation as an alternative to marriage has been a key feature of the post-World War II transformation of the American family.

These changes in the patterns and trajectories of family structure have a strong socioeconomic gradient. The important divide is between college graduates and others: individuals who have attended college but do not have a four-year degree have family patterns and trajectories that are very similar to those of high school graduates. Compared with college graduates, less-educated women are more likely to enter into cohabiting partnerships early and bear children while cohabiting, are less likely to transition quickly into marriage, and have much higher divorce rates. For this group, rising rates of cohabitation and non-marital childbearing contribute to family histories of relatively unstable relationships and frequent changes in family structure (Cherlin 2009).

We begin with a brief review of the basic facts about changes in family structure over recent decades, and then explore two broad sets of explanations for the emergence of the socioeconomic gradient in marriage, divorce, cohabitation, and childbearing. The first emphasizes the diminished economic prospects of less-educated men. Rising relative wages of women have reduced the returns to specialization and exchange within marriage at all levels of education, but sociologists have focused on a shortage of "marriageable" men at the bottom of the earnings distribution as a primary cause of rising family inequality.

It is unlikely, however, that men in the middle of the earnings distribution cannot contribute enough to the household to generate a positive marital surplus. For the “marriageable men” theory to explain declining marriage rates more broadly, traditional gender norms that dictate the husband should be the primary breadwinner are required. The reduced marital surplus resulting from violating these gender norms may cause some middle-earning men to become “unmarriageable.” If these norms are stronger or more prevalent among those with less education, then they can, together with rising relative wages of women, cause a socioeconomic gradient in marriage.

The second set of explanations for the socioeconomic gradient emphasizes educational differences in demands for marital commitment. When marriage was based on traditionally specialized gender roles, marriage and the commitment it implies protected the interests of wives who stayed home, reared children, and failed to accumulate market human capital. As technological changes in the home and workplace reduced the gains from specialization, the value of commitment decreased. Cohabitation, with lower exit costs than marriage, allows individuals to realize many of the gains from co-residence with less commitment. We argue that college graduate parents continue to use marriage as a commitment device to facilitate intensive joint investments in their children. For less-educated, lower-income couples for whom such investments are less desirable or less feasible, commitment and, hence, marriage has less value relative to cohabitation.

These changes in the demand for long-term commitment, and the resulting socioeconomic divergence in family structure, have important implications for children and parents. Cohabiting relationships are much less stable than marriages, so the increase in childbearing within cohabiting unions among the less educated means that their children are more likely to experience instability in living arrangements, household income, and parental presence. This instability has been linked to adverse child outcomes, though the magnitude of the causal link is uncertain. Compared with women two generations earlier, women with low levels of education today find themselves with greater independence and control over their lives, but also at an increased risk of poverty. Less-educated men find themselves both unburdened and unmoored by weakened responsibilities of marriage and fatherhood. The new socioeconomic gradient in family structure appears to be a “mechanism” in the reproduction of inequality across generations, both influenced by rising inequality and a potential contributor to future inequality (McLanahan and Percheski 2008).

The Uneven Retreat from Marriage

The general contours of the post-World War II transformation of American family life are well-known. The age at which men and women first marry reached historic lows during the 1950s. Between 1956 and 2013, the median age at first marriage rose by over six years for both men and women,

increasing from 21.1 to 27.5 years for women and from 22.5 to 29.2 years for men.¹ Societal anxiety focused not on delay in the age of first marriage, but instead on two other changes that became apparent in the 1970s: rising rates of non-marital childbearing and an abrupt increase in the divorce rate. The proportion of births to unmarried women rose from 5 percent in 1960 to 32 percent in 1995, and has remained at about 40 percent in recent years (Child Trends 2015). The prevalence of divorce, which had been rising gradually in the United States since the late nineteenth century, suddenly doubled between the mid-1960s and mid-1970s (in this journal, Stevenson and Wolfers 2007).

These changes in marriage, divorce, and non-marital childbearing have differed by socioeconomic status (Lundberg and Pollak 2014, 2015). While the fraction of Americans currently married has declined substantially since 1960 at all levels of education, the decline is especially pronounced among the less-educated.² Figure 1 shows the share of individuals aged 30-44 who are currently married by educational attainment.³ Though differences in marriage rates by education were small in 1960, by 2010 marriage rates among college graduates were 12 and 17 percentage points higher than marriage rates for those with some college and high school graduates, respectively.

Although about 90 percent of men and women eventually marry and the share of men and women who have ever married by middle age is similar across education groups,⁴ the marriages of college graduates are much more stable. As shown in Figure 2, the trends in the share of the population aged 30-44 who are currently divorced are almost identical for the some college and high school groups, but roughly 40 percent lower for college graduates. Some of the education gap is explained by differences in age at first marriage, but the probability of divorce at given marriage durations is also substantially lower for college graduates than for those with some college or a high school degree.⁵

The first panel in Table 1 shows the cumulative effect of these differences on the marital histories of the late baby-boomers, using data from the National Longitudinal Survey of Youth 1979. By

¹ Although same-sex marriage has become more prevalent in recent years and is now legal in all 50 states, in this paper we focus on heterosexual marriages.

² This paper focuses only on individuals with at least a high school degree or equivalent. We exclude the less than high school group for two reasons. First, the composition of this group has changed substantially over time as low-skill immigration has increased. In recent decades, those without a high school degree are disproportionately Hispanic, immigrants and non-citizens. In 1960, the share of immigrants was roughly constant across education groups. In 2010, however, over half of all 30-44 year olds with a less than high school education were immigrants, while only about 20 percent of those with more education were immigrants. Second, the less than high school group now comprises a relatively small share of the population. In 2010, there were 15-20 million 30-44 year olds in each of the high school graduate, some college, and college graduate groups. In contrast, only about 6 million 30-44 year olds had less than a high school education.

³ We use this age category because marriage rates for individuals under age 30 are strongly influenced by changes and educational differences in age at first marriage.

⁴ Black men and women with a high school education or less provide an exception: they are substantially less likely to ever marry than black men and women with more education (Isen and Stevenson 2010).

⁵ The probability of divorce within 20 years of marriage is 15 and 7 percentage points lower for college graduates than for those with some college or high school degrees, respectively. For white men, the probability of divorce is 19 percentage points lower for college graduates than for both the some college and high school group (Isen and Stevenson 2010).

age 46, nearly half of the high school and some college groups who ever married have been divorced, but nearly 70 percent of the college graduates are still in their first marriage.

Focusing on these trends in the formation and dissolution of marriages ignores another important change: the rise in cohabitation. Cohabitation has become a very common domestic arrangement in the United States. The share of women who have ever cohabited has nearly doubled over the past 25 years, and today the majority of women aged 19 to 44 have been in a cohabiting relationship at some point in their lives (Manning 2013). Over 27 percent of all couples currently living together are in non-marital unions (based on our calculations from the 2007-2013 Current Population Survey data).

Tracking changes in cohabitation over time is difficult because high-quality, population-representative data on unmarried couples is available only for recent cohorts.⁶ Most estimates of cohabitation for earlier cohorts are based on inferences from household composition and are unreliable. However, improved estimates from the Census in Fitch, Goeken, and Ruggles (2005) indicate that there was very little (reported) cohabitation prior to 1970. Data on cohabitation may be inherently flawed because it is a state that is difficult to define. Couples often enter joint living arrangements gradually (often part-time and while maintaining separate residences) and without clear expectations (Manning and Smock 2005). Sociologists and demographers have studied the causes and implications of rising cohabitation rates since the early 1980s while economists have generally ignored cohabitation and continued to focus on the dichotomy of married versus unmarried.

Much of the retreat from marriage appears to have been a shift into cohabitation, since the age at which young couples establish their first household has remained relatively constant. For cohorts born in the 1960s and 1970s, the average age at first union (married or cohabiting) stabilized at the pre-Baby Boom level of around 22.5 for women (Bailey, Guldi, and Hershbein 2014). The share of births to unmarried mothers has doubled since 1980, but most of this increase has come from a tripling in the share of births to mothers who are cohabiting rather than unpartnered (Manning, Brown, and Stykes 2015).

The strong education gradient apparent in marriage and divorce also holds for cohabitation and non-marital childbearing. The second panel of Table 1 shows that, for a recent cohort of young adults, the marriage, cohabitation, and childbearing patterns of individuals with just a high school degree are very similar to those with some college, but starkly different from college graduates. The less-educated are less likely to be partnered, a higher fraction of their partnerships are non-marital, and their unions are much less stable. A young woman without a college degree is approximately five times more likely

⁶ Direct measures of cohabitation are available in the 1990, 2000, and 2010 Censuses, but only if the relationship involves the head of household. The Current Population Survey from 1995-2006 and the American Community Survey also identify only cohabiting unions involving the head of household, not of other couples in the household. Kennedy and Fitch (2012) find this method misses 18 percent of cohabiting unions, so these surveys substantially underestimate cohabitation rates. After 2006, the Current Population Survey identifies all cohabiting unions. Direct questions about unmarried partners have recently been added to the Survey of Income and Program Participation and American Community Survey, as well as to several longitudinal data sources.

than a college graduate to be a cohabiting or an unpartnered mother. Although non-marital childbearing has increased substantially across the whole education spectrum since 1980, the rates among college graduates have remained relatively low, as shown in Figure 3. In contrast, the share of non-marital births to both high school graduates and women with some college have increased sharply since 1980, with most of this increase driven by the higher incidence of births within cohabiting unions.

The divide in non-marital childbearing between college graduates and those with some college within each race and ethnic group is large, though the overall rates differ substantially. For example, for non-Hispanic white college graduates, the rate of non-marital childbearing is 5.9 percent while the rate for those with some college is 30.0 percent. For Hispanics, the corresponding rates are 17.4 percent and 45.3 percent; for blacks, 32.0 percent and 68.7 percent (Lundberg and Pollak, 2014). Thus, the differences by education are not simply reflections of racial and ethnic differences in educational attainment.

Figures 4a and 4b present a life-cycle perspective on how women's marriage, cohabitation, and childbearing patterns differ by educational attainment. Women with college degrees are substantially more likely to be in a union after their mid-20s than are women with lower levels of education. Conditional on being in a union—whether marital or cohabiting—college graduates are also more likely to be married than cohabiting. The differences in union status by educational attainment are even larger among women with children in the household. Only 2.4 percent of college graduate women under age 40 with children are cohabiting, compared with 8 percent of less-educated women. There is also a distinct educational gradient in the living arrangements of unmarried mothers. Unmarried mothers with college degrees are much more likely to be cohabiting, rather than living alone or with relatives, compared with those with less education (Manning, Brown, and Stykes 2015).

Cohabiting unions tend to be much less stable than marriages for all education groups. The median duration of cohabitations is somewhat longer for the less-educated (22-24 months) than for college graduates (17 months), but is extremely short compared to marriage. The first premarital cohabitation spell is equally likely to dissolve within three years for all education groups, but college graduates are significantly more likely to transition into marriage and less likely to remain cohabiting for more than three years (Copen, Daniels, and Mosher 2013).

The role of cohabitation, as well as its prevalence, differs across education groups. For women who are college graduates, childbearing during cohabitation is relatively rare, and when it does occur, cohabiting unions are likely to transition quickly into marriage. Among those with less education, however, the rise of cohabitation has delayed marriage but not childbearing. The probability of a pregnancy within one year of beginning a first premarital cohabitation is 5 percent for college graduate women, 18 percent for women with some college, and 24 percent for high school graduates. Women who are college graduates and become pregnant while cohabiting are twice as likely to marry within a year as those with some college (Copen, Daniels, and Mosher 2013). In sum, traditional patterns of marital childbearing have been much more persistent among highly-educated Americans, while the decoupling of marriage and childbearing is much more prevalent among those without college degrees. For college graduates, increased cohabitation is part of a pattern of delayed marriage and childbearing

to accommodate an extended period of education, facilitated by improved birth control and changes in social norms concerning premarital sex (Goldin and Katz 2002). For others, cohabitation appears to be a more direct substitute for marriage.

These differences in the role of cohabitation have important implications for the living arrangements of children whose mothers have different levels of education. Because cohabitation tends to be transitory regardless of whether there are children, children in cohabiting households are at greater risk of instability in living arrangements, parent figures, and household income. Subsequent marriages or cohabitations are often with a partner other than the father of the children, and complex families with multiple-partner fertility are common among those who bear children while cohabiting. Less than half of children in cohabiting households are living with both biological parents, compared with over 90 percent of those in married couple households (Payne 2013). Finally, fathers with some college or only a high school degree are 25 percent less likely to live with all their children than are college-graduate fathers (Guzzo and Payne 2014). These differences in family stability and paternal presence are associated with important differences in investments in children and child outcomes.

Changing Gender Roles, Marital Surplus, and Investments in Children

The economic model of marriage developed by Gary Becker in the 1970s reflected and rationalized the dominant family paradigm of the post-World War II era. Marriage was, for most, a lifetime contract between a man and a woman in which he provided income from market work and she contributed home-based cooking, cleaning, and child care. Divorce was costly and infrequent, and both “living in sin” and the production of “illegitimate” children were stigmatized. The expected gains from marriage stemmed largely from household production—economies of scale and the returns to specialization and exchange. Subsequent economic models recognized gains from joint consumption of household public goods such as housing and children (Lam 1988). In all of these models, individuals considering marriage are assumed to compare the expected utility of this particular marriage (which depends, in turn, on expectations about the division of the surplus from marriage between the spouses) relative to the expected utility of remaining unmarried and, perhaps, continuing to search for a better spouse. Cohabitation, in these early models, is not explicitly considered as an alternative to marriage or remaining single.

Becker (1981) uses the specialization-and-exchange model to explain the declining prevalence and stability of marriage in the later 1960s and into the 1970s. The proximate cause is the fall in marital surplus associated with reduced specialization, while the underlying cause is the change in the economic opportunities of women. Changes in production technology and the structure of demand increased the productivity of female workers more than male workers, increasing women’s relative earnings and employment opportunities (Galor and Weil 1996). The declining gender wage gap reduced the potential gains from a sexual division of labor in the household and, as women’s long-term attachment to the labor force strengthened, investments in education reinforced these changes. The opportunity costs of rearing children increased as female wages rose and the likelihood of divorce increased. In response to

these changing incentives, fertility fell by half from 1960 to 1980, further reducing the returns to a couple from having one person stay home. The past 60 years have witnessed a substantial convergence in the economic lives of married men and women, and specialization in hours of market and household work has decreased dramatically (Aguiar and Hurst 2007, Lundberg and Pollak 2007 in this journal).

Cohabitation vs. Marriage

The emergence of cohabitation as a widely acceptable alternative to marriage, which was in its early stages when Becker published *A Treatise on the Family* in 1981, changes the calculus of the marriage decision. Many of the gains to marriage recognized in economic models can be realized by any couple that agree to coordinate production and share consumption within a joint household. What, then, distinguishes marriage from cohabitation in an economically meaningful way?

Economic models of marriage and cohabitation have emphasized one key difference: the costs of dissolution are much higher for marriage than for cohabitation (Brien, Lillard and Stern 2006, Matouschek and Rasul 2008). Ending a marriage involves legal formalities to divide property and debt and, if there are children, to establish custody, visitation, and support arrangements. Divorce became less costly as states adopted no fault or unilateral divorce laws starting in the 1970s, but divorce remains a complicated, uncertain, and often expensive process in both time and money. Unlike marriages, cohabiting unions can be ended simply and quickly outside of the legal system. Finally, the cultural significance of marriage makes divorce more socially (and possibly psychically) traumatic to individuals. Based on their ethnographic work, Edin and Kefalas (2005) conclude that fear of divorce is an important reason the unmarried mothers they study prefer cohabitation to marriage.

When a marriage dissolves, marital property is divided between ex-spouses; when a cohabiting union dissolves, there is no analogue of marital property – assets and liabilities remain with the ex-partner who holds legal title to the asset or is legally responsible for the debt. In several states, couples that enter civil unions or domestic partnerships receive some of the benefits of marriage, and most states recognize explicit contracts between cohabitants. But few cohabiting couples make written contracts, the terms and even the existence of oral contracts are often difficult to prove, and court rulings about the enforceability of such contracts are inconsistent (Bowman 2004, 2010). Common-law marriage, which requires that couples hold themselves out as married, has all but disappeared with the increasing social acceptability of cohabitation and has been abolished by statute in most states (Waggoner 2015). On the other hand, the laws governing child custody and child support have changed substantially over the last few decades, lessening the distinction between marriage and cohabitation in terms of parental rights and obligations. The distinction between legitimate and illegitimate children has virtually disappeared, so if paternity has been established, at least in theory, child custody issues following the dissolution of a cohabiting union or a marriage are not very different.⁷

⁷ One remaining difference is paternity establishment: when a married woman gives birth, the law presumes that her husband is the father of her child. Edlund (2013) emphasizes the role of paternity presumption and its implications for custody.

The higher cost of dissolving a marriage, relative to cohabitation, affects both the selection of couples into marriage and the level of couple-specific investments within the marriage. In traditional marriages, investments in skills that are specific to the domestic sphere, and thus to some extent marriage-specific, can generate a family version of the hold-up problem. The traditional gender division of labor that limits the market experience and skills of women requires the expectation of a lifetime commitment because marital dissolution will impose heavy costs on women who have been domestic specialists. A marital regime that imposes high exit costs, legal, social, and economic, allows marriage to function as a commitment device that fosters cooperation between partners and encourages marriage-specific investments. The “divorce revolution”—the shift to no-fault or unilateral divorce—which decreased marriage exit costs and reduced the value of marriage as a commitment device appears to have played a part in reducing joint household investments (Stevenson 2007).⁸

For modern, less-specialized couples, many of the gains from marriage or cohabitation are likely to be based on shared consumption of household public goods and the pleasures of shared leisure, rather than on a division of labor between household production and market work (Stevenson and Wolfers 2007). These consumption-based benefits require less couple-specific investment and therefore demand less intertemporal commitment. Cohabitation facilitates joint consumption in a lower-commitment partnership, and thus provides an attractive alternative to marriage in a society without distinct male and female spheres. Couples will sort between marriage and cohabitation depending on their demand for commitment. Not surprisingly, cohabiting partnerships tend to be substantially less specialized than marital partnerships (Gemici and Laufer 2014, Parker and Wang 2013).

Declining marital surplus has been a proximate cause of the retreat from marriage. However, the underlying forces that led to a reduced demand for long-term commitment—decreased gender specialization and a shift from production-based to consumption-based marital surplus—appear to apply to all couples regardless of education. What remains to be explained is why we have seen a large increase in non-marital childbearing and in marital instability among low and medium-education groups while traditional patterns of post-marital childbearing and relatively stable marriages have persisted among college graduates.

Rising Inequality, Marriageable Men, and Gender Norms

Sociologists, demographers, and family historians link the socioeconomic divergence in marriage and divorce to increasing economic inequality over the past few decades and, in particular, to the deteriorating employment and earnings prospects of less-educated men. In this view, the maintenance of the traditional family, with childbearing and childrearing within stable marriages, depends on the earnings capacity of the male partner.

⁸ Matouschek and Rasul (2008) show that couples who married after the passage of unilateral divorce laws were positively selected and less likely to divorce. This is consistent with a model in which the principal role of the marriage contract is to act as a commitment device.

An extensive literature has documented a strong empirical relationship between men's long-term economic prospects and career maturity and their transitions into marriage (Oppenheimer, Kalmijn, and Lim 1997). "Marriageable" men are those who have demonstrated their ability to be good (enough) providers for a family. The idea of marriageable men has deep historical and cultural roots. Delayed marriage was a hallmark of the "European Marriage Pattern" before the Industrial Revolution (Hajnal 1965; Wrigley 2014). Marriage required young men to be economically independent, and so couples waited to marry until the man inherited the family farm, rather than forming a multi-generation household with his or her parents. Marriage ages fell in Europe as well-paying industrial jobs for young men became more prevalent (Fitch and Ruggles 2000). In the United States, age at first marriage fell to historically low levels during the optimistic and prosperous post-World War II era. Drawing upon this historical record, Ruggles (2015) attributes recent changes in family structure to the deteriorating economic prospects of men. Female wages have been rising relative to male wages at all education levels over the last few decades, but the decline in the gender earnings gap at lower levels of education is largely due to the decline in the real earnings of non-college men (Autor and Wasserman 2013).

An economic version of the marriageable men hypothesis can explain the retreat from marriage among the severely disadvantaged. Ethnographic work in severely disadvantaged communities suggests that some men's economic prospects are so dire, due to a combination of low skills, labor market discrimination, criminal records, and substance abuse, that they are unable to make a positive contribution to a household (Edin and Nelson 2013). But a purely economic version of the marriage men hypothesis cannot explain the falling marriage rate among men and women with some college. To explain the broad retreat from marriage in terms of the shortage of marriageable men requires a powerful role for norms defining gender roles.

As the prevalence of couples in which the wife earns more than the husband increased, studies of the relationships between relative earnings, relationship stability, and household behavior proliferated in sociology (Brines 1994; Atkinson, Greenstein, and Lang 2005; Cooke 2006).⁹ A common theme in this literature is that marriages in which a wife earns more than her husband violate a norm that the husband should be the primary breadwinner, and the evidence for this conclusion includes a higher probability of divorce and a higher prevalence of domestic violence in such households. Bertrand, Kamenica, and Pan (2015) invoke the stress of breaking with "gender identity" norms to motivate the apparent effects of relative spousal earnings on marriage prevalence, women's labor supply, and relationship stability. A reduction in the value of marriage when the wife earns more than the husband—as a result of violating these gender identity norms— may be more pronounced for lower-education households because traditional gender norms tend to be strongly decreasing with education (Davis and Greenstein 2009).

Becker's specialization-and-exchange theory of marriage also suggests that couples have most to gain from marriage and marital specialization when the gender wage gap is large. Using the ratio of

⁹ In 2013, 38 percent of wives with positive earnings earned more than their husbands (U.S. Bureau of Labor Statistics 2013).

female/male mean full-time earnings as an imperfect measure of the gender wage gap, it appears that the potential surplus from specialization within marriage may have declined less in recent decades for college graduates than for those with less education. Table 2 shows that the ratio of female to male real earnings for full-time workers has risen since 1960 for all education groups. In 1960, the gender earnings ratio was similar across education levels: 56 percent for workers with a college degree or higher, 53 percent for those with some college, and 54 percent for those with just a high school degree. After 1980, however, as the real earnings of less-educated men began to fall, these earnings ratios diverged. In 2010 the ratio of female/male earnings was 68 percent for those with a college degree, compared with 74 percent for both those with some college and those with only a high school degree. There is little evidence, however, that college graduate couples are more specialized than less-educated couples. Among married couple households in which both partners have the same level of education, there is no clear difference in the ratio of usual hours of market work between husbands and wives in the high school, some college, and college graduate groups (based on our calculations from the 1980-2000 Census and the 2010 American Community Survey).

An alternative hypothesis to explain the retreat from marriage as the gender wage gap fell is that contracting problems prevent couples from realizing potential marital surpluses. That is, problems in renegotiating the allocation of marital surplus may dissuade couples from marrying or lead them to divorce when they are unable to respond effectively to shocks. For contracting problems to explain the socioeconomic gradient in the retreat from marriage, these barriers must be more severe for less-educated couples than for college graduates. Contracting problems can reflect difficulties in negotiating mutually acceptable divisions of marital surplus with imperfect information (Peters 1986) or in making binding agreements to implement those divisions (Lundberg and Pollak 2003). For example, it may be difficult for couples to make credible commitments to share childcare and other household work when the wage gap shrinks in the face of peer pressures that support more traditional gender roles (Sevilla-Sanz 2005). Also, all marriages will face stochastic shocks to income, health, or affections, and reallocation within the marriage may require relationship skills that may be positively associated with education.

The Healthy Marriage Initiative, a set of federal marriage-promotion programs, was initially funded in 2003 based on the belief that low-income couples lack the relationship skills required to overcome the challenges they face as they deal with parenthood and economic hardship. Randomized treatment evaluations of these programs found them to be ineffective (Wood et al. 2012), which could mean either that the skills gap, if it exists, is not of central importance or that it is not much affected by the specific policy intervention. The former explanation is supported by Lundberg (2015), who found that although there are pronounced educational differences in measures of traits such as self-efficacy and emotional stability, these differences fail to explain any significant fraction of the education differences in relationship instability and lone motherhood among young Americans.

Diverging Investments in Children

Marital surplus from specialization and exchange has declined for all education groups as the gender wage gap has decreased, making it unlikely that this is the primary source of the socioeconomic

divergence in marriage behavior that we have documented. Other sources of gains to marriage, including the returns to joint consumption of public goods and investments in children, may also play important roles. If the returns to these consumption-based sources of marital surplus are increasing in income (Becker 1974), then the marriage rates of college graduates may be stabilized by the “income effect” of their rising wages offsetting the “price effect” of the narrowing gender wage gap (Moffitt 2000).

There are good reasons to think that children are key to the socioeconomic differences in marriage behavior. As the vast majority of men and women at all levels of education eventually marry, the most important difference between the family histories of college graduates and others is not whether they marry, but the timing and duration of marriage and its relation to childbearing and childrearing. Less-educated mothers are substantially more likely than college graduates to give birth while in cohabiting relationships and, given the short average duration of these relationships, are more likely to rear their children alone or with a subsequent partner.

An alternative explanation for the uneven retreat from marriage that offers a better rationale for the decoupling of marriage and childbearing by parents who are not college graduates focuses on differing strategies for investments in children. We suggest that, for college graduates, marriage has become the commitment device that supports intensive joint investments in children. Marriage, because it is more costly to exit than cohabitation, can act as a commitment device for the cooperative joint project of raising economically-successful children (Lundberg and Pollak 2014, 2015). Increased returns to human capital and, hence, to intense child investments, may have kept marital surplus high for college graduates, who are more likely to make these investments. Because long-term commitment facilitates this joint investment, college graduates marry late and delay having children until marriage.

Intensive investments in children, signaled by higher child-care time and by growing expenditures on children, are concentrated among college graduates. As with marital and childbearing patterns, in terms of investment patterns Americans with some college look more similar to high school graduates than to four-year college graduates. Mothers with some college who have children under age 13 spend 30 minutes less per day in primary childcare than mothers with college degrees, and there is no difference in primary childcare time between the some college and high school groups (based on our calculations from the American Time Use Survey, 2003-2014). High- and low-educated parents may also make different types of investments in their children. Ethnographic evidence indicates that the parental aspirations and goals of poor and working class parents tend to be focused on safety and survival, rather than achievement (Lareau 2003; Edin and Kefalas 2005). Because the ethnographic literature has focused on poor and working class families, the extent to which these parental aspirations extend to the some college group is an open question.

Why might the incentives to invest in children have diverged across education groups? Rising returns to human capital have been a hallmark of the recent increases in income inequality, but an upward shift in the returns to human capital should increase investment by all parents. Indeed, parents in all education groups have increased time with children. Parents differ, however, in their resources and their capabilities. Parental academic skills will increase the productivity of their time with children.

College graduate parents also appear to possess better information about how children learn and to engage with them in more developmentally-appropriate ways (Kalil, Ryan, and Corey 2012). While the effect of parental productivity on time allocated to child investments is theoretically indeterminate, abundant empirical evidence indicates that childcare time increases with education (in this journal, see Guryan, Hurst, and Kearney 2008). These advantages will be reinforced by dynamic complementarities in the production of children's skills (Heckman 2000; Todd and Wolpin 2007; Aizer and Cunha 2012). If "skill begets skill," then later parental investments and formal schooling will be more productive for children who have early cognitive and health advantages. This implies that the expected returns to child investments by parents with limited resources and uncertain futures may be lower than for more educated parents with greater and more secure investment capabilities.

Implications of Growing Family Inequality for Children, Women, and Men

The relative instability of marriage and the prevalence of non-marital childbearing among those with less education compared with college graduates have implications for the well-being of men and women, and for the transmission of resources and capabilities across generations. Because the diverging patterns of partnering and parenting across education groups reflect changes in the incentives to invest in children and in relationship-specific capital, it would be inappropriate to treat these outcomes as though they were the effects of family change itself, rather than of the underlying economic and social forces that have transformed American families.

Children: Diverging Destinies

The children of women without college degrees are substantially more likely than the children of college graduates to be born to an unpartnered or cohabiting mother, to experience a change (or multiple changes) in the presence of a father or father figure in the household, and to grow up in a complex family with step- and half-siblings. The net result will be a childhood with, on average, greater instability and more limited father involvement than the children of college graduates. These trends have contributed to what McLanahan (2004) calls the "diverging destinies" of children in advantaged and less-advantaged families, with those at the top benefiting from access to the time and money of two highly-educated parents while many at the bottom do not.

The enormous literature on the association between family structure and outcomes for children documents strong and consistent correlations between child outcomes such as educational attainment, crime, and mental health, and family structure indicators such as years with an unpartnered parent (McLanahan and Sandefur 1994) and family transitions (Fomby and Cherlin 2007). Parental cohabitation (as opposed to marriage) is also strongly associated with adverse outcomes for children and adolescents (Brown 2004). All such studies are of course plagued by selectivity, since unobserved parental characteristics are likely to be powerful determinants of family structure, family transitions, and child outcomes. Not surprisingly, adding controls for observed parental characteristics reduces the association between marriage and children's outcomes (Ribar 2004). Alternative identification strategies, such as sibling fixed effects and instrumental variables (for example, using parental death as

an instrument for parental absence), generally show smaller, but still significant effects of family structure and family transitions on child outcomes (McLanahan, Tach, and Schneider 2013). None of these studies, however, completely escape challenges to identification.

The instability of family structure also complicates estimating effects on child outcomes. Although it is convenient (or often necessary, in the absence of lifetime longitudinal data) to focus on family arrangements at a single point in the life-cycle or over a short duration—for example, whether the parents are married when the child is born or whether the child lives with both biological parents at age 15—this focus misses the “turbulence” that Cherlin (2009) identifies as a key feature of American families. While popular discussions often focus on “single parent families,” such families are typically in transition between one marriage or cohabitation and another: only a small fraction of children spend their entire childhoods in single parent families (Björklund, Ginther, and Sundström 2007). This instability implies the need for a longitudinal rather than a cross-section perspective, and emphasis on family structure trajectories rather than family structure measured at a point in time. Analyses of the “window problem” in studies of child outcomes have shown that single year and short duration window variables measuring childhood circumstances, including family structure and transitions, are poor proxies for childhood experience (Wolfe, Haveman, Ginther, and An 1996).

Given the identification challenges, the size and nature of any causal effects of family structure or family transitions on child outcomes remain very uncertain. It is difficult, if not impossible, to distinguish the effects of parental cohabitation on children from the high rates of parent figure transitions with which it is associated, or the unobserved characteristics of parents who have chosen not to marry. Also, the evidence does not unanimously favor the two-parent family. For example, using an estimation strategy that includes child fixed-effects, Aughinbaugh, Pierret, and Rothstein (2005) do not find significant effects of mothers’ marital transitions on children’s cognitive and socioemotional development, and Brown (2006) finds that transitions from a lone-mother family into a cohabiting stepfamily are associated with negative effects on adolescent wellbeing. Ginther and Pollak (2004) and Gennetian (2005) find that educational outcomes for both stepchildren and biological children in blended families are similar to outcomes in lone-parent families.

Women: Independent and At Risk

Increased family instability has increased the burden of childrearing borne by women without college degrees relative to women with college degrees. Poverty rates for women with high school diplomas and those with some college are much higher than the poverty rates of college graduates, and some of this difference is due to the greater likelihood that less-educated women are unpartnered and rearing children. Unsurprisingly, poverty rates are substantially higher for unmarried women with children at all levels of education than for married women with children.¹⁰ The vast majority of children living with one parent (87 percent) reside with the mother (Payne 2013).

¹⁰ The poverty rate is very low (1.9 percent) for college-educated women who are married with children, and 4.1 and 9.4 percentage points higher for married mothers with some college or high school degrees, respectively.

On the other hand, as cohabitation, non-marital childrearing, and divorce become more acceptable, women have increased freedom to reject marriages to men with whom they have cohabited or who have fathered their children, and to exit relationships that are unrewarding or dangerous. One effect of the divorce revolution, which reduced the cost of exiting marriage, was a significant decrease in female suicide and domestic violence (Stevenson and Wolfers 2006). Although on average unmarried women are less economically well-off than married women, an important positive consequence of the retreat from marriage may be a reduction in the prevalence of relationships that are unsatisfying or harmful.

Men: Unburdened and Unmoored

There are large differences between the behavior of married men, cohabiting men, and unpartnered men, whether measured cross-sectionally or longitudinally. Transitions into both marriage and cohabitation are associated with decreases in men's risky behavior, such as binge drinking and drug use, but the decreases associated with marriage are larger and more consistent than those associated with cohabitation (Duncan, Wilkerson, and England 2006). After they marry, men work more hours and earn higher wages. Akerlof (1998) concludes that the impact of marriage is causal and that delayed marriage, the demise of the shot-gun marriage, and men's reduced responsibility for, and co-residence with, children are responsible for a rise in social pathology. He argues that the transition into marriage is a rite of passage associated with a change in responsibilities that alters men's preferences, resulting in an increase in time spent in home-oriented activities. An alternative causal explanation for an abrupt change in men's behavior upon marriage is that it is part of the marital contract with their wives. If social and economic changes have reduced the value of marriage to non-college graduates, these changes may also be responsible for a further causal, and generally deleterious, effect on men's behavior.

Finally, there is a great deal of concern among demographers and gerontologists about the fate of elderly men without wives or dotting children. Data on intergenerational transfers support the hypothesis that aging fathers who did not consistently co-reside with their children as they grew up receive less support from their adult children. Fathers who never married or are divorced from their children's mothers are less likely to receive time and money transfers from children, but the same is not true for never-married or divorced mothers (Pezzin, Pollak, and Schone, 2008; Astone, Peters, and Gelatt, 2015; Wiemers et al. 2015). An increasing concentration of isolated elderly men among those with low lifetime income presents challenges for social welfare policy in an aging society.

Poverty rates are much higher among unmarried mothers with children: 10.8 percent of those with college degrees live below the poverty line compared to 24.6 percent of unmarried mothers with some college and 30.5 percent of those with high school degrees. These statistics are calculated by the authors from the American Community Survey 2012 five-year sample.

Conclusion

American family arrangements have become more diverse and more transitory in the past 60 years. Some changes have occurred broadly across the entire population, while others have a distinct socioeconomic gradient. As age at first marriage has risen, premarital cohabitation has become a common experience for men and women at all levels of education. Divorce rates remain much higher for all groups than they were before the divorce revolution as well. In other dimensions, however, college graduates have retained more traditional patterns of marriage and parenting than have men and women with less education. Childbearing in cohabiting unions has risen much more dramatically among high school graduates and those with some college, and their marital and cohabiting unions are less stable. This means that children of less-educated parents are more likely to grow up without both biological parents in the household and to experience instability in family structure. Increasing inequality in the stability of family arrangements has paralleled rising inequality in wages and earnings, and has contributed to inequality in household income.

To what extent is emerging family inequality a consequence of the well-documented increase in wage and earnings inequality? The declining gender wage gap has reduced marital surplus from specialization and exchange for individuals at all levels of education. This gap has decreased more for the high school and some college groups, in part because of the decline or stagnation in the real earnings of less-educated men, though there is little evidence that marital specialization is decreasing in education. If, in addition, less-educated individuals are more likely to face contracting problems or rigid gender norms that restrict men to the role of primary breadwinner, then the fall in the gender wage gap may explain part of the uneven retreat from marriage. However, this explanation does not account for differences in the timing of marriage in relation to childbearing across education groups. We propose a new explanation, one that attributes the socioeconomic gradient in the timing of marriage and childbearing to diverging incentives to make intensive investments in children. If there are dynamic complementarities between early and later investments in children, high-resource men and women may respond to rising returns to human capital by using marriage as a commitment device that supports childrearing as a joint investment project. The uncertain economic prospects of the less-educated may discourage them from doing so.

Does growing family inequality in this generation contribute to economic inequality in the next? Credible estimates of the causal impacts of family structure patterns and trajectories on child outcomes still elude researchers, though most of the literature supports a negative relationship between family instability and child wellbeing. There is considerable evidence, however, that the divergence in child investments between high- and low-resource families is likely to exacerbate future inequality.

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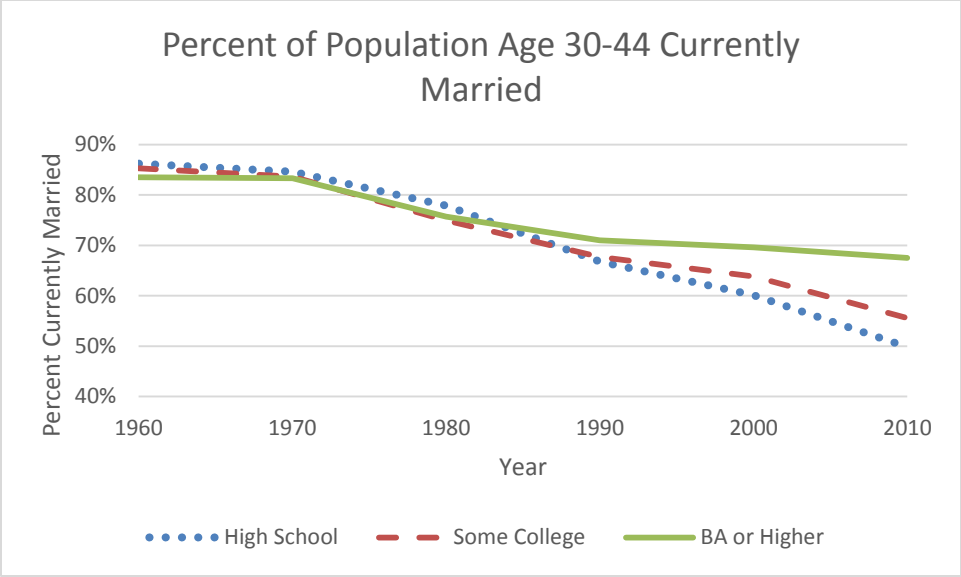


Figure 1. Source: 1960-2000 Census; 2010 ACS

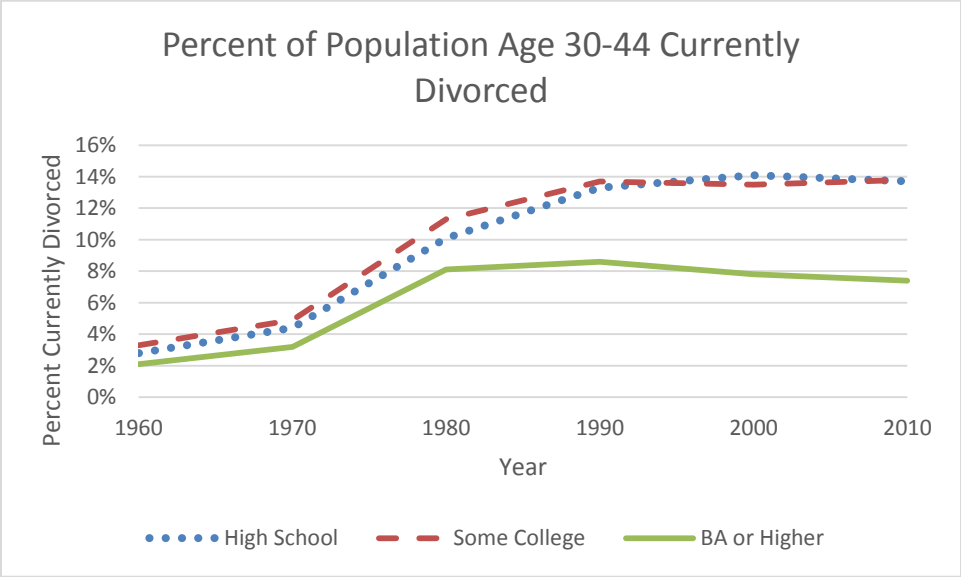


Figure 2. Source: 1960-2000 Census; 2010 ACS

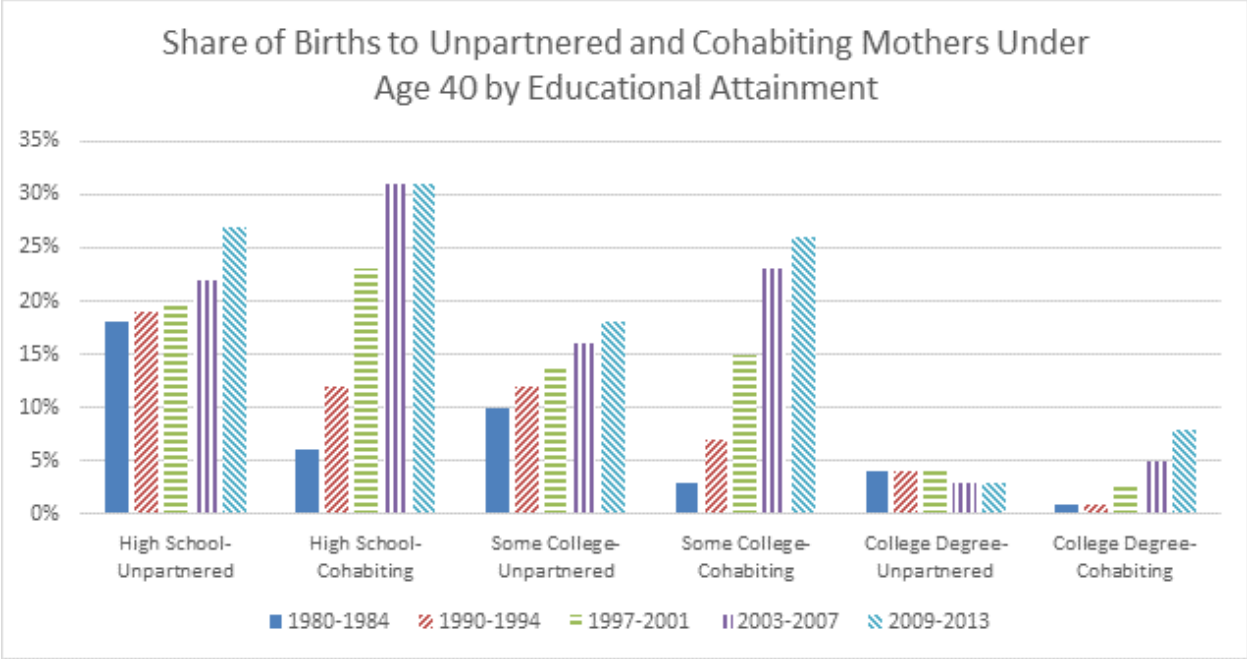


Figure 3. Source: Manning, Wendy D., Brown, Susan L., & Stykes, Bart (2015). *Trends in Births to Single and Cohabiting Mothers, 1980-2013* (FP-15-03). National Center for Family & Marriage Research. Retrieved from <http://www.bgsu.edu/content/dam/BGSU/college-ofarts-and-sciences/NCFMR/documents/FP/FP-15-03-birthtrends-singlecohabitingmoms.pdf>.

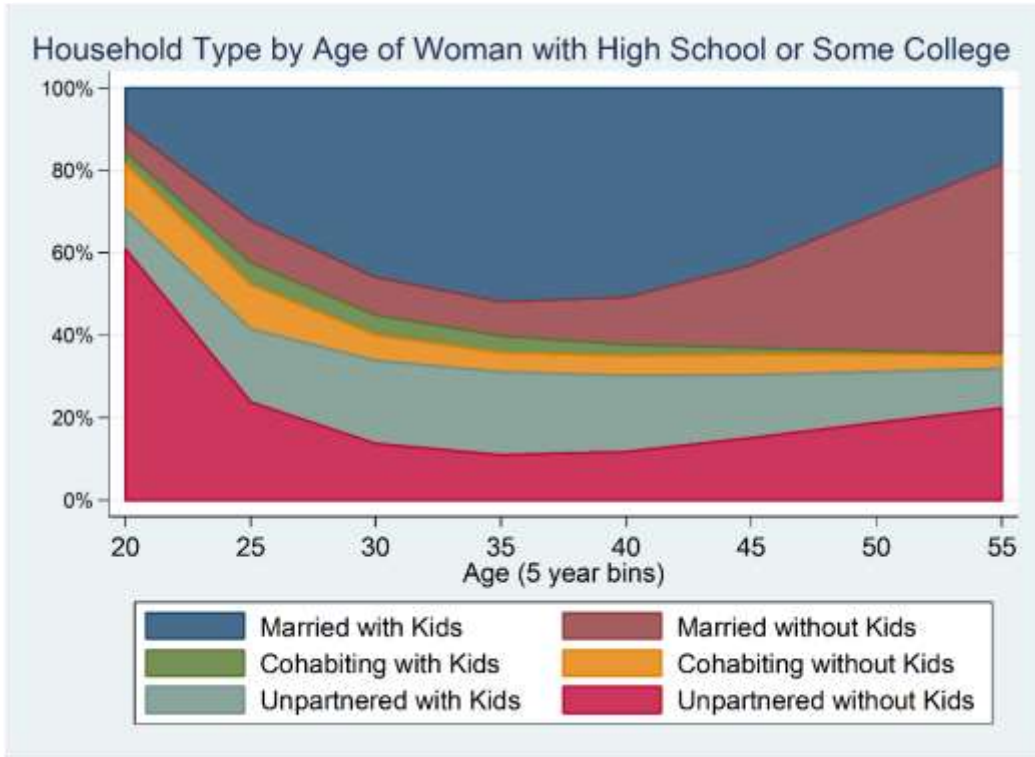


Figure 4a. Source: 2007-2013 CPS. This figure is a stacked area chart. For a given age, the vertical height of each category represents the share of women in that household type. The household types are mutually exclusive, so the six categories always sum to 1.

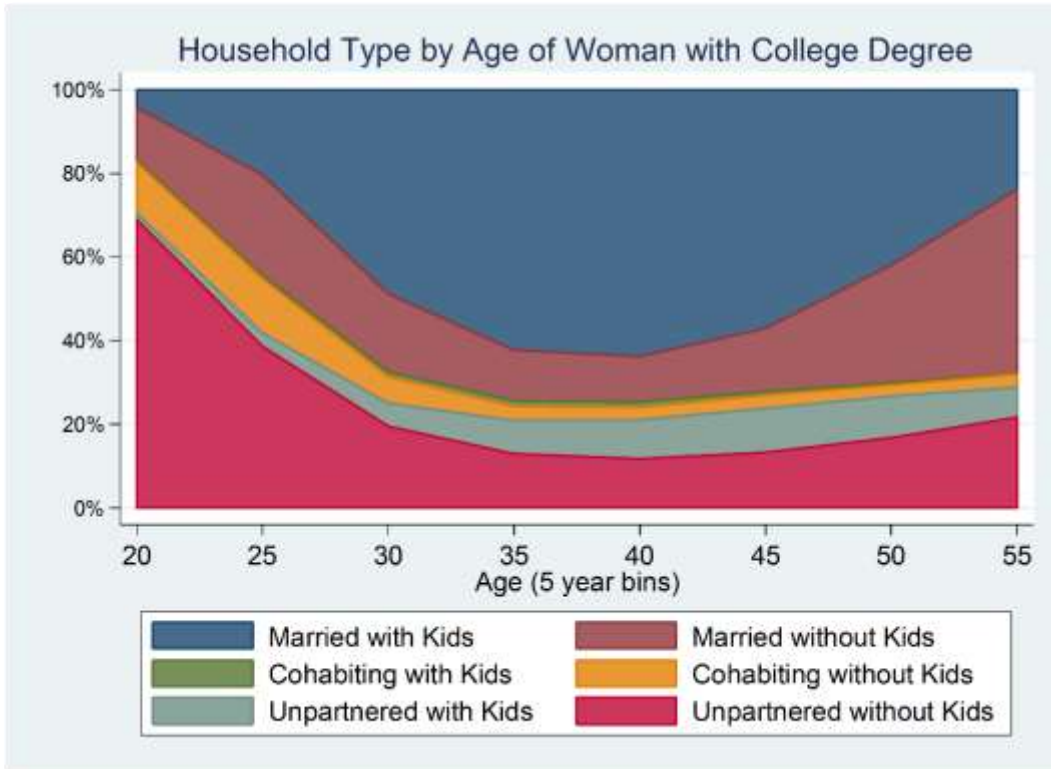


Figure 4b. Source: 2007-2013 CPS. This figure is a stacked area chart. For a given age, the vertical height of each category represents the share of women in that household type. The household types are mutually exclusive, so the six categories always sum to 1.

Table 1: Family Outcomes by Education

	High school graduate, no college	Some college or associate's degree	College degree or higher
National Longitudinal Survey of Youth, 1979: Marriage Outcomes by Age 46 (Aughinbaugh et al., 2013) ^a – Birth cohorts 1957-1964			
Percent ever married	87.0	87.1	89.0
Among those who married:			
Percent ever divorced	49.1	48.5	29.8
Percent still in first marriage	48.6	48.9	69.0
National Longitudinal Study of Adolescent to Adult Health: Family structure by age 28-32^b – Birth cohorts 1976-1984			
Percent Currently Married	45.0	45.8	48.2
Percent Currently Cohabiting	21.5	19.1	14.2
Percent 2+ co-residential unions	42.1	39.5	19.3
Percent Unmarried mother	32.2	26.7	8.4
Percent Unpartnered mother	17.8	16.4	5.8

a. Source: Aughinbaugh, Alison, Omar Robles, and Hugette Sun. 2013. "Marriage and Divorce: Patterns by Gender, Race, and Educational Attainment." *Monthly Labor Review*.

<http://www.bls.gov/opub/mlr/2013/article/marriage-and-divorce-patterns-by-gender-race-and-educational-attainment.htm>.

b. Source: Authors' tabulation from National Longitudinal Study of Adolescent to Adult Health (Add Health). Add Health is a program project directed by Kathleen Mullan Harris and designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris at the University of North Carolina at Chapel Hill, and funded by grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 23 other federal agencies and foundations. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Information on how to obtain the Add Health data files is available on the Add Health website (<http://www.cpc.unc.edu/addhealth>). No direct support was received from grant P01-HD31921 for this analysis.

Table 2: Mean Annual Wage Earnings of Full-time Workers by Education (2010 Dollars)

	1960	1970	1980	1990	2000	2010
Panel A: Full-time Male Workers						
High School	43,333	54,129	52,010	46,223	45,950	40,967
Some College	49,382	62,332	55,842	54,579	56,039	50,501
College or More	60,094	80,490	72,553	81,366	92,226	89,187
Panel B: Full-time Female Workers						
High School	23,653	28,598	28,983	30,059	31,755	30,288
Some College	26,078	32,762	32,853	36,398	39,160	37,413
College or More	33,898	44,169	41,389	50,973	59,133	60,902
Panel C: Ratio of Mean Female/Male Earnings						
High School	0.546	0.528	0.557	0.650	0.691	0.739
Some College	0.528	0.526	0.588	0.667	0.699	0.741
College or More	0.564	0.549	0.570	0.626	0.641	0.683

Source: Authors' calculations based on the 1960-2000 Census and 2010 ACS. The sample is restricted to full-time workers (who usually work at least 35 hours per week in 1980-2010 or worked at least 35 hours last week in 1960-1970) ages 25-54. Earnings are measured by annual wage and salary income converted to 2010 dollars. Although income in the Census data is top-coded, the majority of workers whose income exceeds the top code are college educated. This issue only affects a small share of workers, but if anything, the difference between the college-educated and some college groups is slightly understated as a result.