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The Reversal of the Gender Gap in Education and Trends in Marital Dissolution

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Abstract

The reversal of the gender gap in education has potentially far-reaching consequences for marriage markets, family formation, and relationship outcomes. One possible consequence of this is the growing number of marriages in which wives have more education than their husbands. Previous studies have found this type of union to be at higher risk of dissolution. Using data on marriages formed between 1950 and 2004 in the United States, we evaluate whether this association has persisted as the prevalence of this relationship type has increased. Our results show a large shift in the association between spouses' relative education and marital dissolution. In particular, we confirm that marriages in which wives have the educational advantage were once more likely to dissolve, but we show that this association has disappeared in more recent marriage cohorts. Another key finding is that the relative stability of marriages between educational equals has increased. These results are consistent with a shift away from rigid gender specialization toward more flexible, egalitarian partnerships and provide an important counterpoint to claims that progress toward gender equality in heterosexual relationships has stalled.

Keywords

Divorce; Education; Gender; Assortative mating

INTRODUCTION

The decline and eventual reversal of the gender gap in education represents a dramatic reversal of a long-standing social gradient in the United States and other countries (OECD 2010). Both men and women complete more schooling than in the past, but beginning in the mid-1980s women's college completion rates began to surpass men's in the United States (Buchmann and DiPrete 2006). Much of the literature on the reversal has focused on its causes, pointing to the growing disadvantage of sons with less educated or absent fathers, girls' better academic performance in high school, and the growing returns to education for women (Buchmann and DiPrete 2006; Charles and Luoh 2003; DiPrete and Buchmann

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2006; Goldin, Katz, and Kuziemko 2006). But the reversal of the gender gap in education also has potentially far-reaching consequences for marriage markets, family formation, and relationship outcomes.

One potential consequence of the reversal of the gender gap in education is the growing number of marriages in which wives have more education than their husbands. On average, wives have more education than their husbands in almost all countries in which the gender gap in education has reversed (Esteve, García-Román, and Permanyer 2012). In the United States, wives' education exceeded husbands' by the early 1990s, shortly after the reversal occurred in the population (Schwartz and Mare 2005). Previous research has consistently shown that couples in which wives have the educational advantage are more likely to divorce. Although the reference groups, control variables, and statistical significance of the results vary from study to study, previous research has typically shown that marriages in which wives have more education than their husbands are 27 to 38% more likely to dissolve (Bumpass, Castro Martin, and Sweet 1991; Goldstein and Harknett 2006; Heckert, Nowak, and Snyder 1998; Kalmijn 2003; Phillips and Sweeney 2006; Teachman 2002; Tzeng 1992). Furthermore, the two studies that have examined trends in the relative likelihood of divorce for couples in which wives have more education than their husbands found no evidence that this association has weakened (Heaton 2002; Teachman 2002). Does this mean that the reversal of the gender gap in education has created a situation in which men and women are increasingly forming marriages that are likely to end in divorce?

Given past research, this is plausible, but there are also strong reasons to expect that having more education than one's husband may matter less for marital outcomes today than in the past. Many demographic and social trends point to the declining significance of gender in family life. Among other shifts, men's and women's earnings and labor force participation, the division of childcare and housework, and preferences for mates have become less gender differentiated over the past half century (Bianchi, Robinson, and Milkie 2006; Buss et al. 2001; Schwartz 2010). Given these changes, we might also expect the importance of spouses' relative education for marriage outcomes to have diminished. In addition, social and demographic theories point to a decline in the negative relationship between wives' educational advantage and marital stability as the division of labor in marriage becomes less strictly gendered and as these relationships become more common (e.g., Casterline 2001; Oppenheimer 1994).

By contrast, a persistent negative association between wives' educational advantage and marital stability is consistent with a "stalled revolution" perspective, which argues that progress toward gender equality has been uneven and has progressed more slowly in heterosexual romantic relationships than in other realms (e.g., England 2006, 2010; Hochschild 1989; Ridgeway 2011). In recent years, evidence has mounted that the gender revolution has stalled or slowed in many areas. For instance, the pace of change in women's labor force participation, occupational desegregation, the gender pay gap, and egalitarian attitudes all slowed or flattened in the 1990s (Blau, Brummund, and Liu 2013; Cotter, Hermsen, and Vanneman 2011; Goldin 2006).

Consistent with the stalled revolution perspective, previous empirical studies suggest that the negative association between wives' educational advantage and marital stability has not declined (Heaton 2002; Teachman 2002). One reason that these studies may not have observed a decline, however, is that they use data on marriages primarily formed prior to the mid-1980s, before the gender gap in education had clearly reversed. It is possible that it takes a critical mass of couples in which wives have the educational advantage for this arrangement to become less non-normative and for its negative association with marital stability to decline.

This study is the first to examine trends in the relationship between spouses' relative education and marital dissolution among recent marriage cohorts for which women's education clearly exceeded men's. We use data from the National Survey of Family Growth (NSFG) and the Panel Study of Income Dynamics (PSID) to reexamine trends among marriages formed between 1950 and the mid-1980s, and to update the time series to include marriages formed through 2004. We corroborate our results using data from the June Current Population Survey (CPS) and the U.S. decennial census where possible. Our updated time series allows us to assess whether the reversal of the gender gap in education has been accompanied by a decline in the association between spouses' relative education and marital dissolution, and more to the point, whether there is evidence that wives' educational advantage still matters for divorce.

In so doing, we provide a description of the changing characteristics of couples in which wives' education exceeds their husbands'. Assortative mating studies have reported trends in the likelihood that wives have more education (Esteve et al. 2012; Qian 1998; Schwartz and Mare 2005), but no study has examined who these couples are and how their characteristics have changed. Given that wives are now more likely to have more education than their husbands than the reverse, a more thorough investigation of these couples and their marital outcomes is warranted.

Our study also contributes to a broad literature on changing gender dynamics in heterosexual relationships. While there are many ways to measure the changing significance of gender in families, change in the association between spouses' relative education and marital stability is a key indicator given the growing mismatch between men's and women's educational attainment. Results from our study can be combined with other indicators of gender egalitarianism to better understand where social change is stalled and where it is moving forward.

In addition, our study speaks to public anxiety about the effects of women's success on their chances of getting and staying married (Cherlin 1990), a concern that continues to be voiced by social commentators and the media in connection with the reversal of the gender gap in education (e.g., Banks 2010; Ludden 2010; Roberts 2010; Thaler 2013; Tierney 2006). We show that there is no evidence that these concerns are warranted for recent marriage cohorts. Couples in which wives have the more education than their husbands were once more likely to divorce, but this association has declined markedly. In recent marriage cohorts, these couples are no more likely than other couples to divorce.

MARRIAGE AS A CHANGING INSTITUTION: FROM SPECIALIZATION TO EGALITARIANISM

In the 1950s and early 1960s, the breadwinner-homemaker ideal dominated American family life. Families who could afford to do so followed a gendered division of labor in which men specialized in the labor market and women specialized in housework and childcare. Husbands also retained substantial authority in their families. Coontz (2005) gives several examples of ways in which this authority was reaffirmed by the legal system. For instance, the notion that husbands and wives should be treated as “a single person, represented by the husband” continued to appear in judicial proceedings as late as the 1970s and marital rape was not criminalized in all states until 1993 (Martin, Taft, and Resick 2007; Mason, Fine, and Carnochan 2001). Wives’ autonomy was also limited in other ways, for example, wives could not apply for credit cards or loans independently from their husbands (Coontz 2005).

The breadwinner-homemaker ideal also appeared in the social science of the day. In his classic theory of the American family, Parsons (1949) hypothesized that the conventional division of labor in marriage served the function of reducing destructive competition between the sexes, thus protecting families from marital strife and divorce. Similarly, Becker’s (1974) exchange theory of marriage posited that because men generally have a comparative advantage in market work and women in housework, the gains to marriage are maximized when high-wage men match with low-wage women and thus the risk of divorce is heightened when wives outearn their husbands. Even Goode, who predicted that egalitarian values would continue to rise around the world, saw little promise of change in women’s family roles (1970 [1963]:16).

Thus, the massive changes in the institution of marriage were largely unforeseen by social scientists. Since the 1960s, expectations about intimacy and personal fulfillment in relationships have increased (Cherlin 2004). No fault divorce laws were successively passed by every state in the nation and divorce became an increasingly acceptable way to end unhappy marriages (Mason et al. 2001). The labor force participation of wives and mothers rose dramatically as did public acceptance of working mothers (Cotter et al. 2011). Reflecting these shifting values, young people now consider egalitarian marriage to be the ideal (Gerson 2010), a shift which can be seen in men’s and women’s increasing emphasis on status equality in mate selection (Buss et al. 2001).

The shift from gender specialization toward more flexible, egalitarian partnerships is a common theme among contemporary family scholars (e.g., Cherlin 2004; Goldscheider and Waite 1991; Nock 2001; Oppenheimer 1997). Many have noted that the world Parsons and Becker described no longer captures the realities of American marriage (e.g., Oppenheimer 1994, 1997; Sayer and Bianchi 2000; Sweeney 2002). What implications might this shift have for the association between spouses’ relative education and divorce? Feminist theory provides a way of linking the broad institutional changes in marriage to the couple-level marriage outcomes that are of interest here. Feminist scholars have argued that women married to men with lower earnings or education levels than themselves are likely to have negative marital outcomes because of the non-normative power relations this arrangement

symbolizes (Kaukinen 2004; Tichenor 1999, 2005). Relationships in which women have higher status than their male partners may pose a significant threat to men's gender identity as breadwinners and as the "head of the household" (Tichenor 2005). Given the rise of egalitarian marriage, however, the severity of this threat may be declining. Thus, changes in the institution of marriage imply two hypotheses about the relationship between spouses' relative education and divorce.

Hypothesis 1: Marriages in which wives have the educational advantage were once more likely than others to dissolve, but this association has declined since the 1950s. Because marriages in which wives have more education than their husbands are inconsistent with male status dominance and potentially threaten the conventional marriage contract, we expect that these couples were more likely to divorce relative to other couples when the breadwinner-homemaker ideal dominated American family life, but that this association has declined with the rise of egalitarian marriage.¹

Hypothesis 2: Marriages in which spouses share similar education levels are increasingly stable relative to other marriages. Because the rise of egalitarian marriage has been accompanied by an increasing emphasis on status equality in partnership formation, we expect that husbands and wives who share similar educational attainments have become less likely to divorce relative to other couples.

The predictions associated with the "institutional change" hypotheses are also summarized in Table 1.²

A STALLED REVOLUTION?

Although there is wide agreement that the gender inequality has declined in many ways in the United States, it is evident that change has moved more quickly in some areas than others. Many have remarked that progress toward gender equality has been deeply asymmetric, with changes among men, especially with respect to their family behaviors, occurring much more slowly than changes among women (e.g., Bianchi et al. 2006; Blau, Brinton, and Grusky 2006; England 2006, 2010). For example, women have moved into male-dominated occupations to a greater extent than men have moved into female-dominated ones (Cotter, Hermsen, and Vanneman 2004) and declines in women's housework hours have been more dramatic than increases in men's (Bianchi et al. 2000; Sayer 2005). The relatively slow pace of change in men's family behaviors combined with the inflexibility of the workplace led Hochschild (1989) to compare progress toward gender equality to a "stalled revolution," an analogy that has become well known.

In recent years, there has been a resurgence of claims that the gender revolution has stalled. These claims are supported by empirical findings showing stability in multiple

¹Exchange theory (e.g., Becker 1974) also predicts a declining association, but for different reasons, namely, that comparative advantage in housework and market work has become less gender-specific and thus the gains to specialization have weakened.

²It should be noted that all of our hypotheses pertain to the likelihood of divorce for a given group of couples relative to other couples. The theories guiding our analyses pertain to changes in how much more or less a particular group is to divorce relative to other couples rather than to trends in absolute levels of divorce.

measures of gender equality in the 1990s, e.g., in women's labor force participation, occupational sex segregation, and egalitarian attitudes (Blau et al. 2013; Cotter et al. 2011; Goldin 2006). Whether the 1990s represented a temporary or more long-term stall remains to be seen. Irrespective of what the future holds, however, the following hypothesis is consistent with the stalled revolution perspective,

Hypothesis 3: Marriages in which wives have the educational advantage are more likely than other couples to dissolve and there has been little change in this association since the 1950s. Because marriages in which wives have the educational advantage are symbolic of unconventional power relationships, the stalled revolution perspective predicts little change in the relationship between spouses' relative education and marital dissolution. Furthermore, if these trends are similar to other measures of gender egalitarianism, we would expect to see especially little change in the 1990s. Thus, a pattern of slow to no change prior to the 1990s and no change in the 1990s would be consistent with this perspective.

As predicted by the stalled revolution perspective, evidence from a variety of realms suggests that unions in which women have higher status than their partners remain non-normative. For example, speed dating experiments and internet dating studies indicate that men and women prefer equal status partners, but that both men and women tend to avoid forming relationships in which the woman has higher status than the man (Fisman et al. 2006; Hitsch, Hortacsu, and Ariely 2010). Other studies have found that husbands who make less money than their wives are more likely engage in infidelity (Munsch 2010), that domestic violence is more likely to occur in these relationships (Atkinson, Greenstein, and Lang 2005; Melzer 2002), and that they have lower levels of marital satisfaction (Bertrand, Kamenica, and Pan 2013). With the exception of the speed and internet dating studies, however, most of these studies use data on romantic relationships primarily formed in the 1980s or earlier (Atkinson et al. 2005; Bertrand et al. 2013; Melzer 2002; but see Munsch 2010), and thus the associations may have changed in more recent marriage cohorts.

THE DIFFUSION OF INNOVATION TO MARRIAGE MARKET CONSTRAINTS

Evidence from speed and internet dating studies suggests that young men and women still prefer to avoid relationships in which women have higher status, but we know that more and more couples are, in fact, forming these relationships. One interpretation of this discrepancy is that relationships in which men have more education than their female partners are still preferred, but that discomfort with this arrangement has declined. Indeed, there is scattered evidence that wife-advantaged relationships have become less non-normative. For example, when male college students were asked whether they would be bothered if their partners earned a higher salary, almost 60% said "it wouldn't bother me at all" in 1990, up from just 41% in 1980 (Willinger 1993). In addition, using data from the 1980s, Atkinson et al. (2005) found that husbands were more likely to abuse their wives in relationships in which she outearned him, but only if he held traditional values. This finding suggests that the prevalence of domestic violence in relationships in which wives outearn their husbands has declined with the rise of egalitarianism. This idea is supported by a study using more recent data on young adults from the 2000s, which found that women who are involved in a gainful activity (are either in school or employed full-time) and have male partners who are not (are

neither in school or employed full-time) do not experience a higher risk of domestic violence than other couples (Alvira-Hammond et al. 2013).

Increasing tolerance for relationships in which women have higher status than their male partners can be understood from a diffusion of innovation perspective. Diffusion theory is best known for its application to the rapid spread of ideas about fertility control in Europe during the demographic transition (Casterline 2001). Diffusion theory predicts that the adoption of an innovation begins slowly, but that once a critical mass is reached, its spread accelerates rapidly as people observe others adopting the innovation and as its spread lowers the social costs for subsequent adopters (Cleland 2001:44–5, 53). Marriages in which wives have more education than their husbands can be seen as an innovation to marriage market constraints (a shortage of highly educated men) that, as these relationships become more common, are accepted by an increasing portion of the population and therefore become less divorce prone. Thus, this perspective implies that:

Hypothesis 4: The pace of decline in the positive relationship between wives' educational advantage and divorce accelerates as these relationships become more common. Marriages in which wives have more education than their husbands were once non-normative and may still be, but increasing numbers of couples form these relationships. If individuals see others forming these relationships and this changes their evaluation of their desirability, this could lead to a feedback effect in which the discomfort associated with this marital arrangement rapidly declines.

It is important to note that the institutional change, stalled revolution, and diffusion of innovation perspectives are not mutually exclusive. As shown in Table 1, all three predict that couples in which wives have the educational advantage were once more likely to divorce. They differ primarily in their implications about the timing and pace of change. Scholars writing from the stalled revolution perspective often focus on the lack of change over relatively short time intervals (e.g., since the 1990s) or the slow pace of change (e.g., Cotter et al. 2011; Hochschild 1989). Those writing from an institutional change perspective generally consider longer periods, often without considering the pace of change (e.g., Cherlin 2004; Oppenheimer 1994). Like the institutional change perspective, diffusion theory predicts a decline, but an increasingly precipitous one. Of course, it is plausible that there have been fits, starts, plunges, and reversals within long-run declines and/or that the pace of change has been slow. Because we use detailed data on marriages formed between 1950 and 2004, we can assess the timing and nature of trends in the relationship between spouses' relative education and divorce, thus offering insights into theories on marriage and divorce by assessing which ideas or combinations of ideas best help us understand observed trends.

DATA & ANALYSIS PLAN

Previous research has shown that the proportion of couples in which wives have more education than their husbands has increased substantially, but we know little about who these couples are. What are their characteristics and how have they changed? The first part of our study uses data from multiple sources (the 1973the 1976the 1982the 1988the 1995the 2002, and 2006–10 National Survey of Family Growth [NSFG]; the 1968–2009 Panel Study

of Income Dynamics [PSID]; the 1960 Panel Study of Income Dynamics [PSID]; the 1970, and 1980 decennial census; and the 1971–1995 June Current Population Survey [CPS]) to describe the characteristics of couples in which wives have more education than their husbands compared with other types of couples among marriages formed between 1950 and 2009. We use data from several different sources because each source has its own unique strengths and weaknesses (see the online appendix for data details), and thus corroborating our results across sources boosts our confidence in the results.

We use our understanding of the changing characteristics of couples to inform the second part of our analysis, in which we examine trends in the association between spouses' relative education and marital dissolution to test the four hypotheses outlined in Table 1. This part of the analysis uses hazard models and data from the NSFG and the PSID to examine the changing risk of dissolution for couples married between 1950 and 2004.³ The NSFG contains information with which to examine the association for the entire period we examine (marriages formed between 1950–2004), whereas data are available for a subset of years for the PSID (marriages formed between 1970–2004). We cannot use Census or June CPS data for this part of the analysis because they lack information on spouses' education for respondents who were divorced at the time of the survey.

Our NSFG and PSID samples consist of wives married between the ages of 16 and 40. Our 1973 to 1995 NSFG samples were compiled by Teachman (2002) for his analysis of trends in divorce risk factors and include information on wives in their first marriages. Because sample size is an issue especially in recent marriage cohorts, we retain remarriages in the PSID and in the 2002 and 2006–10 NSFG samples, but control for marriage number in our models. Our results are very similar, albeit less precise, when remarried wives are excluded. Following most studies that utilize the longitudinal nature of the PSID, we drop the Latino oversample as these families were only interviewed from 1990 to 1995 (Gouskova et al. 2008). Appendix Table 1 shows our sample sizes by marriage cohort and data source, and for the PSID and NSFG, the number of marital dissolutions for cohorts included in the hazard analysis.⁴

CONCEPTUAL ISSUES

The Changing Selectivity of Marriage

Observed trends in the association between spouses' relative education and divorce may be due to changes in selection into marriage as well as changes in causal effects. Our paper does not attempt to distinguish between these factors (aside from controlling for a limited set of demographic and economic characteristics), but the theoretical perspectives that frame our analysis are consistent with both types of change. For instance, selection may account for a declining association if wife-advantaged couples were once especially likely to have non-traditional attitudes or other unmeasured characteristics associated with a heightened risk of divorce but are now a less select group (South 2001).⁵ Although this is a selection

³Although we take advantage of data on the 2005–09 cohort in the first part of our analysis, we do not use these data in our hazard models to avoid right censoring at very short marital durations.

⁴The data and statistical code that produced the results in this article are available from the first author upon request.

argument, it is consistent with the loosening of conventional gender expectations in marriage—that is, the selectivity of marriages in which wives have more education may have declined precisely because these relationships are less non-normative. Because the theories we draw on predict a decline in the significance of gender in both the selection of marriage partners and in marriage outcomes, our analysis does not hinge on the identification of the causal effects. Indeed, determining whether causal effects are worth estimating requires careful descriptive analyses of trends and differences in associations (Duncan 2008). This is the first paper to our knowledge to conduct such an analysis.

Other ways in which selection may affect our results stem from broad societal shifts in marriage formation and dissolution. Since the 1960s, marriage rates have slowly but steadily declined, divorce rates increased rapidly but have declined somewhat since the late 1970s, and cohabitation continues to increase. These shifts, however, have occurred at different rates for different segments of the population. African American women and those with less education have experienced particularly rapid declines in marriage, and declines in divorce have been concentrated among women with college degrees (Goldstein and Kenney 2001; Martin 2006; Zeng et al. 2012). Declines in marriage among African American women and those with less education and the rise of cohabitation have implications for our analysis if they are correlated with spouses' relative education and the risk of divorce. We offer details about why we believe that our findings are not explained by these trends in the online appendix.

Relative Education versus Relative Earnings

Our analysis focuses on spouses' relative education rather than their relative earnings for several reasons. First, education is multifaceted, reflecting values, beliefs, and life styles as well as earnings potential. Thus, the relationship between relative education and divorce may differ in important ways from the relationship between relative earnings and divorce (Weiss and Willis 1997). Second, a persistent issue in the study of the effects of wives' earnings on divorce is the possibility that wives increase their earnings and labor force participation in anticipation of divorce (Johnson and Skinner 1986; Sayer and Bianchi 2000). Reverse causality is arguably less problematic in analyses of relative education because wives may be less likely to return to school in anticipation of divorce than to increase their labor force participation and earnings. Finally, from a practical standpoint, only the PSID contains information on both husbands' and wives' earnings making it impossible to control for earnings over the entire time series we consider. We include the results of sensitivity tests using the PSID, but leave a complete analysis of the relationship between spouses' relative earnings and education to future research.

METHODS & MEASURES

We use Cox proportional hazard models to examine the changing association between spouses' relative education and marital dissolution, which can be written as:

⁵Recent studies on the association between premarital cohabitation and divorce have similarly argued that the declining selectivity of cohabitation may be responsible for the recent disappearance of its association with divorce (Liefbroer and Dourleijn 2006; Manning and Cohen 2012).

$$h_i(t) = \lambda_0(t) \exp\{\beta_1 x_{i1} + \dots + \beta_k x_{ik}\} \quad (1)$$

where $h_i(t)$ is the hazard of marital dissolution at time t for couple i , $\lambda_0(t)$ is the baseline hazard, which is unspecified, the x s are independent variables of interest, and the β s are the parameters to be estimated. Time (t) is measured as years from marriage to separation, divorce, or censoring, whichever occurred first.⁶ Observations are censored if a marriage did not dissolve before a respondent dropped out of the survey or reached the final survey wave, or if a respondent became widowed.⁷

Our primary independent variable of interest is spouses' relative education. We measure relative education using a 3-category variable ($P=1,2,3$) in which

- wives have more education than their husbands (*hypogamy*),
- husbands and wives have equal education levels (*homogamy*), and
- wives have less education than their husbands (*hypergamay*).

These categories correspond to the relevant contrasts from theory and research on spouses' relative education. To capture non-linearities and credential effects, our measure is constructed using a 4-category representation of husbands' and wives' years of schooling completed ($H, W = <12, 12, 13-15, \text{ and } 16$ years). Previous studies have reported significant barriers to marriage across these categories (Schwartz and Mare 2005) and data constraints prevent us from using more detailed classifications across the time series. Some previous studies have used other measures of spouses' relative education, such as the difference between spouses' years of schooling, or have highlighted spouses separated by large educational divides (e.g., Heaton 2002; Kalmijn 2003; Teachman 2002). Our analysis focuses on the simple 3-category representation of spouses' relative education, but also includes controls for the size of the difference between spouses' educational attainments.

The relative education coefficients estimated in equation (1) summarize the higher (or lower) hazard of marital dissolution by couples' relative education across spouses' education levels. For example, the hypogamy coefficient measures the "average" difference in the log hazard of divorce for couples in which wives have more education than their husbands versus the omitted category (hypergamous couples) across hypogamous couples of all education levels. Because we are interested in the association between spouses' relative education and divorce over and above their educational level, we include dummy variables for both spouses' education categories in our models. Thus, rather than estimating the full set of $(H - 1)(W - 1) = 9$ interaction terms for husbands' and wives' education, we estimate $(H - 1) + (W - 1) = 6$ terms for spouses' education levels and $(P - 1) = 2$ terms for their relative education. It is possible that the association between spouses' relative education and divorce varies by their absolute attainments (e.g., if those with more education are less

⁶Very few couples who separate reconcile, but even those who do often go on to separate again permanently (Bumpass and Raley 2007:125). Because the large majority of couples who separate either divorce or separate permanently and are effectively "divorced" from a social perspective, for ease of discussion we refer to "marital dissolution" and "divorce" interchangeably in this paper.

⁷Recent marriage cohorts are followed for less time than earlier ones. Our results are similar when we follow all marriages for 10 years, excluding marriages that are censored before 10 years (see the online appendix for details). In addition, there is no evidence that the hazards of divorce vary non-proportionately across the duration of couples' marriages by their relative education.

affected by wives' educational advantage than those with less education), but there is no evidence of this in our data (see the online appendix for details). However, our study is limited by relatively small sample sizes in some marriage cohorts and, thus, future studies may uncover educational differences in the associations we present.

Educational attainment is measured as closely as possible to the date of couples' marriages. In the 1973–1995 waves of the NSFG, this information is based on women's retrospective reports about their husbands' and their own schooling at the time of their first marriages (except for the 1995 wave, in which wives' education is measured at the time of the interview). In the 2002 and 2006–10 NSFG waves, respondents' and spouses' attainments are measured at the time of the interview because retrospective information about first marriages was not gathered in these waves. Thus, throughout all waves of the NSFG, our measures of education are time-invariant. The PSID gathered spouses' education when new heads of households or wives entered the survey and for all heads and wives in 1976 and 1985. Therefore, the PSID also lacks precise time-varying education measures. For consistency with the NSFG, we define spouses' education as their attainment in the first year the marriage is observed in the data. Because we measure husbands' and wives' educational attainments as closely as possible to the time of couples' marriages, they can be viewed as proxies for the conditions in place at the time of the marital bargain.

A limitation of our education measures is that some people may match on expected future educational attainment rather than current attainment. This was arguably more likely in the 1950s and early 60s when people married at younger ages than they do today. If so, our findings would be biased toward zero in this period because our sample of couples in which wives have the educational advantage would contain some unknown fraction of couples who transition to a conventional configuration at a later date. Another limitation of our education measures is that we do not capture fine-grained information about spouses' education that may matter for divorce, e.g., college prestige or college major. For instance, a man's gender identity may not be threatened if he marries a woman with more education than himself if she graduated with a traditionally female college major. This could only explain a decline in the association between spouses' relative education and divorce, however, if men who "marry up" by marrying college graduate women are more likely to select those with female-typed college majors than they were in the past. One way to investigate this possibility would be to determine if the probability of marriage has risen faster for women with female-typed college majors than for other majors and if these women are more or less likely to divorce if they have the educational advantage. The same could be done with graduate and professional degrees.

Our analyses control for several factors that have been found to be associated with the risk of divorce: husband's and wife's age at marriage, wife's race, and wife's marriage number, defined as shown in Table 2 (results discussed below). We omit other factors that may be associated with divorce, such as fertility and home ownership, as these decisions may be endogenous to a couple's relative education at the time of marriage. For instance, couples in which wives have the educational advantage may choose to have fewer children or may be less likely to buy a home if they perceive their relationships to be less stable. However, because of strong interest in the links between education, earnings, and employment, we test

the sensitivity of our results to controls for these variables using data from the PSID, despite their likely endogeneity. We include measures of husbands' and wives' annual wage and salary earnings (in 2008 dollars), relative earnings (the percentage of total couple earnings earned by the wife), and wives' employment in the previous year (wives who had any wage or salary income in the previous year).

Descriptive analyses using the census, June CPS, and NSFG are weighted using the wife's person weight, and those using the PSID are weighted using family weights. We do not weight our hazard model analysis because our control variables adjust for the major factors used in constructing the weights. Sensitivity tests show that the trends are robust to the use of weights.

RESULTS

The Reversal of the Gender Gap in Education among Married Couples

Figure 1 shows trends in the percentage of married couples that are hypogamous (wives have more education than their husbands), among heterogamous couples (those that have different levels of education). Although there are minor fluctuations across data sources, a consistent trend emerges. Prior to the early 1980s, it was more common for husbands to have more education than their wives than vice versa. Since then the situation has reversed. For couples married in 2005–9, over 60% of couples with different levels of education were those in which wives had more education than their husbands, and there are no signs that this trend is slowing. These findings are consistent with past work (e.g., Esteve et al. 2012; Schwartz and Mare 2005), and the basic similarity of the trends across data sources bolsters our confidence in their comparability.

In addition, despite an increase in the proportion of couples with equal levels of attainment (Schwartz and Mare 2005), the proportion of *all* couples in which wives had more education than their husbands grew. In the most recent marriage cohort, over 30% of all marriages were those in which wives had more education than their husbands, up from about 20% in the early 1970s (not shown). These changes have resulted in a reversal of the average years of schooling attained by husbands and wives. Among couples married in 1950–54, husbands had completed an average of 12.4 years of schooling compared with wives' 12.0, but in 2005–9, husbands had completed 13.8 years compared with wives' 14.1 (authors' calculations from PSID data).

Changes in the Characteristics of Couples by their Relative Education

Table 2 shows descriptive statistics for the variables used in our analysis by couples' relative education. To summarize changes across marriage cohorts, we show the characteristics of couples married in three periods: 1950–54, 1975–79, and 2000–04, which is the most recent cohort in our analysis of marital dissolution. For the 1975–79 cohort, we present results from both the NSFG and the PSID to facilitate comparison between the surveys. The trends presented here are quite similar across all four data sources for the complete time series (available in the online appendix).

Table 2 shows that educational attainment for each of the three couple types has increased since the early 1950s, but this is especially notable for wives with more education than their husbands. In the 1950–54 cohort, only about 4% of hypogamous and homogamous wives were college graduates. By 2000–04, this percentage had risen to 44% for hypogamous wives but to only 38% for homogamous wives. Hypogamous wives also had the highest mean levels of schooling of any group in 2000–04, even slightly exceeding husbands with more education than their wives (14.7 versus 14.6 years).

Husbands with less education than their wives have lower educational attainment, on average, than other husbands, but their attainment also rose disproportionately quickly relative to the attainment of husbands with more education than their wives. The average years of schooling completed by husbands in hypogamous marriages increased from 10.3 to 12.2 years between 1950–54 and 2000–04, whereas the average only increased from 14.2 to 14.6 for hypergamous husbands. Thus, a key finding from these comparisons is that the educational attainment of *both* husbands and wives in hypogamous marriages rose more quickly than those in hypergamous marriages. This means that any decrease in the likelihood of divorce among hypogamous couples may be partially due to the disproportionate rise in their educational attainment.

Consistent with women's increasing educational advantage, the difference between husbands' and wives' educational attainment for couples in which wives have more education increased between 1950–54 and 2000–04 (from an average difference of 1.10 to 1.24 education categories), but decreased among couples in which husbands had the advantage (from 1.31 to 1.20 categories). Given that past research has found that greater educational differences are associated with a higher risk of divorce (Kalmijn 2003), these trends would tend to increase the risk of divorce among wife-advantaged couples relative to other couples, holding all else constant.

Table 2 also shows couples' earnings and employment characteristics measured as closely as possible to the time of their marriages using data from the PSID. Not surprisingly given their higher educational attainment, hypogamous wives have higher earnings than hypergamous ones, are more likely to work, and have higher earnings relative to their husbands. Wives with more education than their husbands also increased their earnings and employment more quickly between 1975–79 and 2000–04 than those with less education than their husbands. In 2008 dollars, hypogamous wives' earnings increased by about \$11,500 between 1975–79 and 2000–04 whereas hypergamous wives' earnings increased by only \$7,800. Likewise, hypogamous wives' employment increased by 5 percentage points, compared with about 1 percentage point for hypergamous wives. By contrast to the pattern for wives, hypergamous and hypogamous husbands increased their earnings by similar amounts. Interestingly, the earnings of homogamous husbands and wives increased faster than any other group. Depending on the relationship between couples' earnings and divorce, these trends could either contribute to or offset trends in the relationship between couples' relative education and divorce.

Finally, Table 2 shows that wives in hypogamous marriages tend to be slightly older than other wives when they marry and are somewhat more likely to be African American, but that there is little discernable time trend in these differentials.

The Changing Risk of Marital Dissolution by Spouses' Relative Education

Figure 2 shows trends in the hazard of marital dissolution by spouses' relative education. Because a key finding of our descriptive analysis was that husbands and wives in hypogamous marriages are increasingly well-educated relative to those in hypergamous marriages, all of our models include dummy variable controls for both spouses' education categories. All of the models also include a linear term for the difference between couples' education categories⁸ and basic demographic controls: linear and quadratic terms for husband's and wife's age at marriage, and dummy variables for wife's race and marriage parity (coded as shown in Table 2).

To evaluate how well trends from the NSFG and PSID correspond, Panel A of Figure 2 shows trends in the relative hazard of dissolution separately by data source (Model 1). While trends from the two sources do not correspond perfectly, similar patterns emerge. Consistent with previous research (Teachman 2002) and the stalled revolution perspective, changes in the risk of marital dissolution for hypogamous relative to hypergamous couples appear relatively weak from the 1960s to the early 1980s, but are more pronounced when the entire time series is considered. Trends from both sources suggest that wives with more education than their husbands may have once been more likely to divorce, but that this association has declined. There is some evidence of a decline in the relative hazard of divorce for homogamous couples as well, although this trend is more pronounced in the PSID.

How concerned should we be about differences in the point estimates by data source? From a statistical standpoint, none of the differences between the two sources within marriage cohorts are significant, and a joint test of differences for hypogamous and homogamous couples relative to hypergamous couples is highly insignificant ($p = .879$). Given the consistency of the descriptive trends and lack of statistical evidence for differences, we pool the NSFG and PSID data to increase the statistical power of our analyses and to test whether trends are significant over the entire time series.

Panel B of Figure 2 shows trends in the relative hazard of marital dissolution using the pooled NSFG and PSID data. These trends are estimated from a model with the same covariates used to produce those shown in Panel A, but also contain dummy variables to control for data source (1=NSFG 1973–1995, 2=PSID, 3=NSFG 2002 and 2006–10). We present both (1) “smoothed” estimates using a linear and quadratic term for the interaction between marriage cohort and spouses' relative education (Model 2), and (2) “observed” estimates using dummy variable representations of marriage cohort for these interactions.

⁸This variable is defined slightly different for use in our hazard models than shown in Table 2. It is the absolute value of the difference between spouses' educational categories, except for homogamous couples, for which the variable equals 1 ($D = 1, 2, 3$). Homogamous couples are differentiated from other couples by the inclusion of the dummy variables for couple type in the model, and thus D controls for shifts in the difference between spouses' education levels for those with different levels of education. The results show that bigger educational differences are associated with a higher likelihood of divorce.

We plot the observed estimates to show how well the quadratic function fits the unrestricted trends. Results from this model look much like those shown in Panel A.

To test the significance of the point estimates and trends, Table 3 shows the hazard ratios of marital dissolution in the oldest and youngest marriage cohorts (estimated from Model 2). Consistent with each of the theoretical perspectives (Table 1), the results indicate that hypogamous marriages formed in 1950–54 were more likely to dissolve than hypergamous marriages (the hazard was 1.51 times higher). Hypogamous marriages were also more likely to dissolve than homogamous ones. The risk of divorce among homogamous and hypergamous couples was virtually identical. As predicted by the institutional change perspective (hypotheses 1 and 2, Table 1), hypogamous couples were no longer significantly more likely to divorce by 2000–04 and homogamous couples were *less* likely to divorce than hypergamous couples (the hazard was 0.78 that of hypergamous couples). In contrast to the stalled revolution perspective (hypothesis 3, Table 1), declines in the hazard ratios across marriage cohorts were large and statistically significant. The hazard of dissolution for hypogamous relative to hypergamous couples was 1.85 times higher in 1950–54 than in 2000–04, and was 1.40 times higher for homogamous couples. Moreover, as can be seen in Panel B of Figure 2, there is no evidence that trends stalled in the 1990s.⁹

As mentioned above, declines in divorce since the late 1970s have been concentrated among highly educated women (Martin 2006; Raley and Bumpass 2003). Our data confirm this. Figure 3 shows that, controlling for husbands' education, spouses' relative education, and other covariates included in Model 2, college graduates in particular have become less likely to divorce than other women. These results are quite similar to those found by Martin (2006) using data from the Survey of Income and Program Participation, although Martin did not control for husbands' education or spouses' relative education. Although not the main focus of our article, these results contribute to literature on the growing educational gradient in divorce by showing that these trends are not simply a byproduct of changes in husbands' education or the increased tendency for highly educated women to marry highly educated men.

Given that declines in divorce have been concentrated among the highly educated and that hypogamous husbands and wives have disproportionately increased their education relative to other couples, it may be that the declining association between hypogamy and marital dissolution is due to the increasing stability of marriages among the highly educated. We test this idea by adding interaction terms between husbands' and wives' education category and marriage cohort (using linear and quadratic terms) to Model 2 (Model 3).

Panel C of Figure 2 shows trends in the hazard ratios from Model 3 and, again, Table 3 shows the point estimates. Table 3 shows that the hazard of dissolution for hypogamous couples is no longer significantly greater than for hypergamous couples in the 1950–54 marriage cohort. While this may suggest that, controlling for shifts in the association between spouses' education and divorce, hypogamy did not matter for divorce in the 1950s,

⁹There is some evidence that these trends vary by race—that there has been less change for African American wives (see the online appendix for details)—but trends for African American wives are measured imprecisely and thus are not presented in the main text.

this result is primarily due to a large decline in the precision of our estimates (as indicated by the substantially smaller z -statistic) and because of somewhat lower point estimates in the earliest cohort compared with those marrying in the 1960s and 70s. Significance tests from Model 3 indicate that, on average, the hazard of dissolution for hypogamous couples marrying between 1950 and 1979 was 34% higher than for hypergamous couples and that this is statistically significant ($p = .010$, not shown). These results imply that wives with more education than their husbands were indeed more likely to divorce at least through the late 1970s, even after controlling for shifts in the association between education and divorce.

One difference between Models 2 and 3 that can be observed when comparing Panels B and C of Figure 2 is that the hazard ratios in Model 3 are shifted downward in more recent cohorts. The hazard of dissolution for hypogamous couples was 0.58 that of hypergamous couples in 2000–04 and 0.63 for homogamous couples (Table 3). Although the point estimates suggest that hypogamous marriages are substantially more stable than hypergamous ones in the most recent cohort, this estimate does not attain statistical significance at $p < .05$ ($p = .091$). Thus, while we can be confident that couples in which wives had the educational advantage were *not more* likely to divorce than hypergamous wives in 2000–04, we are not confident that they were *less* likely to divorce. Overall, the conclusions we draw from Model 3 are the same as from Model 2: (1) hypogamous couples were once more likely to divorce than other couples but this is no longer the case, (2) homogamous couples have become less likely to divorce than hypergamous couples whereas there was once no difference, and (3) changes in these associations between 1950–54 and 2000–04 were large.¹⁰

Model 3 allows us to test our prediction from diffusion theory that the pace of change has increased as hypogamous couples have become more common (hypothesis 4, Table 1). Panel C of Figure 2 shows that there is descriptive evidence of an increasingly negative slope in the hazard ratios, but the quadratic terms in this model, which indicate an increasing speed of change, are not statistically significant at 5% ($p = .098$ for hypogamous couples and $.071$ for homogamous couples).

Sensitivity to Spouses' Earnings, Relative Earnings, and Wife's Employment

Could trends in the association between spouses' relative education and divorce simply reflect changes in spouses' earnings, relative earnings, and employment? To assess the sensitivity of our results to controls for spouses' employment and earnings, we first estimate Model 1 using PSID data without these variables as a basis of comparison. Next, we add measures of husbands' and wives' annual earnings, spouses' relative earnings, relative earnings squared (to capture nonlinearities in the association between relative earnings and dissolution), and wives' employment using the coding shown in Table 2. These measures were collected at each PSID interview, and thus, unlike the other variables in the model, they vary by marital duration. Panel D of Figure 2 shows that our estimates are very similar

¹⁰Another explanation for the declines we observe could be that hypogamous and homogamous couples have increased their education within the education categories we control for. To test this, we estimated our models controlling for single years of spouses' attainments where possible. Our primary conclusions hold, but within-category education differences do explain some (but not all) of the elevated risk of divorce for hypogamous couples (see the online appendix for details).

regardless of whether we control for these variables. Allowing the effects of the earnings and employment variables to vary by marriage cohort also has little effect on our estimates (not shown). These results suggest that the trends we observe cannot be explained by changes in spouses' earnings and employment, and that relative earnings and education operate relatively independently when it comes to trends in the risk of divorce.

SUMMARY & DISCUSSION

Wives with more education than their husbands were once more likely to divorce than other couples, but this is no longer the case. Couples marrying in the early 1990s were among the first for whom wives' educational advantage was no longer associated with a higher risk of divorce. We find no evidence that this shift is an artifact of the increasing educational attainment of husbands and wives, the increasing similarity between spouses' education, or shifts in spouses' earnings, relative earnings, and employment. Another key finding is that the relative stability of marriages between educational equals has increased. Couples married in the 1950s who shared the same broad education levels were no more likely to divorce than those in which husbands had more education. Among recent marriage cohorts, couples who share the same education are *less* likely to divorce than those in which husbands have more education.

These findings are consistent with perspectives emphasizing shifts in the institution of marriage away from rigid gender specialization and toward more flexible, egalitarian partnerships (e.g., Gerson 2010; Goldscheider and Waite 1991; Nock 2001; Oppenheimer 1997). For the majority of the period studied here, the importance of whether husbands or wives had the educational advantage for divorce declined, and the stability of relationships between educational equals increased (hypothesis 1 and 2, Table 1). The slow change in the association between wives' educational advantage and divorce between 1950 and the early 1980s is consistent with a stalled revolution perspective (hypothesis 3, Table 1), but when the longer time series is considered, our findings may better fit a diffusion of innovation story (hypothesis 4, Table 1). Soon after the reversal of the gender gap in education occurred in the population at large and among married couples, changes in the association became more dramatic, a finding consistent with the notion that it takes a critical mass of couples in which wives have more education than their husbands for the association between wives' educational advantage and divorce to decline. This result must be regarded as tentative, however, as the increasing speed of the decline did not attain conventional levels of statistical significance. One way to test the diffusion hypothesis in future work would be to investigate whether female-advantaged marriages are more stable in states, cities, or neighborhoods where these relationships are more common.

Despite weak evidence for an increasing pace of change, the existence of any decline at all in the 1990s and 2000s provides an important counterpoint to claims that progress toward gender equality has stalled. As Cotter et al. (2011) note, one area that has not shown any signs of slowing in recent years is women's increasing educational advantage over men. Our study shows that the declining negative association between wives' educational advantage and marital stability is another such exception. It also highlights the importance of developing theories to explain why progress toward gender equality has occurred more

quickly in some realms than others (e.g., England 2010; Ridgeway 2011). England (2010) argued that gender equality has progressed more quickly in the worlds of market work and education than it has in heterosexual romantic relationships. Our findings may be an example of how changes in the labor market and education have induced progress toward gender equality in the home. But it is also possible that declines in the significance of gender in this realm have been replaced by increased gender differentiation in other areas (Ridgeway 2011). For example, Tichenor (2005) argues that wives who outearn their husbands compensate for this non-normative arrangement by downplaying their own economic contributions to the household and by increasing their participation in conventionally female behaviors, e.g., housework and deference to husbands' authority. Whether similar compensatory behavior occurs in relationships in which wives have the educational advantage should be the subject of further study.

Our findings are consistent with the argument that people's preferences and expectations about male status dominance in heterosexual romantic relationships are weaker than they once were, but there are other explanations that, if correct, would be inconsistent with this claim. For instance, it is possible that couples' discomfort with marriages in which wives have the educational advantage has remained stable, but that increases in the returns to women's education (DiPrete and Buchmann 2006) have made it relatively more expensive for men to divorce women with the same or more education as themselves. This is still an argument about gender, but focuses instead on economic rather than attitudinal shifts. We consider the purely economic argument unlikely, however, given the insensitivity of our results to controls for husbands' and wives' earnings. Another explanation is that changing marriage market conditions drive our results. Men who prefer to marry women with less education than themselves have a diminishing pool of potential mates from which to choose, which may reduce the quality of the matches they form, thereby increasing their probability of divorce. Although this explanation is plausible, there is evidence (albeit limited) that men's and women's preferences for mates have become more similar and that attitudes toward female-advantaged marriages have become less negative (Buss et al. 2001; Willinger 1993). These changes in preferences for mates also suggest that marriage market constraints are unlikely to be the sole explanation for the shifts we observe.

An additional potential caveat to a "declining significance of gender" interpretation of our findings is that, while the importance of spouses' relative education for divorce trended downward for the majority of the period we examine, there are intriguing hints that couples in which wives have the educational advantage may now be *less* likely to divorce than couples in which husbands have more education—a reversal of the association in the 1950s through the late 1970s. Again, our estimates are not precise enough to state this with confidence, but if it is the case that the association has reversed, then, like the larger literature on the reversal of the gender gap in education, our results suggest that gender still matters, but in a way that appears to favor women. Data on future marriage cohorts are necessary to determine whether this is indeed the case.

Finally, the changes we observe may be causal but changes in selection into marriage may also explain the results. Couples who entered relationships in which wives had more education than their husbands in the 1950s may have been more likely to hold non-

traditional beliefs associated with a greater risk of divorce, but may now be those in which both partners hold more flexible attitudes about gender in marriage. These relationships may be particularly selective of men with egalitarian values—values that have been found to be associated with marital stability (Kaufman 2000; Lye and Biblarz 1993). An interesting way of investigating this hypothesis in future work would be to examine whether gendered patterns of behavior (such as time spent on housework and child care) and egalitarian attitudes differ for couples in which wives have more education than their husbands compared with other couples among recent marriage cohorts. More broadly, how do differences in spouses' relative educational attainment play out in couples' family lives?

Regardless of whether the changes we observe are causal or are due to changes in selection, they have implications for how we understand the impact of the reversal of the gender gap in education on marital stability. Given previous findings, we might have expected the growing numbers of couples in which wives have more education than their husband to have increased the pool of couples at heightened risk of divorce. Our results are inconsistent with this claim. In addition, they speak against fears that women's educational success has had negative effects on their marital outcomes—at least with respect to wives' educational advantage and marital dissolution. While these couples were once more likely to divorce, this is no longer the case.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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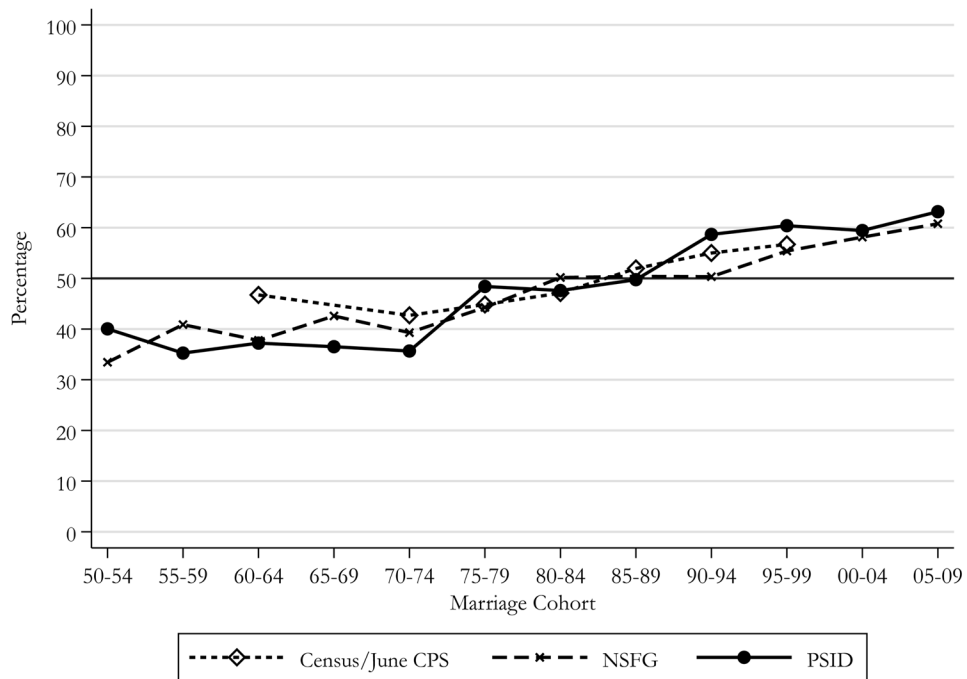


Figure 1.
Percentage Hypogamous (W>H) Given Heterogamy (W < H) by Marriage Cohort and Data Source

Notes: W=wife's education category; H=husband's education category. Education categories are <12, 12, 13–15, 16.

Sources: Pooled data from the 1960, 1970, and 1980 decennial U.S. census (IPUMS) and the 1971–1995 June Current Population Survey (CPS); 1973, 1976, 1982, 1988, 1995, 2002, and 2006–10 National Survey of Family Growth (NSFG); and the 1968–2009 Panel Study of Income Dynamics (PSID).

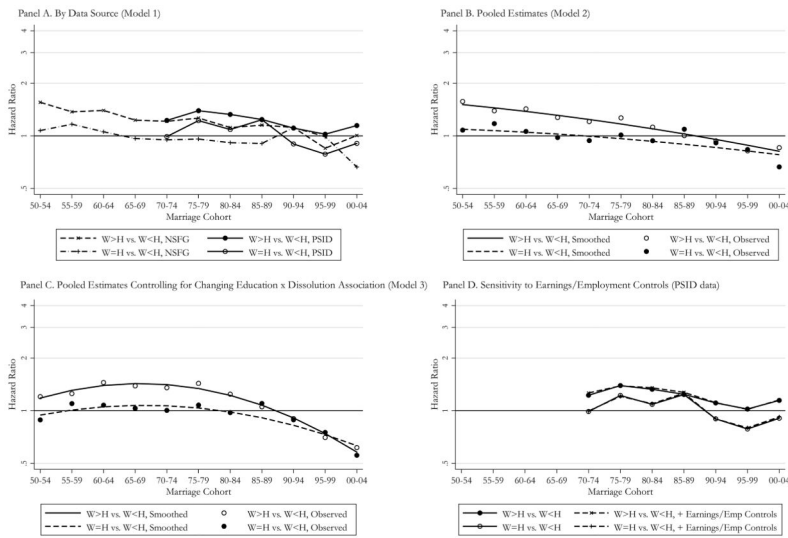
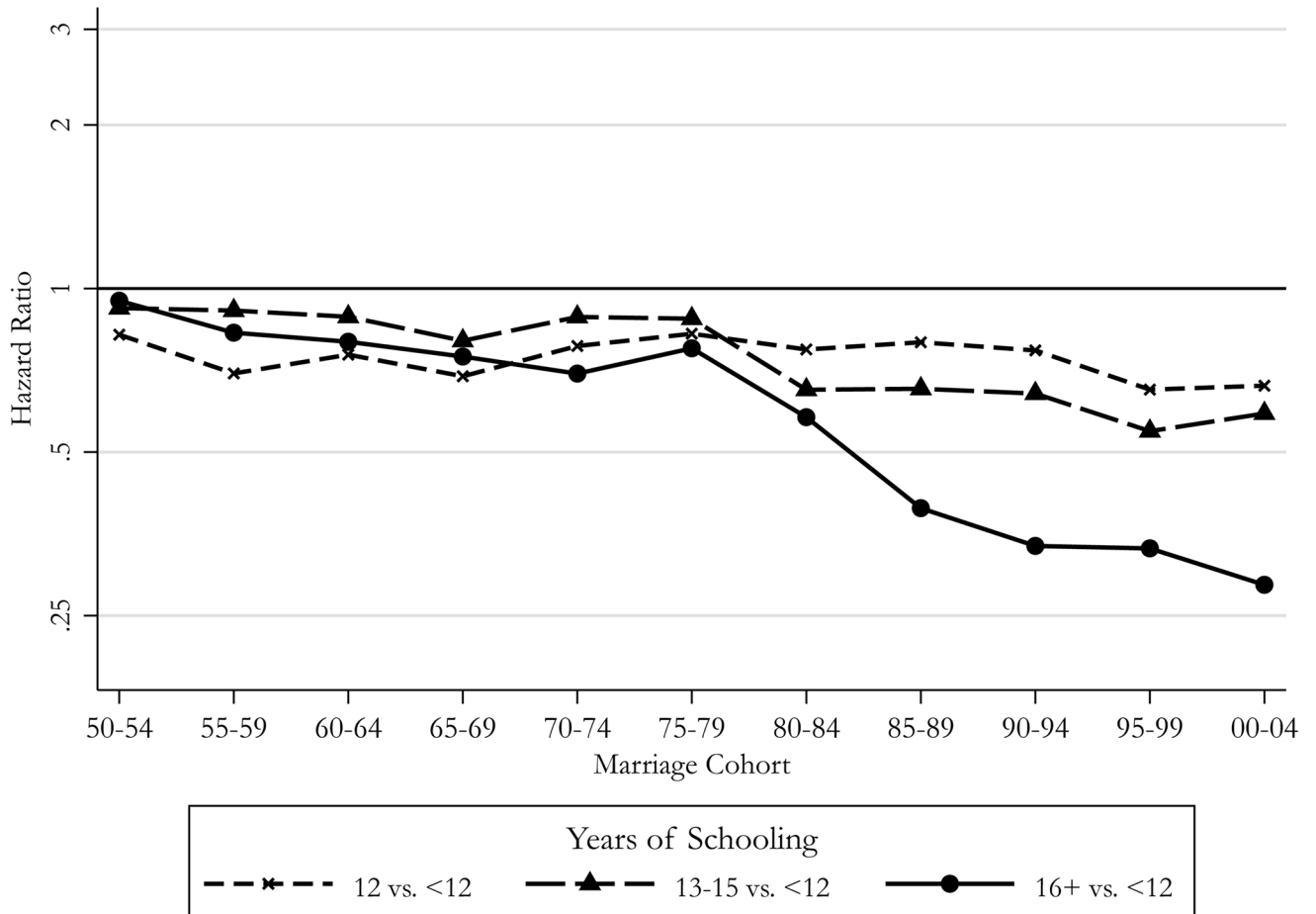


Figure 2.
Hazard Ratios of Marital Dissolution for Hypogamous Couples (W>H) and Homogamous Couples (W=H) Relative to Hypergamous Couples (W<H) by Marriage Cohort
Notes: W=wife’s education category; H=husband’s education category. Education categories are <12, 12, 13–15, 16.

**Figure 3.****Trends in the Association Between Wives' Education and Marital Dissolution**

Notes: Model includes linear and quadratic terms for husband's age at marriage and wife's age at marriage; dummy variables for wife's race (1=African American, 0=other), marriage number (1=remarriage, 0=first marriage), data source (1=NSFG 1973–1995, 2=PSID, 3=NSFG 2002 and 2006–10), husband's and wife's education category (<12, 13–15, 16), and spouses' relative education (1=hypogamous, 2=homogamous, 3=hypergamous); a linear term for the absolute difference between spouses' education categories; and husband's and wife's education category x dummy variables for marriage cohort.

Sources: Pooled data from the 1973, 1976, 1982, 1988, 1995, 2002, and 2006–10 National Survey of Family Growth (NSFG) and the 1968–2009 Panel Study of Income Dynamics (PSID).

Table 1

Predictions about the Association Between Spouses' Relative Education and Marital Dissolution

Hypothesis	Perspective	Couple Type	Predicted Association in 1950s Relative to Other Couple Types	Predicted Change in Association
(1)	Institutional Change	W>H	Positive	Decline
(2)		W=H	Positive	Decline, becomes negative
(3)	Stalled Revolution	W>H	Positive	Slow to no decline prior to 1990s, no decline in 1990s
(4)	Diffusion of Innovation	W>H	Positive	Decline, pace accelerates

Notes: W=wife's education; H=husband's education.

Table 2
 Characteristics of Hypogamous (W>H), Homogamous (W=H), and Hypergamous (W<H) Marriages by Marriage Cohort and Data Source

Characteristic	Marriage Cohort and Data Source											
	1950-54 NSFG				1975-79 NSFG				2000-04 PSID			
	W>H	W=H	W<H	W>H	W=H	W<H	W>H	W=H	W<H	W>H	W=H	W<H
Percent of Marriage Cohort (%)	17.8	46.9	35.4	20.8	53.2	26.0	22.0	54.6	23.4	29.2	50.9	19.9
Wife's Years of Schooling (%)												
<12	--a	46.9	37.2	--a	13.1	31.6	--a	14.0	30.9	--a	4.7	19.1
12	77.7	42.8	45.0	26.7	46.4	45.7	36.9	49.4	54.1	10.7	28.3	51.9
13-15	18.0	6.3	17.8	39.8	19.9	22.8	35.9	14.7	15.1	45.8	28.7	29.1
16	4.3	4.0	--a	33.5	20.6	--a	27.2	22.0	--a	43.5	38.3	--a
Mean ^b	12.5 (1.1)	11.3 (1.6)	11.6 (1.3)	14.1 (1.7)	13.0 (1.9)	11.8 (1.4)	13.8 (1.7)	12.9 (1.9)	11.7 (1.3)	14.7 (1.4)	14.0 (1.8)	12.2 (1.4)
Husband's Years of Schooling (%)												
<12	85.2	46.9	--a	34.1	13.1	--a	44.8	14.0	--a	17.2	4.7	--a
12	12.5	42.8	26.8	46.2	46.4	24.7	38.9	49.4	23.3	57.0	28.3	14.1
13-15	2.3	6.3	34.6	19.8	19.9	37.1	16.3	14.7	49.7	25.9	28.7	41.9
16	--a	4.0	38.6	--a	20.6	38.2	--a	22.0	27.0	--a	38.3	44.0
Mean ^b	10.3 (0.9)	11.3 (1.6)	14.2 (1.5)	11.7 (1.6)	13.0 (1.9)	14.3 (1.5)	11.4 (1.6)	12.9 (1.9)	14.1 (1.4)	12.2 (1.3)	14.0 (1.8)	14.6 (1.4)
Husband's-Wife's Years of Schooling Category	1.10 (0.36)	0.00 (0.00)	1.31 (0.48)	1.21 (0.49)	0.00 (0.00)	1.22 (0.39)	1.19 (0.43)	0.00 (0.00)	1.20 (0.43)	1.24 (0.49)	0.00 (0.00)	1.20 (0.44)
Wife's Annual Earnings (2008 \$1,000s)	--c	--c	--c	--c	--c	--c	18.4 (17.3)	16.9 (14.3)	15.7 (14.0)	29.9 (24.2)	30.2 (28.3)	23.5 (26.8)
Husband's Annual Earnings (2008 \$1,000s)	--c	--c	--c	--c	--c	--c	37.0 (22.6)	36.7 (23.0)	40.9 (28.1)	39.8 (28.4)	46.4 (37.6)	43.6 (34.8)
Relative Earnings (Wife/[Husband+Wife])*100)	--c	--c	--c	--c	--c	--c	30.7 (22.8)	30.4 (21.2)	28.0 (23.1)	41.9 (23.6)	37.3 (24.5)	32.6 (24.3)
Wife Employed in Previous Year (%)	--c	--c	--c	--c	--c	--c	89.0	87.8	83.2	94.0	88.0	84.1
Wife's Age at Marriage	19.8 (1.9)	19.2 (2.0)	19.4 (2.0)	22.5 (3.8)	21.8 (3.3)	21.8 (3.4)	23.0 (5.7)	22.4 (5.0)	23.0 (5.5)	27.1 (6.3)	26.1 (5.3)	26.3 (6.5)
Husband's Age at Marriage	23.5 (4.2)	22.3 (4.0)	22.7 (3.1)	24.8 (6.3)	24.1 (4.4)	25.2 (4.7)	25.2 (7.2)	24.9 (6.6)	26.2 (6.7)	29.6 (8.0)	28.2 (6.4)	29.2 (7.5)
Wife African American (%)	10.5	9.9	5.7	10.8	9.3	5.9	10.0	10.0	8.2	10.9	7.0	7.8
Remarriage (Wife) (%) ^d	0.0	0.0	0.0	0.0	0.0	0.0	17.1	18.1	31.6	24.6	15.3	27.9
Sample size	341	890	564	881	1697	763	290	604	265	233	375	145

Notes: W=wife's education category; H=husband's education category. Education categories are <12, 12, 13–15, 16. PSID data are weighted using family-level weights. NSFG data are weighted by the wife's person weight. Standard deviations are in parentheses.

^a Not applicable.

^b Because the coding of years of schooling varies across years and data sources, mean years of schooling is estimated by assigning constant years of schooling values (10, 12, 14, and 16 years of schooling) to the 4-category education variable (<12, 12, 13–15, 16 years of schooling).

^c Not available.

^d NSFG data for the marriage cohorts shown here pertain to wives' first marriages.

Sources: National Survey of Family Growth (NSFG) and the Panel Study of Income Dynamics (PSID)

Table 3**Hazard Ratios of the Association Between Spouses' Relative Education and Marital Dissolution by Marriage Cohort**

Marriage Cohort and Spouses' Relative Education	Pooled Estimates (Model 2)	Education Associations (Model 3)
1950–54 Marriage Cohort		
Hypergamous (W<H, omitted)	--	--
Hypogamous (W>H)	1.51 ^{**a} (3.39)	1.18 (0.61)
Homogamous (W=H)	1.09 (0.99)	0.94 (0.37)
2000–04 Marriage Cohort		
Hypergamous (W<H, omitted)	--	--
Hypogamous (W>H)	0.82 (1.48)	0.58 (1.69)
Homogamous (W=H)	0.78 * (2.22)	0.63 * (2.53)
Ratio of 1950–54 to 2000–04 Marriage Cohorts		
Hypergamous (W<H, omitted)	--	--
Hypogamous (W>H)	1.85 ^{**} (4.96)	2.04 * (1.98)
Homogamous (W=H)	1.40 ^{**} (3.05)	1.50 * (2.00)
Likelihood Ratio	3615.38	3684.30
Model <i>df</i>	23	35
<i>N</i>	39,589	39,589

Notes: W=wife's education category; H=husband's education category. Hazard ratios are given with $|z|$ statistics in parentheses. Two-tailed *z*-tests where **p* < .05; ***p* < .01.

Model 2 contains linear and quadratic terms for marriage cohort, husband's age at marriage, and wife's age at marriage; dummy variables for wife's race (1=African American, 0=other), marriage number (1=remarriage, 0=first marriage), data source (1=NSFG 1973–1995, 2=PSID, 3=NSFG 2002 and 2006–10), husband's and wife's education category (<12, 13–15, 16), and spouses' relative education (1=hypogamous, 2=homogamous, 3=hypergamous); and a linear term for the absolute difference between spouses' education categories. Model 3 additionally contains interaction terms between linear and quadratic terms for marriage cohort and dummy variables for husband's and wife's education category.

^a Hazard ratios for hypogamous versus homogamous couples are statistically significant (two tailed *z*-test, *p* < .05).

Sources: Pooled data from the 1973, 1976, 1982, 1988, 1995, 2002, and 2006–10 National Survey of Family Growth (NSFG) and the 1968–2009 Panel Study of Income Dynamics (PSID).

Appendix Table 1

Sample Sizes of Marriages and Dissolutions by Data Source and Marriage Cohort

Marriage Cohort	NSFG							
	1973-1995		2002 & 2006-10		PSID		Census/June CPS	
	Marriages	Dissolutions	Marriages	Dissolutions	Marriages	Dissolutions	Marriages	Dissolutions
1950-54	1,795	501	--	--	432	--	--	--
1955-59	2,730	740	--	--	406	--	--	--
1960-64	3,659	1,043	--	--	474	--	11,067	--
1965-69	5,407	1,508	--	--	689	--	--	--
1970-74	6,314	1,502	2	0	1,049	400	20,427	--
1975-79	3,279	1,045	62	8	1,159	456	4,798	--
1980-84	3,172	816	268	27	1,139	417	23,059	--
1985-89	--	--	727	58	1,000	310	4,903	--
1990-94	--	--	1,393	122	1,002	263	4,097	--
1995-99	--	--	1,963	188	710	169	1,287	--
2000-04	--	--	2,006	175	753	107	--	--
2005-09	--	--	1,060	--	658	--	--	--

Notes: Marriages are wives' first marriages in the Census/June CPS and 1973-1995 NSFG and all marriages in the PSID and the 2002 and 2006-10 NSFG. Dissolutions are classified by year of marriage. Dissolutions are shown only for cohorts in our hazard analysis sample.

Sources: 1960, 1970, and 1980 U.S. census (IPUMS); 1971-1995 June Current Population Survey (CPS); 1973, 1976, 1982, 1988, 1995, 2002, and 2006-10 National Survey of Family Growth (NSFG); and 1968-2009 Panel Study of Income Dynamics (PSID).