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ABSTRACT

This paper reports trends in educational assortative marriage from 1940 to 2003 in the U.S. Analyses of Census and Current Population Survey data show that educational homogamy increased over most of this period, although there is some evidence of stabilization in the 1990s. From 1940 to the early-1970s, these increases were generated by decreasing intermarriage among groups of relatively well educated persons. Beginning in the early-1970s, the odds of intermarriage among the highly educated stabilized while the odds that high school dropouts marry up dropped substantially. These trends are similar for a broad cross-section of married couples and for newlyweds.

INTRODUCTION

Social scientists have long been interested in patterns of intermarriage between social groups because of their implications for the openness of societies, inequality in resources among families, and the intergenerational transmission of social and genetic traits (e.g., Cavalli-Sforza and Feldman 1981; Eckland 1968; Fernández and Rogerson 2001; Johnson 1980; Kalmijn 1991b; Mare 1991, 2000). Educational assortative marriage has received particular attention from scholars concerned with inequality because of the link between education and economic and cultural resources and because of its importance in the intergenerational transmission of status (e.g., Kalmijn 1991a, 1991b; Mare 1991; Qian 1998; Qian and Preston 1993; Smits, Ultee, and Lammers 1998; Ultee and Luijkx 1990). Past research has shown strong evidence of increases in the educational resemblance of spouses in the U.S. over the last 50 years of the Twentieth Century (Kalmijn 1991a, 199b; Mare 1991; Pencavel 1998; Qian and Preston 1993; Smits, Ultee, and Lammers 2000), giving rise to a concern that marriage patterns may contribute to growing economic and educational inequality (e.g., Fernández 2002; Fernández and Rogerson 2001; Kremer 1997:115; Mare 2000). Regardless of whether increases in educational homogamy increase inequality in future generations, changes in assortative marriage patterns are important components of changes in the makeup of families and households, and as indicators of changes in the rigidity of social boundaries.

Despite the potential significance of changes in assortative marriage, research on trends since the early-1990s is limited (Rose 2004). It is instructive to examine these recent trends in view of many changes in young people's lives that may affect patterns of intermarriage. For example, average age at first marriage continued to rise for both men and women through the1990s (Casper and Bianchi 2002) as has the likelihood of cohabitation before marriage (Bumpass and Lu 2000). Educational attainment has continued to increase as well, albeit at a more rapid pace for women than for men (Charles and Luoh 2002; Freeman 2004: Tables 29 and 31; U.S. Census Bureau 2004). This paper examines trends in the educational resemblance of spouses in the U.S. between 1940 and 2003. We go beyond prior studies by extending the time series through 2003 and by providing a more detailed description of earlier trends than has been given previously. We use Census data from 1940 to 2000 and Current Population Survey (CPS) data from 1962 to 2003. This time series allows us to pinpoint the timing of changes in assortative marriage patterns more accurately than past studies. We examine whether the increase in the educational resemblance of husbands and wives that has been documented in past research has continued during the past ten years and, to the extent that changes have occurred, we investigate how they vary across the education distribution.

PREVAILING MARRIAGES VS. NEWLYWEDS

Past studies have largely attempted to examine assortative marriage trends among recently contracted marriages, or *newlyweds,* to avoid bias from selective marital dissolution, educational upgrading after marriage, and remarriage (e.g., Kalmijn 1994; Mare 1991; Qian 1998; Qian and Preston 1993; Raymo and Xie 2000). In this paper, we focus mainly on trends in *prevailing marriages* and supplement our analysis with trends in the resemblance of newlyweds.

We focus on prevailing marriages rather than newlyweds in part because neither age at marriage nor date at marriage information, which would allows us to identify recently wedded couples, are available in the Census or CPS beyond 1980 and 1995, respectively, making it impossible to directly describe assortative marriage trends during the most recent period. In addition, although newlyweds are an appropriate unit of analysis for identifying the effects of historical changes on who marries whom (Raymo and Xie 2000), prevailing marriages may have more direct implications for social openness and inequality. Focusing on the resemblance of newlyweds avoids biases due to selective marital dissolution, educational upgrading after marriage, and remarriage, but these factors may play an important role in determining the overall social distance between spouses. For example, if divorce is prevalent and is more likely to occur among educationally dissimilar couples, then the similarity of spouses may be reinforced by high divorce rates and our conclusions about the social distance between groups would need to be reexamined (Kalmijn 1998:397). Furthermore, prevailing marriages are representative of all married-couple families at a given time and thus are an appropriate unit of analysis when one's concern is the impact of assortative marriage on increases in income inequality across families. Finally, examining prevailing marriages brings us closer to the environments in which children are raised and thus the context in which the intergenerational transmission of status occurs than do studies of newlyweds.

Nonetheless, where possible, we supplement our analyses of trends in prevailing marriages with an examination of trends in new marriages. We show that, over periods in which it is possible to examine educational assortative marriage for both prevailing and new marriages, their trends are similar, although trends for prevailing marriages tend to "lag" behind those for newlyweds. The closeness of trends in spousal resemblance for new and prevailing marriages depends on the width of the age range examined and on marital duration. In this paper, we examine an age range that covers most married couples with co-resident children but is narrow enough to ensure that long-term trends in the two samples are similar.

HISTORICAL TRENDS

Past studies of assortative marriage show that the educational similarity of spouses has increased in the U.S. from at least the early-1960s to the late-1980s (Kalmijn 1991a; Mare 1991; Pencavel 1998). College graduates, in particular, have become increasingly likely to marry one another rather than marry down (Blackwell 1998:174; Kalmijn 1991a; Mare 1991). For example, Mare (1991, Table 4) finds that the odds of intermarriage between college graduates and high school graduates declined by 25% between 1940 and the late-1980s. However, although the odds of intermarriage between education groups clearly fall between 1940 and 1970, the odds of intermarriage appear to stabilize or even increase between 1970 and the late-1980s (Mare 1991:24; Raymo and Xie 2000). In this paper, we investigate whether these changes foreshadow the beginning of a longer-term stabilization or represent a temporary detour from continued increases in spousal resemblance.

Educational homogamy may have continued to increase in the 1990s for several reasons. First, at any given average age at marriage, as educational attainment increases young people may be more likely to meet their partners in school and thus marry homogamously (Blossfeld and Timm 2003; Kalmijn 1991a; Mare 1991). As the gap between school completion and marriage grows, however, young people may be more likely to meet partners outside of educationally homogenous institutions, thereby reducing their odds of educational homogamy (Mare 1991). Because both age at marriage and educational attainment have increased for men and women since the 1970s (Casper and Bianchi 2002; Charles and Luoh 2002; U.S. Census Bureau 2004), the predicted direction of trends are ambiguous. Nonetheless, the expansion of education itself may result in higher levels of homogamy if individuals are increasingly homogenous in their ultimate educational attainment at each successive stage of the educational process (Mare 1991:16; Blau and Duncan 1967:356) or as the importance of education in structuring marriage markets replaces the influence of "third parties" (e.g., religious institutions, parents) over marriage decisions (Kalmijn 1991a).

Second, as gender roles have become increasingly egalitarian, men may have begun to compete for high-earning women just as women have traditionally competed for high-earning men (England and Farkas 1986:182; Oppenheimer 1994:332-334; Mason and Jensen 1995:3; Mare 1991). To the extent that earnings are correlated with education, increased sex symmetry in the competition for mates implies increased sorting on education. Indeed, the "marriage penalty" women pay for being highly educated may be declining or, by some estimates, may even have become a "marriage bonus" in recent years (Goldstein and Kenney 2001; Rose 2004), and high-earning men may be more likely to pair with high-earning women than in the past (Sweeney and Cancian 2004). Whether these changes result from changes in the availability of partners (e.g., high-earning men and women may now be in closer physical proximity because of decreases in the sex-segregation of work and leisure) or from changes in preferences, they imply greater symmetry in partner choice, which may result in greater educational homogamy.

Third, increasing inequality may have created greater economic differences between educational groups, which may thereby reduce the chances of educational intermarriage (Blau 1977; Fernández, Guner, and Knowles 2001; Rytina, et al. 1988; Smits, Ultee, and Lammers 1998:268). If education is correlated with other characteristics that are also important in selecting a partner (e.g., expected earnings, attitudes, life styles, nativity), the tendency for couples to match on education may increase as differences across educational strata in these associated characteristics increase. Because earnings differentiation by education has increased since the late-1970s (Gottschalk 1997; Katz and Murphy 1992), the social distance between educational groups may have also grown, thereby lowering rates of intermarriage across educational boundaries. This hypothesis suggests feedback between inequality and assortative marriage in which increased inequality decreases intermarriage, which further increases economic inequality in the next generation (Kremer 1997; Fernández, Guner, and Knowles 2001).

Finally, the dramatic increase in cohabitation over this period may have increased the similarity of married couples. If cohabitation functions as a "trial marriage" that weeds out heterogamous couples (Blackwell and Lichter 2000, 2004; Gwartney-Gibbs 1986:432), then increases in cohabitation may increase the educational similarity of spouses. However, empirical studies of assortative marriage in cohabiting and marital unions provide mixed support for this hypothesis in the cross-section (Blackwell and Lichter 2000, 2004; Jepsen and Jepsen 2002; Schoen and Weinick 1993), and studies of historical trends in the educational resemblance of pooled samples of cohabiting and marital unions differ little from trends in marital unions alone (Qian and Preston 1993:492).

While these arguments generally point to continued increases in the association between husbands' and wives' educational attainments through the 1990s and into the current decade, they are not mutually exclusive and may pertain to different parts of the education distribution at different periods in time. In this paper, we do not adjudicate among hypotheses, but rather document recent and long-run trends in educational assortative marriage. We speculate further as to their possible causes in the conclusion.

DATA AND METHODS

We use Decennial Census data from the Integrated Public Use Microdata Series (IPUMS) and Current Population Survey (CPS) data to examine educational assortative marriage patterns from 1940 to 2003. We use two samples from these sources: (1) a sample of prevailing marriages in which the wife is 18 to 40 years old, regardless of the marriage parity of either partner (N=1,998,933); and (2) a sample of newlywed couples in which the wife is 18 to 40 and in which her first marriage occurred within two years of the interview date (N=78,294) (see Appendix Table 1).[1] We limit our analysis to wives age 18 to 40 because this age range covers most married couples with co-resident children.[2]

Our sample of prevailing marriages is drawn from the 1940, 1960, 1970, 1980, 1990, and 2000 Censuses, the March, June, and October supplements of the CPS from 1962 to 1978, and all 12 months of the CPS from 1979 through 2003.[3] Our sample of newlyweds is drawn from data for which wife's date of first marriage or age at first marriage information is available. Only data from the June CPS for 1971, 1973-1977, 1979-1983, 1985-1988, 1990, 1992, 1994, and 1995 and from the 1940, 1960, 1970, and 1980 Censuses contain this information.

Obtaining Comparable Measures of Educational Attainment Across Years

Our analysis of historical trends in educational assortative marriage is complicated by a change in the wording of the educational attainment question, which was implemented by the CPS in January 1992 and by the Census in 1990. The major difference between the new and the old version of the question is that the old version elicits a numeric response to the question "What is the highest grade or year of regular school…has ever attended?" whereas the new version identifies specific degree completion levels beginning with "high school graduate – high school diploma or the equivalent" and ending with "doctorate degree."[4] Fortunately, the CPS included both the new and the old version in February 1990 (Kominski and Siegel 1993). We use these data to determine the effect of the wording change on spousal resemblance. In so doing, we follow the procedure for maximizing comparability between the old and new questions outlined by Jaeger (1997) and Park (1996). We find that there are significant differences between the new and the old versions of the questions on some of our measures of spousal resemblance and therefore we control for whether the new or old version of the question was asked in all of our models.

Log-Linear Models

We describe changes in patterns of educational assortative marriage using log-linear models for contingency tables. Log-linear models are appropriate because they provide estimates of the changing association between couples' education characteristics while controlling for shifts in their marginal distributions. Our contingency table is produced by cross-classifying husband's highest year of schooling completed (<10, 10-11, 12, 13-15, 16+) with wife's highest year of schooling completed (<10, 10-11, 12, 13-15, 16+) by year (1940, 1960, 1962, 1964,…,2003 for prevailing marriages and 1940, 1960, 1971, 1973,…,1977, 1979,…,1983, 1985,…,1988, 1990, 1992, 1994, 1995 for newlyweds) and data source (Census, CPS).[5] For prevailing marriages, there are 47 unique combinations of year and data source and therefore our contingency table is a 5 X 5 X 47 = 1,175 cell table. For newlyweds, there are 23 unique combinations of year and data source therefore our contingency table is a 5 X 5 X 23 = 575 cell table.[6] Because our sample of newlyweds from the CPS is small within years, we present trends in the association between husband's and wife's education for newlyweds in roughly 5-year intervals (1940, 1960, 1970-1974, 1975-1979, 1980-1984, 1985-1989, 1990-1995), but control for single-year changes in the marginal distributions of spouse's education by data source and by education question version.

Our goal is to represent changes in the association between husband's and wife's education in a parsimonious yet accurate way. Several previous studies have relied on relatively complex representations of changes in the association between husband's and wife's education (e.g., Blackwell 1998; Mare 1991; Kalmijn 1991a, 1991b; Qian 1998). These studies use models that fit the data well, but do not provide a straightforward measure of changes in educational homogamy. In this paper, we provide both summary measures and a more nuanced accounting of changes in assortative marriage.

We use *homogamy* models to provide summary estimates of trends and *crossings models* to better understand which parts of the education distribution generate trends in the homogamy parameters. Homogamy models represent the association between husband's and wife's education in terms of a single parameter that represents the odds that husbands and wives share the same rather than different education levels. Crossings models represent the association between spouses' education as a series of barriers to marriage between educational groups, or in terms of the relative permeability of boundaries between adjacent educational groups. Past research has found that these models tend to fit marriage data well (Blackwell 1998; Johnson 1980; Kalmijn 1991b; Mare 1991).[7]

We start with a baseline model in which the association between husband's and wife's education is assumed to be time-invariant. Because our primary concern is with describing *trends* in the educational resemblance of spouses, we do not parameterize educational assortative marriage parsimoniously in the cross-section. Instead, we saturate the cross-sectional interaction between husband's and wife's education and focus on more parsimonious representations of changes in the association from 1940 to 2003. Thus, our baseline model for prevailing marriages is:

$$\log(\mu_{ijklm} / t_{ijklm}) = \lambda + \lambda_i^H + \lambda_j^W + \lambda_k^S + \lambda_l^Y + \lambda_m^N + \lambda_{ij}^{HW} + \lambda_{ik}^{HS} + \lambda_{il}^{HY} + \lambda_{jk}^{WS} + \lambda_{jl}^{WY} + \lambda_{kl}^{SY} + \lambda_{im}^{HN} + \lambda_{jm}^{WN} + \lambda_{ikl}^{HSY} + \lambda_{jkl}^{WSY} + \lambda_{ijk}^{HWS} + \lambda_{ijm}^{HWN} \quad (1)$$

where H denotes husband's education ($i = 1,\ldots,5$), W is wife's education ($j = 1,\ldots,5$), Y is year ($l = 1,\ldots,43$), S is data source ($k = 0,1$), and N is education question version ($m = 0,1$). Thus, μ_{ijklm} is the expected number of marriages between husbands in education category i and wives in education category j in year l from data source k who answered education question version m. This model captures variation in the distribution of husband's and wife's education by year and data source (λ_{ikl}^{HSY} and λ_{jkl}^{WSY}), allows the interaction between husband's and wife's education to vary by data source and by the version of the education question asked (λ_{ijk}^{HWS} and λ_{ijm}^{HWN}), and contains all lower order terms.[8]

The Census and the CPS contain household weights in most years to ensure that the sample is representative of the population.[9] We incorporate these weights in our models using an offset t_{ijklm} which is equal to the inverse of the total weighted frequency of the cell divided by the unweighted cell count (Agresti 2002:391; Clogg and Eliason 1987).[10] The model for newlyweds replaces year l in equation (1) with year l' (l' = 1,…,22 where Y' = 1940, 1960, 1970, 1971, 1973,…,1977, 1979,…,1983, 1985,…,1988, 1990, 1992, 1994, 1995).

We add homogamy and crossings parameters to our baseline model shown above to estimate trends in assortative marriage. A homogamy model is:

$$\log(\mu_{ijklm} / t_{ijklm}) = \text{Baseline model} + \gamma_{ol}^{OY} \tag{2}$$

where $O = 1$ if husband's education category equals wife's education category and 0 otherwise, and γ_{ol}^{OY} estimates the change in the odds of homogamy in year l relative to the baseline year (1940). For newlyweds, year is expressed in roughly 5-year intervals in its interaction with homogamy (l'' = 1,…,7) but is not constrained in the baseline portion of the model (l' = 1,…,22).

A crossings model is:

$$\log(\mu_{ijklm} / t_{ijklm}) = \text{Baseline model} + \gamma_{ijl}^{HWY} \tag{3}$$

where

$$\gamma_{ijl}^{HWY} = \begin{cases} \sum_{q=j}^{i-1} \gamma_{ql} & \textit{for } i > j, \\ \sum_{q=i}^{j-1} \gamma_{ql} & \textit{for } i < j, \\ 0 & \textit{for } i = j. \end{cases}$$

Here, γ_{ql} represents the change in the difficulty of crossing educational barrier q in year l relative to the baseline year (1940). The log odds of intermarriage implied by this model are shown in Table 1. The crossings parameters are the log odds of marriage for couples in *adjacent* education categories relative to the log odds of homogamy. The log odds of marriage for more educationally dissimilar couples are calculated by adding the crossings parameters that correspond to each barrier crossed (Johnson 1980:108-113; Powers and Xie:117-119).[11]

RESULTS

Descriptive Statistics

Table 2 shows the weighted distribution of husband's and wife's education using Census data from 1940 to 2000.[12] It shows the well known increases in education for both husbands and wives. Whereas the majority of husbands and wives had less than 10 years of education in 1940, they represent only about 6% of married persons in 2003. As the proportion of husbands and wives with low levels of education has dropped, the proportion of married persons with 16 or more years of education has increased from the single digits in 1940 to almost 30% in 2000.[13]

Although educational attainment has grown for both sexes, it has grown more so for wives than for husbands. In 1940, 12% of husbands had completed at least some college compared to only 10% of wives, but by 2000 over 60% of wives had completed at least this much schooling compared to only 57% of husbands. To investigate the implications of these changes for the tendency for men to marry down, we plot the percentage of couples in which the husband has more education than the wife (*hypergamous* couples), among those who do not share the same education (*heterogamous* couples). We show these trends by data source for prevailing marriages (Panel A) and for newlyweds (Panel B) in Figure 1.

For prevailing marriages, Figure 1 shows that trends in hypergamy follow a strong "inverted U" pattern which peaks in the mid-1970s. The proportion of heterogamous couples in which husbands have more education than their wives increased from about 45% in 1940 to over 60% in the mid-1970s before dropping back to about 45% by 2003. Table 2 shows that the tendency for men to marry down in 1940 was low because a greater proportion of husbands than wives had less than 10 years of education (about 60% vs. 53%). After 1940, hypergamy increased as husbands moved into higher education faster than did wives. Then, from 1970 to 2000, wives moved into higher education faster than did husbands, such that in 2000 wives were more likely than husbands to have attended at least some college. Thus, today as in 1940, if one partner in a marriage has more education than the other, it is likely to be the wife (also see Qian 1998).[14]

These trends are very similar for newlyweds through the 1990-1995 period except that the balance of who has more education than whom tips towards the wife earlier than among prevailing marriages. For newlyweds, hypergamy became more likely than hypogamy beginning in the 1985-1989 period whereas this did not occur among prevailing marriages until the mid-1990s. This shows the "lead and lag" relationship between newlyweds and prevailing marriages, which is evident at several points in the analysis.[15]

A simple measure of changes in the resemblance between spouses is the change in the proportion of couples who share the same education category (*homogamous* couples). Figure 2 shows this trend using Census and CPS data for prevailing marriages and newlyweds. After dropping from very high levels of homogamy in 1940, both the Census and CPS show an increase in the proportion of couples who are educationally homogamous since 1960.[16] The Census data show that the percentage of educationally homogamous couples fell from almost 60% in 1940 to 45% in 1960 and rose to about 53% by 2000. Similarly, CPS data show a rise from 45% in the early-1960s to 55% in 2003, a 22% increase. The bottom panel of Figure 2 shows that the magnitude of the change is similar for newlyweds through 1995.

Figure 2 implies that the percentage of couples who differ by at least one educational category has declined sharply since 1960, but it is also instructive to examine trends in the proportion of married couples who marry across larger educational divides. Figure 3 shows that the proportion of couples who differ by at least two educational categories has also declined since 1960 for both prevailing marriages and newlyweds. However, unlike the trend in homogamy, this trend appears to have leveled off since in the early-1990s. The trends among newlyweds are similar although the decline in the percent crossing two or more barriers from 1970-1974 through 1990-1995 is less steep than among prevailing marriages.

These descriptive trends should be interpreted with caution, however, as they may be highly influenced by changes in the marginal distributions of husbands' and wives' education. For example, homogamy may be higher in 1940 than in other years because of the high concentration of husbands and wives in the less than 10 years of schooling category. Even given a constant association between the education levels of husbands and wives, periods in which the marginal distributions are highly concentrated tend to produce higher levels of homogamy. Furthermore, net of other changes, increases in the symmetry of husbands' and wives' education will also tend to increase the similarity of spouses (Simkus 1984). While the increase in the percentage of couples who are homogamous is suggestive, we wish to determine whether the strength of the association between husbands' and wives' education has increased over time, or whether this trend is altered once we control for shifts in the marginal distributions of husband's and wife's education. We accomplish this goal using log-linear models, which estimate trends in assortative marriage controlling for shifts in the distributions of spouses' education.

Log-linear Models

Table 3 provides the model specifications and fit statistics of our log-linear models. We present both the G^2 and the BIC statistics for model fit but rely mainly on the BIC statistic because of our large sample sizes (Raftery 1995). More negative BIC statistics indicate a better fitting model. Table 3 shows that the baseline model (Model 1), which assumes that the educational resemblance of spouses is time-invariant, fits the data poorly relative to most models that allow for changes in education assortative marriage.

In Models 2, 3, and 4, we examine different parameterizations of trends in assortative marriage. Model 2 is the homogamy trend model (equation 2), which parameterizes trends as a change in the likelihood that husbands and wives share the same education level. By the BIC criterion, adding these terms increases the fit of the model relative to the baseline model, indicating that the tendency for couples to marry within the same education category has changed significantly over the period we examine. This simple model, however, may conceal significant variation in trends across different portions of the education distribution. To address this, Model 3 allows for variation in homogamy trends across the main diagonal (M). By the BIC criterion, Model 3 does not fit the data better than Model 2, indicating that trends in the odds of homogamy may adequately be described by a single parameter. Model 4 is the crossings trend model (equation 3) which adds terms to capture variation in the difficulty of crossing educational barriers across the education distribution. By the BIC criterion, the crossings model provides a better fit to the data than either the reduced or expanded forms of the homogamy trend models (Models 2 and 3).

Models 5 through 7 include interactions between the time-varying association parameters in Models 2 through 4 and data source to test the hypothesis that trends in the association between husband's and wife's education vary by source (S). The BIC statistics are less negative in Models 5 through 7 than their counterparts in Models 2 through 4 and, because of our very large sample sizes, we conclude that Models 2 through 4 are preferable.

Models 8 and 9 include the parameters of Model 4 as well as additional terms for changes in the diagonal of the table (homogamy). Model 8 includes indicators of changes in whether or not the couple shares the same education level. Model 9 allows the trend in the odds of homogamy to vary depending on education level. By the BIC criterion, neither of these more complex models fits the data better than Model 4. This indicates that, once the cross-sectional relationship between husband's and wife's education is taken into account, trends in assortative marriage are adequately described by changes in the degree to which couples cross educational barriers.

Although the homogamy model (Model 2) does not fit the data well as well as the crossings model (Model 4), we present these trends for descriptive purposes. The poor fit of the homogamy model relative to the crossings model indicates that trends in the odds of crossing educational barriers are not simple reflections of a more general trend toward higher levels of homogamy. Thus, we provide a more detailed description of trends using the crossings model, which allows us to gain insight into which parts of the education distribution generate the trends in homogamy we observe. We present the results of Models 2 and 4 for both prevailing marriages and newlyweds.[17]

Trends in the Odds of Homogamy

Figure 4 shows the trend in the odds that husbands and wives share the same education category estimated from Model 2.[18] Net of changes in the marginal distributions of husband's and wife's education, the odds of homogamy among prevailing marriages dropped from 1940 to 1960 but increased substantially from 1960 to 2003. This figure also reveals that in contrast to the percentages reported in Figure 2, in which the percent homogamous was higher in 1940 than in 2003, the odds of educational homogamy are higher today than in any period over the past 60 years. Today, husbands and wives are roughly 4 times as likely to have a spouse who shares their educational background as they are to be married to someone who does not, whereas in the early-1960s the odds of homogamy were only about 3:1. Although the odds of homogamy are clearly higher in the 1990s than in earlier decades, there is some evidence that increases in homogamy are slowing. The results shown here are consistent with a plateau in the long-term trend toward increases in the odds of homogamy, but may also represent a temporary slow-down of the general upward trend. The main trend over the past 40 years, however, is one of continued increase in the odds of homogamy.

Newlyweds tend to be less homogamous than prevailing marriages in most years but the general trend toward higher odds of homogamy holds. After a drop in the odds of homogamy in the mid-1970s, the odds of homogamy among newlyweds increased rapidly through the 1980s and 1990s. To the extent that the increase in the odds of homogamy in the 1990s among newlyweds are a "leading indicator" of trends in prevailing marriages, we might expect increases in the odds of homogamy among prevailing marriages to continue.

Trends in the Odds of Crossing Educational Barriers

To see where in the education distribution these increases in homogamy arise, we turn to an examination of the crossings parameters. Figure 5 shows trends in difficulty of crossing *adjacent* educational barriers in the U.S. from 1940 to 2003 estimated from Model 4. The top panel shows the difficulty of crossing the two barriers at the lower end of the education distribution, that is, the difficulty of crossing the educational barriers separating (1) those with less than 10 years of schooling and those with 10-11 years of schooling and (2) those with 10-11 years of schooling and high school graduates (12 years of schooling). The bottom panel shows the difficulty of crossing the two barriers at the upper end of the education distribution, that is, the difficulty of crossing the educational barriers separating (1) high school graduates from those with "some college" (13-15 years of schooling) and (2) those with "some college" from those with bachelor's, professional, or graduate degrees (16 or more years of schooling). Larger crossings parameters correspond to higher odds of intermarriage and thus indicate more permeable barriers. Smaller numbers correspond to lower odds of intermarriage and indicate less permeable barriers.

The trends in the crossings parameters are generally consistent with the increase in the odds of homogamy shown in Figure 4. There are few periods in which the odds of educational intermarriage increase and the overall trend in the odds of intermarriage between 1940 and 2003 is down. Nonetheless, Figure 5 shows that increases in the odds of homogamy have arisen from different portions of the education distribution at different periods in time. Our results suggest that increases in homogamy were generated by increases in the rigidity of educational barriers at the upper end of the education distribution from 1940 through the early-1970s and by the increasing rigidity of barriers to marriage at the lower end of the distribution from the mid-1970s onward.

Specifically, Figure 5 shows that from 1940 through the early-1970s, the odds of intermarriage across the three highest educational barriers (i.e., 10-11/12, 12/13-15, and 13-15/ge 16 years of schooling) all dropped. For example, between 1940 and 1972 the odds of intermarriage across the two highest educational barriers (i.e., 12/13-15 and 13-15/ge 16 years of schooling) both decreased from about 0.47 to 0.36 times the odds of homogamy, or by 25%. The odds of intermarriage between high school graduates and those with 10-11 years of schooling also declined but less dramatically, falling by about 8% between 1940 and 1972. By contrast, the odds of intermarriage between those with less than 10 and 10-11 years of schooling *increased* from 0.40 to 0.53 times the odds of homogamy, or by 33%.

In the mid-1970s, trends in the permeability of three of the four educational barriers shifted. After decreasing sharply from 1940 to the early-1970s, the trend in the odds of intermarriage across the two highest educational barriers stabilized, or increased slightly in the case of the odds of intermarriage across the 12/13-15 years of schooling barrier. By contrast, after rising through the mid-1970s, the odds of intermarriage across the lowest educational barrier plummeted through the mid-1990s, as did the odds of intermarriage across the 10-11/12 years of schooling barrier. Thus, the difficulty of crossing the three highest educational boundaries increased from 1940 through the early-1970s, whereas the difficulty of crossing the two lowest barriers increased from the mid-1970s through the mid-1990s. From about 1995 onward, trends in the odds of crossing educational barriers for all four barriers have been relatively flat. These trends are similar, albeit more variable, for newlyweds through the mid-1990s (not shown here).[19]

What do these trends imply for the odds of marriage across more distant educational barriers? Table 4 shows the odds of intermarriage for all possible combinations of husband's and wife's education for three selected periods: 1940, 1970-1979, and 1995-2003. The odds are calculated by multiplying the odds ratios corresponding to the barriers a marriage crosses. Because our model is symmetrical with respect to sex, we present the below-diagonal cells. Although college graduates are no more likely to be married to high school graduates or those with "some college" today than they were the 1970s, intermarriage between college graduates and high school dropouts has declined consistently since 1940. The odds of intermarriage between college graduates and those with less than 10 years of schooling and 10-11 years of schooling have been cut in more than half since 1940 (i.e., have dropped from 0.043 to 0.018 and from 0.108 to 0.050, respectively).

In contrast, those with less than 10 years of schooling, while increasingly likely to be married to those with slightly more education than themselves and high school graduates from 1940 through the 1970s, were much less likely to be married to anyone outside their own category after the 1970s whether near or far in distance. For example, the odds of intermarriage between those with less than 10 years of school and high school graduates dropped from 0.240 in the 1970-1979 period to 0.139 times the odds of homogamy in the 1995-2003 period. The odds of intermarriage between those with 10-11 years of schooling and high school graduates, college graduates, and those with "some college" also declined over this period. These results suggest that, while intermarriage increased somewhat at the lower end of the education distribution between 1940 and the 1970s, beginning in the 1970s, those with less than 10 years of schooling were increasingly unlikely marry up, while those with 10-11 years of education were both less likely marry down and less likely to marry someone with more education.

Past research on trends from 1940 through the late-1980s and early-1990s has primarily emphasized decreases the odds of intermarriage between college graduates and those with less education (Kalmijn 1991a; Mare 1991). Our results are very similar to those reported by Mare (1991) through the late-1980s. However, our expanded time series reveals that the contribution of the growing separation of the highly educated from one another ended in the early-1970s. Since then, increases in the educational resemblance of spouses have been generated by growing barriers to intermarriage at the lower end of the education distribution rather than to continued declines at the top. The "rigidity" of educational boundaries across the entire spectrum of the education distribution has increased over time, but the timing of these changes varies. Nonetheless, the composite effect of these trends is such that the odds of intermarriage between those with higher levels of education and high school dropouts have continued to decline.

SUMMARY AND CONCLUSIONS

The increasing resemblance of spouses in married couples from 1940 to the mid-1980s continued through the 1990s among both newlyweds and couples in prevailing marriages. The odds of educational homogamy are higher today than in any other decade since 1940, although there is evidence of a possible slow-down or stabilization of these trends over the past decade. Our expanded time series suggests that increases in the odds of homogamy were generated by different portions of the education distribution across the time series we examine. From 1940 to the early-1970s, these increases were generated by the increasing difficulty of intermarriage across the three highest educational barriers (i.e., less intermarriage between those with 10-11 years of schooling, high school graduates, those with "some college," and college graduates). From the early-1970s through the mid-1990s, however, the odds of intermarriage among those with higher levels of education (high school graduates, those with "some college," and college graduates) stabilized while the odds that high school dropouts would marry up dropped substantially. Since the mid-1990s, trends in the odds of crossing educational barriers have been relatively flat. These trends are similar for a broad cross-section of married couples and for recently married couples.

Trends in the odds of intermarriage at the top of the education distribution are partially consistent with Mare's (1991) hypothesis that the odds of crossing an educational barrier are positively associated with the time between school completion and marriage. Mare (1991) finds that the gap between the timing of school completion and marriage decreased until 1970 and increased through the end of his time series. The decline in the odds of intermarriage across the three highest educational barriers through 1970 is consistent with this hypothesis. Furthermore, the small increase in the odds of intermarriage between high school graduates and those with "some college" is consistent with a growing gap in the timing of school completion and marriage after 1970. Nevertheless, we might have expected to see more of an increase in the odds of intermarriage between college graduates and those with "some college" if this hypothesis governed intermarriage trends throughout the entire period. The gap between the average age at school completion and marriage for college graduates may have grown large enough as to have lost its predictive power.

While variation in the gap between school completion and marriage may at least partially explain the shift in the odds of crossing the two highest educational barriers, it is not clear it applies to the variation in the two lowest barriers. More plausible reasons for the decrease may be based on the changing characteristics of persons within education categories over this period. For example, changes in the race/ethnic composition of these educational categories may have shifted in ways that promote homogamy at the lower end of the education distribution. Largely spurred by the passage of the 1965 Amendments to the Immigration and Nationality Act, the U.S. has experienced rapid growth in immigration from less developed countries over the past several decades. On the whole, immigrants tend to have lower levels of schooling than U.S. natives and represent an increasing proportion of high school dropouts (Borjas, et al. 1997). To the extent that race/ethnic, linguistic, and cultural barriers increase the odds of homogamy among the foreign-born relative to other groups (Qian and Lichter 2001; Stevens and Schoen 1988; Stevens and Swicegood 1987) and that immigrants are clustered in the lowest education categories, increases in immigration will tend to decrease the odds of intermarriage across the lower educational barriers.

In addition, growing economic distance between educational groups may have reduced educational intermarriage across the lower educational barriers. Since the late-1970s the wage premium associated with a college education has increased sharply, primarily because of large declines in the earnings of high school graduates and dropouts rather than because of increases in the earnings of college graduates (Gottschalk 1997). These trends correspond to the declining odds of intermarriage between high school dropouts and those with higher levels of education, although are not consistent with the stabilization of the odds of intermarriage between high school graduates and those with more education.

In sum, while our measures show increasing spousal resemblance on education through the 1990s, there is evidence of possible stabilization of these trends over the past decade. Although marriage between high school dropouts and those with at least a high school degree have become increasingly rare, intermarriage among college graduates, high school graduates, and those with "some college" have been relatively stable since the mid-1970s. These trends are consistent with the growing economic and cultural divide between those with very low levels of education and those with more education in the U.S.

ENDNOTES

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[1] The June CPS contains information on date at first marriage whereas the Census Integrated Public Use Microdata Series (IPUMS) contains information on age at first marriage. Because the CPS samples are small, we define newlyweds in the June CPS as couples in which the wife was married for the first time within 24 months of the interview. In the Census, we define newlyweds as couples in which the wife was at most one year older at the interview than at the time of her first marriage. Because the IPUMS files record age at marriage information in whole years, women may have been married between 0 and 24 months prior to the interview.

[2] Including young wives in our analysis may affect our estimates of trends in educational assortative marriage because of shifts in the timing of marriage and the improbability of obtaining high levels of schooling at young ages. In analyses not shown here, we examined trends for wives in prevailing marriages between the ages of 21 and 40. The results are very similar those presented and are available upon request.

[3] The 1950 Census did not obtain education information from both spouses. Although the CPS has been administered since the 1940s, the earliest microdata are available for March 1962. A complication of using multiple months of CPS data is that the same households may appear in several survey months because of the survey's rotation group scheme (see U.S. Census Bureau 2002 for details). In our analyses, we maximize the number of months used while eliminating duplicate records for each marriage (see Appendix Table 1).

[4] The categories in the new education question are: less than 1st grade, 1st-4th grade, 5th or 6th grade, 7th or 8th grade, 9th grade, 10th grade, 11th grade, 12th grade – no diploma, high school graduate – high school diploma, or the equivalent, some college but no degree, Associate degree

in college – occupational/vocational program, Associate degree in college – academic program, Bachelor's degree, Master's degree, professional school degree, and Doctorate degree.

[5] This education classification scheme corresponds to the completion of major degrees and is consistent with past research (Mare 1991). The relevance of these categories to our analysis is discussed below.

[6] The data and weights used in this paper are available from the authors on request.

[7] In analyses not reported here, we also examined assortative marriage trends using uniform association models. These models describe the relationship between husband's and wife's education in terms of a single association parameter that is conceptually similar to a regression coefficient (Agresti 2002:369-70; Powers and Xie 2000:120-22). Trends in the association parameters are similar to those presented for homogamy, but are smaller and are statistically insignificant by the BIC criterion (available upon request).

[8] For prevailing marriages, we identify the effect of the change in the education question from variation in the timing of the implementation of the change by data source (the Census and CPS implemented the change in 1990 and January 1992, respectively). Because Census data for newlyweds is unavailable for 1990, the effect of the change for newlyweds is not identified. Thus, we assume that the effect of the education question change on spousal resemblance is the same for newlyweds as for prevailing marriages in all of our models for newlyweds.

[9] The 1960, 1970, and 1980 Census samples are self-weighting. We use the wife's person weight for the couple for both the Census and CPS.

[10] To preserve our original sample size, we normed the original weights so that the sum of the weights equals the sample size within data sources, CPS months, and years. In cases

where the cell frequency equals zero, we set t_{ijklm} to 1 (4.3% of cells for newlyweds and 0% of cells for prevailing marriages).

[11] Our homogamy and crossings models assume that trends in the pattern of association between husband's and wife's education are symmetrical with respect to sex. In analyses not shown here, we relaxed this assumption but found that this was unnecessary by the BIC criterion. Thus, once time-invariant asymmetry in assortative marriage is taken into account, trends in assortative marriage are symmetrical with respect to sex. The results of these analyses are available from the authors upon request. These results do *not* indicate that there have not been historical changes in *hypergamy,* or the likelihood that husbands marry down with respect to education. Trends in hypergamy are largely functions of the marginal education distributions rather than the association between husband's and wife's educational attainment.

[12] Note that this table is not equivalent to our data. Our data tables are unweighted cell frequencies, which we weight using an offset term in our log-linear models.

[13] Table 2 also illustrates the relevance of our educational classification. Although the proportion of individuals with less than 10 years of schooling today is small, these individuals represent a large share of married persons historically. If we were examining assortative marriage exclusively in more recent decades we might safely collapse all those with less than 12 years of schooling into a single category and distinguish between those with college degrees and those with graduate or professional degrees. For the majority of the period studied, however, husbands and wives with graduate or professional degrees represent a trivial proportion of our sample. In analyses not shown here, we replicated our analysis for prevailing marriages using a 6-category education classification that is identical to our 5-category classification but separates

college graduates from those with graduate and professional degrees. The effects of switching to the 6-category education scheme are discussed in endnote 19.

[14] Rose (2004) also finds that hypergamy decreased from 1980 to 2000 but that the number of hypogamous marriages had not exceeded the number hypergamous marriages by 2000. The discrepancy between Rose's results and the present analysis is explained by differences in the age range of our samples. Whereas we examine couples in which the wife is aged 18 through 40, Rose examines couples in which the wife is between 40 and 44.

[15] As mentioned above, the extent to which trends among prevailing marriages lag behind trends among newlyweds depends on the width of the age range examined and marital duration. Because our prevailing marriage sample is composed of wives age 18 to 40, over half the sample "ages out" of the analysis each decade. Analyses of trends among wider age ranges produce longer lags whereas narrower age ranges produce shorter lags than those presented here.

[16]The CPS consistently shows higher levels of homogamy than the Census. Responses to the Census education question may contain more measurement error than the CPS (Black, Sanders, and Taylor 2003). Given a tendency toward educational homogamy, random measurement error would tend to produce lower estimates of the percentage of couples who are homogamous.

[17] For newlyweds, the baseline model (Model 1) fits the data adequately relative to other models by the BIC criterion. However, by the G^2 criterion, the crossings model (Model 4) provides a better fit than does the baseline model ($G_1^2 - G_4^2 = 74$; df = 28; $p < 0.001$), although the homogamy model (Model 2) does not ($G_1^2 - G_2^2 = 8$; df = 7; $p = 0.333$). Because of the large reduction in G^2 produced by the crossings model relative to the baseline model and compared

with the reduction in G^2 produced by the homogamy and main diagonal models ($G_1^2 - G_3^2 = 68$; df = 35; p = 0.001), we prefer the crossings model for newlyweds as well as for prevailing marriages. Additional fit statistics for newlyweds are available from the authors on request.

[18] Our models do not produce interpretable coefficients for the odds of homogamy and the odds of crossing educational barriers for the omitted year (1940) because of the inclusion of the interaction terms between husband's and wife's education (HW), which control for the time-invariant association between spouses' education characteristics. Rather than choosing an arbitrary point to begin the time series, we estimate the odds of homogamy and the odds of crossing educational barriers for 1940 using modified versions of Models 2 and 4 in which we replace the HW terms with homogamy (O) and crossings terms (C), respectively. The year-to-year change parameters are estimated from Models 2 and 4 and are added to the estimates for 1940.

Furthermore, when poor-fitting models such as the homogamy model are used to estimate associations, log-linear models may not fully account for the effects of shifts in the distribution of spouses' education. To test whether our results are affected by shifts in the marginal distributions of husband's and wife's education that are not controlled for by our log-linear models, we set the marginal distributions of both partner's education in each 5 X 5 table of husband's and wife's education to 100 (total sub-table N = 500) while preserving the association of the internal portion of the table (see Agresti 2002:345-46 for details). We then re-estimate our models for prevailing marriages. Setting the marginals to 100 reduces the odds of homogamy in 1940 to a level only slightly higher than those in 1960 and shifts the odds of homogamy across the entire period up by about 0.5. However, the magnitude and general nature of the trend since

1960 is very similar to that presented here. Furthermore, trends in the odds of crossing using this procedure are almost identical to those presented here. (Results available upon request.)

Throughout the paper, we estimate trends holding data source (S) constant at $S = 0$ (CPS) and the new versus the old wording of the education item constant at $N = 0$ (old education question).

[19] Trends in the odds of crossing the lowest educational barrier among newlyweds are considerably more variable than trends in the odds of crossing the other three barriers because of the very small number of marriages that cross this barrier in the CPS after 1980.

A 6-category education classification scheme (lt 10, 10-11, 12, 13-15, 16, gt 16 years of schooling) produces trends in the odds of crossing educational barriers and the odds of homogamy that are very similar to those presented in Figures 4 and 5. However, trends in the *percentage* of couples who are homogamous are substantially reduced using the 6-category classification scheme. Rather than increasing from 45% in 1960 to 55% in 2003 as shown in Figure 2, the percentage of couples who share the same education rises from 43% in 1960 to only about 47% in 2003. Nevertheless, these differences are eliminated once shifts in the marginal distributions are controlled for in our log-linear models. Trends in the percentage of heterogamous couples who are hypergamous and the percentage of couples crossing two or more educational categories using the 6-category scheme are similar to those shown in Figures 1 and 3. (Results available upon request.)

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TABLE 1. LOG ODDS OF EDUCATIONAL INTERMARRIAGE

Wife's Years of Schooling	Husband's Years of Schooling				
	lt 10	10-11	12	13-15	ge 16
lt 10	1	γ_1	$\gamma_1+\gamma_2$	$\gamma_1+\gamma_2+\gamma_3$	$\gamma_1+\gamma_2+\gamma_3+\gamma_4$
10-11	γ_1	1	γ_2	$\gamma_2+\gamma_3$	$\gamma_2+\gamma_3+\gamma_4$
12	$\gamma_1+\gamma_2$	γ_2	1	γ_3	$\gamma_3+\gamma_4$
13-15	$\gamma_1+\gamma_2+\gamma_3$	$\gamma_2+\gamma_3$	γ_3	1	γ_4
ge 16	$\gamma_1+\gamma_2+\gamma_3+\gamma_4$	$\gamma_2+\gamma_3+\gamma_4$	$\gamma_3+\gamma_4$	γ_4	1

TABLE 2. DISTRIBUTION OF HUSBAND'S AND WIFE'S EDUCATION IN PREVAILING MARRIAGES BY YEAR (WIVES 18-40)

Wife's Years of Schooling	Husband's Years of Schooling: lt 10	10-11	12	13-15	ge 16	Total
1940:						
lt 10	43.98	4.45	3.13	0.77	0.40	52.73
10-11	7.33	3.88	2.61	0.69	0.36	14.87
12	6.55	3.60	8.13	2.29	1.91	22.48
13-15	1.32	0.68	1.47	1.58	1.62	6.67
ge 16	0.32	0.16	0.47	0.54	1.75	3.24
Total	59.50	12.77	15.81	5.87	6.04	99.99
						N= 158,417
1960:						
lt 10	16.01	3.41	3.49	0.82	0.23	23.96
10-11	6.23	4.35	4.58	1.40	0.46	17.02
12	8.15	6.28	17.49	6.64	4.12	42.68
13-15	0.80	0.72	2.30	3.04	3.58	10.44
ge 16	0.18	0.18	0.61	0.97	3.95	5.89
Total	31.37	14.94	28.47	12.87	12.34	100.00
						N= 203,092
1970:						
lt 10	7.92	2.41	3.09	0.69	0.21	14.32
10-11	4.13	3.64	4.88	1.37	0.38	14.40
12	5.90	5.64	22.35	9.21	4.99	48.09
13-15	0.58	0.69	2.90	4.33	4.93	13.43
ge 16	0.20	0.18	0.89	1.54	6.95	9.76
Total	18.73	12.56	34.11	17.14	17.46	100.00
						N=207,991
1980:						
lt 10	4.26	1.35	2.24	0.70	0.22	8.77
10-11	2.03	2.06	3.64	1.30	0.27	9.30
12	3.58	3.96	22.83	10.95	4.85	46.17
13-15	0.57	0.73	4.33	7.72	6.70	20.05
ge 16	0.15	0.15	1.27	2.80	11.35	15.72
Total	10.59	8.25	34.31	23.47	23.39	100.00
						N=239,954
1990:						
lt 10	2.68	0.68	1.31	0.53	0.14	5.34
10-11	0.83	1.25	2.32	0.82	0.15	5.37
12	1.88	2.57	18.09	9.57	3.24	35.35
13-15	0.68	0.98	8.45	14.41	7.83	32.35
ge 16	0.14	0.17	2.00	4.77	14.51	21.59
Total	6.21	5.65	32.17	30.10	25.87	100.00
						N=238,328
2000:						
lt 10	3.48	0.61	1.42	0.52	0.16	6.19
10-11	0.68	1.01	1.80	0.65	0.13	4.27
12	1.80	2.03	15.55	7.33	2.41	29.12
13-15	0.76	1.07	9.26	14.90	6.98	32.97
ge 16	0.17	0.18	2.80	6.33	18.00	27.48
Total	6.89	4.90	30.83	29.73	27.68	100.03
						N=220,478

Note s: Totals may not sum to 100.00 because of rounding error. Results are weighted to correct for oversampling and sampling variability in 1940 and 2000.
Source: U.S. Census (IPUMS).

TABLE 3. LOG-LINEAR MODELS OF THE ASSOCIATION BETWEEN HUSBAND'S AND WIFE'S EDUCATION IN PREVAILING MARRIAGES

Model	df	G^2	BIC
(1) HYS, WYS, HWS, HWN	704	4328	-5886
(2) Model 1 + OY	662	3516	-6088
(3) Model 1 + MY	494	1975	-5192
(4) Model 1 + CY	536	1666	-6111
(5) Model 1 + OYS	660	3513	-6062
(6) Model 1 + MYS	484	1956	-5066
(7) Model 1 + CYS	528	1641	-6019
(8) Model 4 + OY	494	1196	-5971
(9) Model 4 + MY [a]	410	944	-5004

Notes: N = 1,998,933. Cells = 1,175. Model terms (number of parameters): Y = Year (42); H = Husband's education (4); W = Wife's education (4); S = Data source (1); N = New education question (1); O = Homogamy (1); C = Crossings Parameters (4); M = Main diagonal (5).

Sources: Current Population Survey (CPS) and U.S. Census data (IPUMS).

[a]Only two of the four sets of crossings trend parameters are identified when the main diagonal trend parameters are included in the model (Powers and Xie 2000:118).

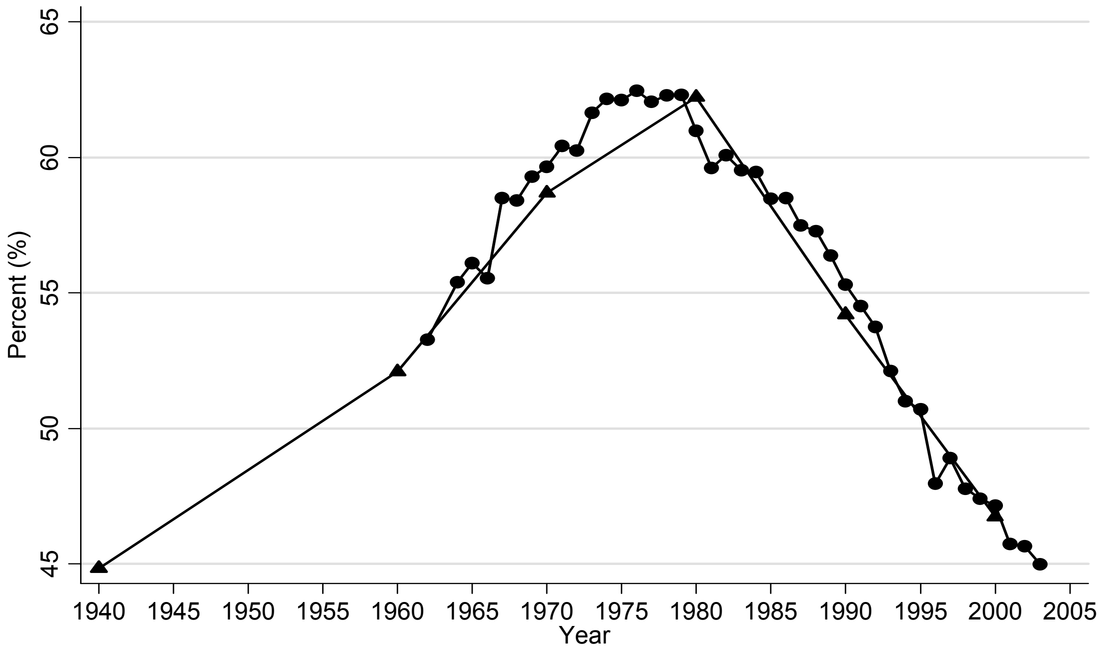
TABLE 4. ODDS OF CROSSING AN EDUCATIONAL BARRIER AMONG PREVAILING MARRIAGES BY YEAR (WIVES 18-40)

Wife's Years of	Husband's Years of Schooling				
Schooling	lt 10	10-11	12	13-15	ge 16
1940:					
lt 10					
10-11	0.398				
12	0.193	0.486			
13-15	0.091	0.229	0.472		
ge 16	0.043	0.108	0.223	0.473	
1970-1979:					
lt 10					
10-11	0.523				
12	0.240	0.459			
13-15	0.089	0.170	0.370		
ge 16	0.031	0.060	0.130	0.352	
1995-2003:					
lt 10					
10-11	0.371				
12	0.139	0.375			
13-15	0.053	0.143	0.380		
ge 16	0.018	0.050	0.133	0.350	

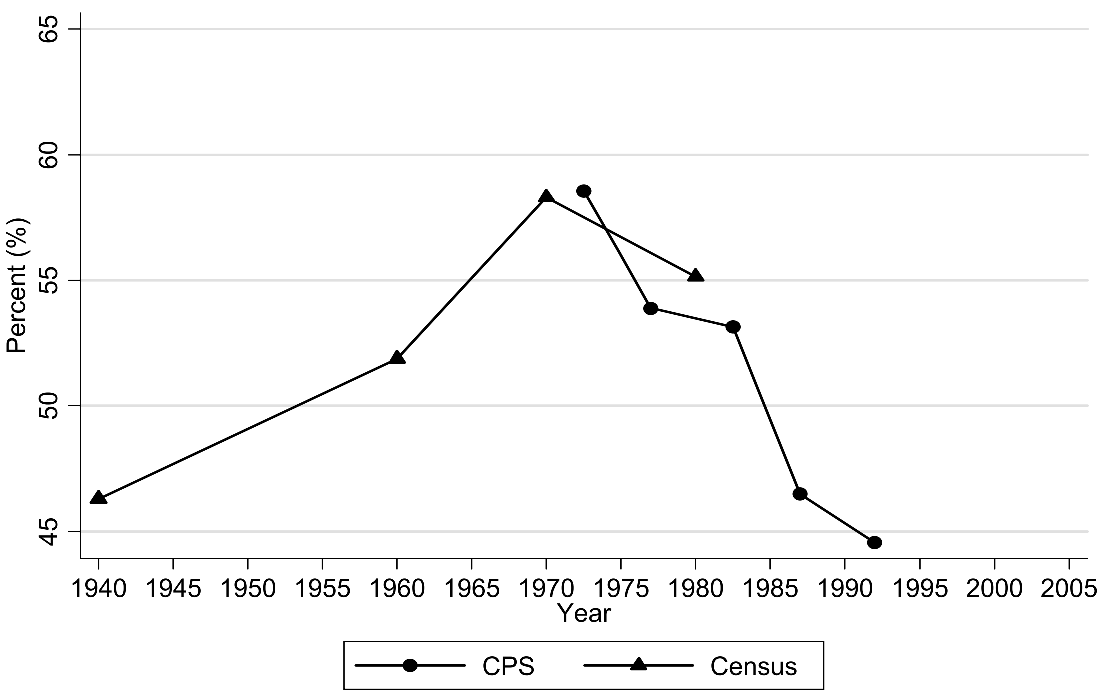
Sources : Current Population Survey (CPS) and U.S. Census data (IPUMS).

FIGURE 1. PERCENT HYPERGAMOUS GIVEN HETEROGAMY BY DATA SOURCE (WIVES 18-40), U.S. 1940-2003

Panel A. Prevailing Marriages



Panel B. Newlyweds:

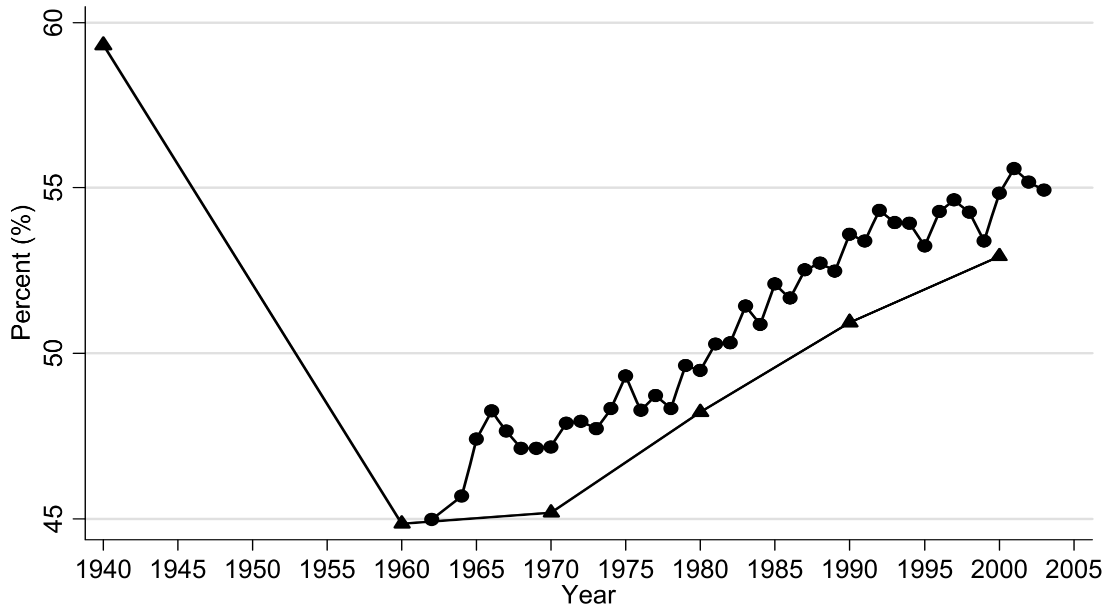


Notes: Results are weighted. Education categories are lt 10, 10-11, 12, 13-15, and ge 16 years of schooling. For newlyweds, years are grouped into roughly 5-year intervals: 1970-74, 1975-79, 1980-84, 1985-89, 1990-95. They are graphed at their mid-point.

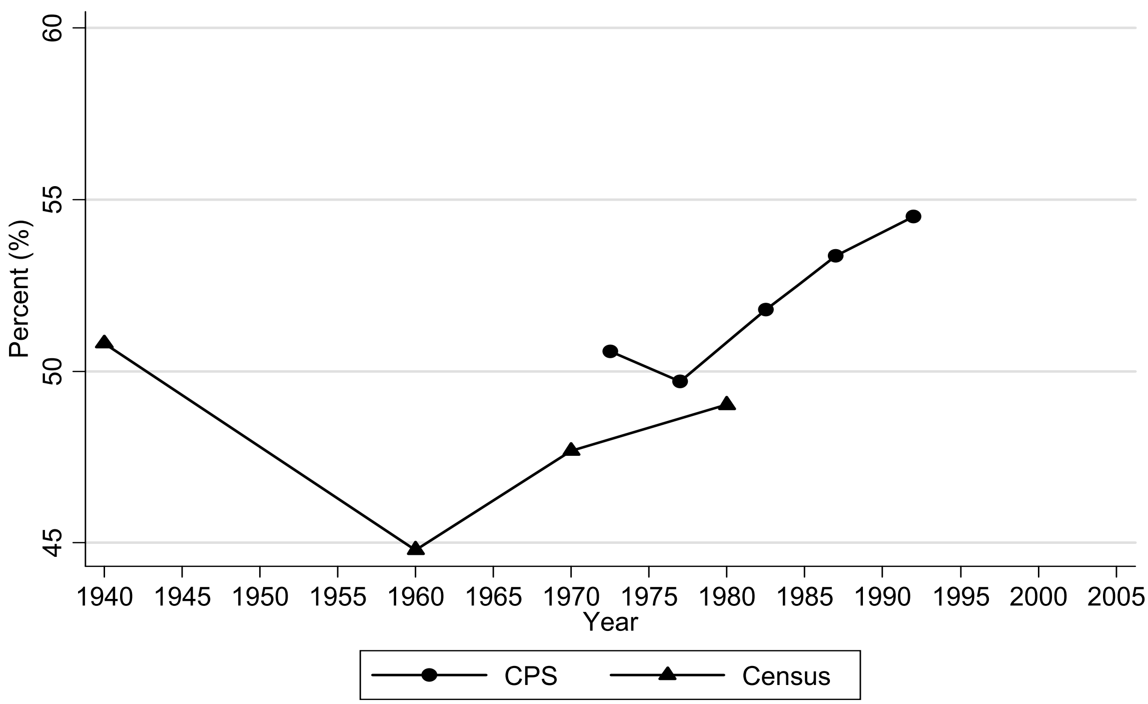
Sources: Current Population Survey (CPS) and U.S. Census data (IPUMS).

FIGURE 2. PERCENT HOMOGAMOUS BY DATA SOURCE (WIVES 18-40), U.S. 1940-2003

Panel A. Prevailing Marriages:



Panel B. Newlyweds:

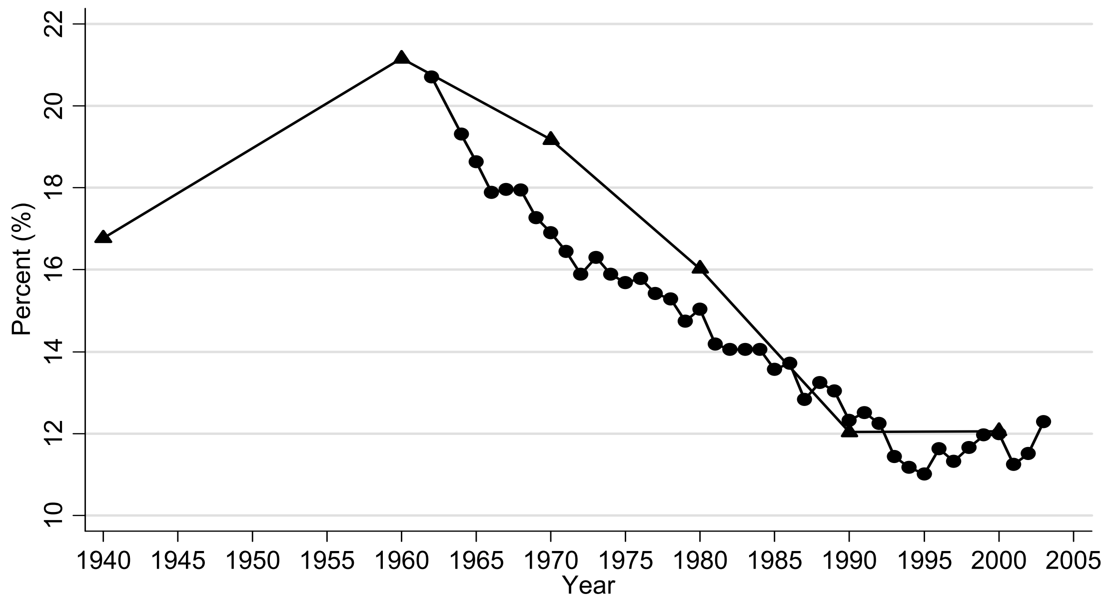


Notes: Results are weighted. Education categories are lt 10, 10-11, 12, 13-15, and ge 16 years of schooling. For newlyweds, years are grouped into roughly 5-year intervals: 1970-74, 1975-79, 1980-84, 1985-89, 1990-95. They are graphed at their mid-point.

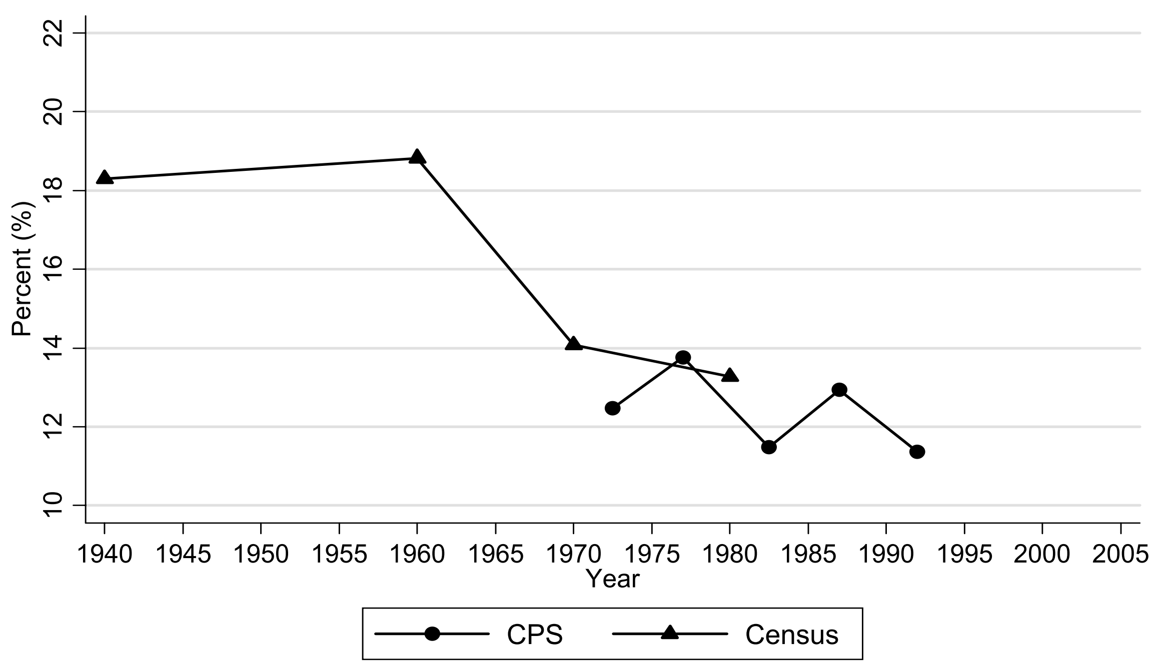
Sources: Current Population Survey (CPS) and U.S. Census data (IPUMS).

FIGURE 3. PERCENT CROSSING TWO OR MORE EDUCATIONAL CATEGORIES BY DATA SOURCE (WIVES 18-40), U.S. 1940-2003

Panel A. Prevailing Marriages:



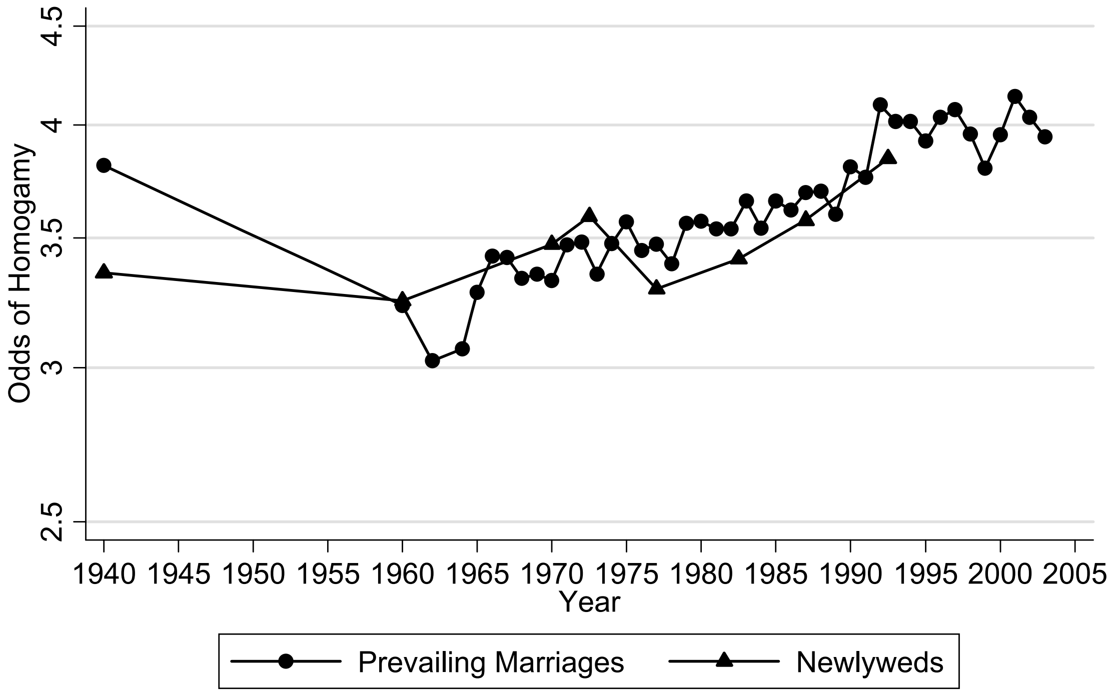
Panel B. Newlyweds:



Notes: Results are weighted. Education categories are lt 10, 10-11, 12, 13-15, and ge 16 years of schooling. For newlyweds, years are grouped into roughly 5-year intervals: 1970-74, 1975-79, 1980-84, 1985-89, 1990-95. They are graphed at their mid-point.

Sources: Current Population Survey (CPS) and U.S. Census data (IPUMS).

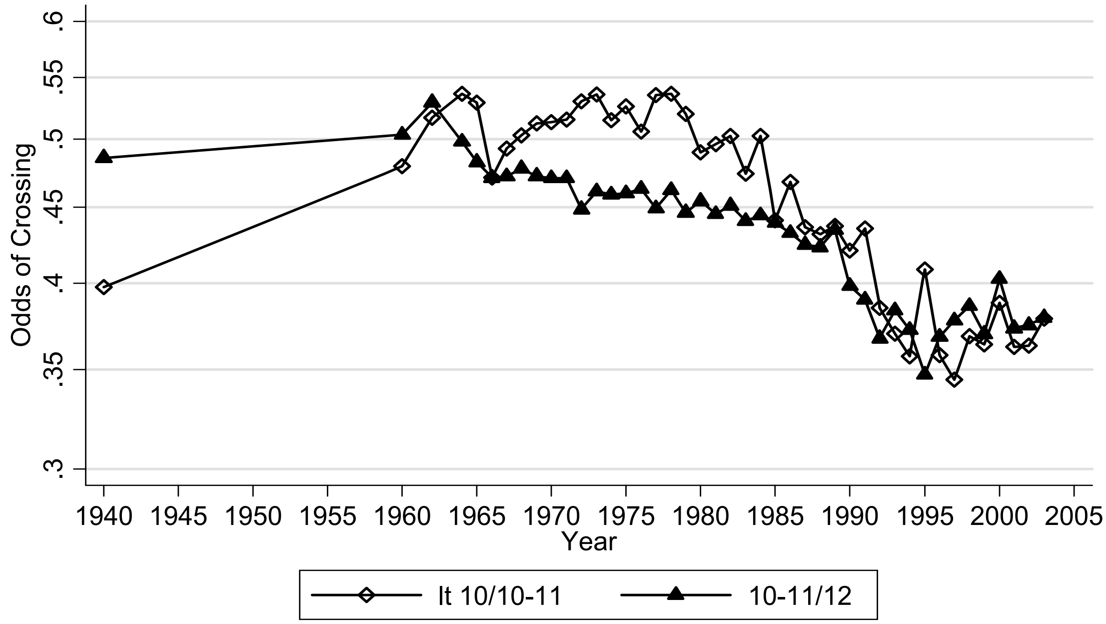
FIGURE 4. ODDS OF HOMOGAMY BY SAMPLE (WIVES 18-40), U.S. 1940-2003

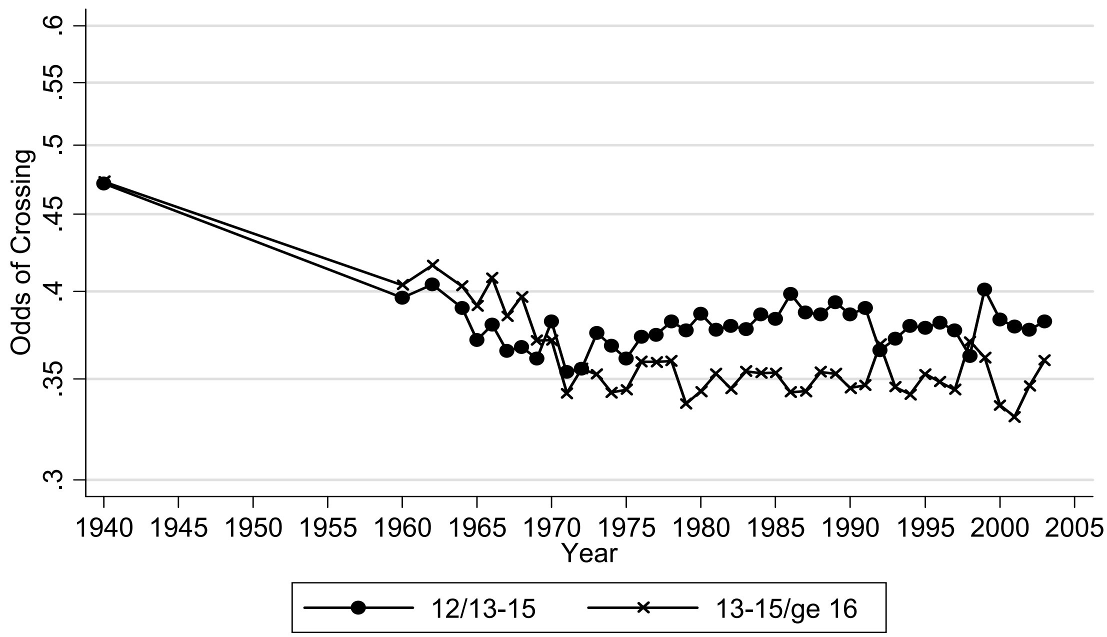


Notes: Education categories are lt 10, 10-11, 12, 13-15, and ge 16 years of schooling. For newlyweds, years are grouped into roughly 5-year intervals: 1970-74, 1975-79, 1980-84, 1985-89, 1990-95. They are graphed at their mid-point.

Sources: Current Population Survey (CPS) and U.S. Census data (IPUMS).

FIGURE 5. ODDS OF CROSSING AN EDUCATIONAL BARRIER AMONG PREVAILING MARRIAGES (WIVES 18-40), U.S. 1940-2003





Notes: Education categories are lt 10, 10-11, 12, 13-15, and ge 16 years of schooling.

Sources: Current Population Survey (CPS) and U.S. Census data (IPUMS).

APPENDIX TABLE 1. DATA SOURCES AND SAMPLE SELECTION

	Newlyweds	CPS m-i-s[a]	Prevailing Marriages	CPS m-i-s[a]
(1) Census[b]				
1940	1% General sample	N/a	1% General sample	N/a
1960	1% General sample	N/a	1% General sample	N/a
1970	1% Form 1 State sample	N/a	1% Form 1 State sample	N/a
1980	1% Metro (B Sample)	N/a	1% Metro (B Sample)	N/a
1990	N/a	N/a	1% Unweighted sample	N/a
2000	N/a	N/a	1% Census sample	N/a
Total N	58,768		1,268,260	
(2) Current Population Survey				
June supplement[c]	1971	1-8	1971	1-3, 5-7
	1973	1-8	1973	5-7
	1974-1977	1-4	1974-1977	5-7
	1979	1-8		
	1980-1983	1-4		
	1985	1-8		
	1986-1988	1-4		
	1990	1-8		
	1992	1-8		
	1994	1-8		
	1995	1-8		
March supplement[c]	N/a	N/a	1962	1-8
		N/a	1964-1978	5-8
October supplement[c]	N/a	N/a	1968-1978	5-8
Merged Outgoing Rotation Groups file[d]	N/a	N/a	1979-2003	8
Total N	19,526		730,673	

Notes : N/a = not applicable, no date-of-marriage information.

[a]For the CPS, specific month-in-samples (m-i-s) were selected to eliminate the possibility of duplicate marriages in the data.

[b]Integrated Public Use Microdata Series: Version 3.0 (Ruggles, et al. 2004) (www.ipums.org).

[c]Unicon Research Corporation.

[d]National Bureau of Economic Research (www.nber.org).