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Assortative matching among same-sex and different-sex couples in the United States, 1990–2000

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Abstract

Same-sex couples are less likely to be homogamous than different-sex couples on a variety of characteristics including race/ethnicity, age, and education. This study confirms results from previous studies which used 1990 U.S. census data and extends previous analyses to examine changes from 1990 to 2000. We find that same-sex male cohabitors are generally the least likely to resemble one another, followed by same-sex female cohabitors, different-sex cohabitors, and different-sex married couples. Despite estimated growth in the numbers of same-sex couples in the population and the increasing acceptance of same-sex unions, we find little evidence of diminishing differences in the resemblance of same- and different-sex couples between 1990 and 2000, with the possible exception of educational homogamy.

1. Introduction

Family change over the past half century has been marked by an increasing diversity of family forms and an increasing acceptance of nontraditional relationships (Cherlin 2004; Thornton and Young-DeMarco 2001). Cohabitation, nonmarital childbearing, interracial and interreligious relationships, and same-sex unions have all become more common (Casper and Bianchi 2002; Gates 2007; Rosenfeld 2008). Scholars have often compared emerging and nontraditional relationships to more traditional ones to better understand their characteristics. For example, a large body of research compares the characteristics of cohabitors and married couples in an effort to determine what cohabitation "is" and where it fits into the American family system (for reviews see Seltzer 2000, 2004; Smock 2000). This paper takes a similar approach to the study of same-sex coresidential unions. Despite much attention to gay and lesbian couples in the press and policy realms, there is still relatively little systematic research on similarities and differences between same- and different-sex couples. In this paper, we compare the resemblance of partners in same- and different-sex coresidential couples, or who is partnered with whom. Gay men and lesbians may choose different types of partners than heterosexuals because of differences in the characteristics of their partner markets and/or because of differences in their preferences for partners.

There are many ways in which the market for same-sex partners may differ from that for different-sex partners and any of these differences may affect assortative matching. Perhaps the most common hypothesis is that gay men and lesbians must “cast a wider net” because of their smaller numbers in the population relative to the numbers of heterosexuals (Harry 1984; Hayes 1995; Kurdek 2003; Kurdek and Schmitt 1987). The relative difficulty of the search for partners may lead to lower levels of resemblance among same-sex couples compared with different-sex couples. However, gay men and lesbians may also have different preferences for partners than heterosexuals. Gay men and lesbians tend to be more liberal, egalitarian, and accepting of nontraditional relationships (Blumstein and Schwartz 1983; Hertzog 1996; Meier, Hull, and Ortyle 2009; Ortyle, Hull, and Meier 2009; Schaffner and Senic 2006). This greater acceptance of nontraditional unions may translate into greater tolerance of partner differences. Indeed, Meier, Hull, and Ortyle (2009) find that sexual minority youth believe that being in a same-race relationship is less important for relationship success than do straight youth. Another possibility is that individuals who have already transgressed social norms in forming same-sex unions may be more likely to transgress other social norms by matching across large age or education divides, or by forming relationships across race/ethnic lines (Rosenfeld and Kim 2005). Furthermore, same-sex couples are more likely to live in urban, diverse neighborhoods than are different-sex couples (Black et al. 2002; Gates and Ost 2004:35–36); therefore, these couples may have more opportunities to match outside their own race/ethnic or educational group. Each of these hypotheses suggests that same-sex couples will be more likely than different sex-couples to form relationships across social boundaries. Previous research is consistent with this claim, showing that same-sex couples tend to resemble one another less than different-sex couples on a variety of characteristics (Andersson et al. 2006; Jepsen and Jepsen 2002; Kurdek and Schmitt 1987; Rosenfeld 2007; Rosenfeld and Kim 2005).

This paper examines couple resemblance among four types of coresidential couples: same-sex male unmarried couples, same-sex female unmarried couples, different-sex unmarried couples, and different-sex married couples. Using data from the 5% samples of the U.S. decennial census, we confirm results from previous studies showing less couple resemblance among same-sex couples than among different-sex couples and extend previous studies by examining changes in matching patterns from 1990 to 2000. Previous research has either examined differences in assortative matching in a single time period or cohort (Andersson et al. 2006; Jepsen and Jepsen 2002; Kurdek 2003; Kurdek and Schmitt 1987), or has focused on matching on a single characteristic (Rosenfeld and Kim 2005). We provide a more detailed account of differences in assortative matching by couple type across three dimensions—race/ethnicity, age, and education—and describe how these patterns changed between 1990 and 2000. By most estimates, the numbers of same-sex couples in the population increased over this period as same-sex and other nontraditional relationships have become more accepted (Gates 2006, 2007; Loftus 2001; Rosenfeld 2007; Thornton and Young-DeMarco 2001). Thus, we might expect differences between same- and different-sex relationships to have declined as same-sex couples have become a less select group and as same-sex relationships have become less nonnormative (Rosenfeld and Kim 2005).

The first step toward exploring explanations for differences in assortative matching by couple type is to understand the differences themselves. In this paper, we demonstrate that there is an empirical regularity worthy of explanation. Specifically, the results of our study add to a growing body of research suggesting a “gradient” to assortative matching by couple type: same-sex male couples tend to be the most likely to match across social boundaries, followed by same-sex female couples, different-sex cohabitors, and lastly by different-sex married couples. Moreover, there is little evidence of a change in this relationship between 1990 and 2000, although our comparison of the 1990 and 2000 data should be regarded as tentative because of a change in the way same-sex couples who identified as married were handled. We comment on potential interpretations of our results in the conclusion, but leave direct tests of hypotheses to future work.

2. Previous research

Previous research has found that same-sex couples tend to be less alike, or are less likely to be *homogamous*, than different-sex couples (Andersson et al. 2006; Jepsen and Jepsen 2002; Kurdek and Schmitt 1987; Rosenfeld and Kim 2005). Furthermore, matching patterns differ by the sex composition of the couple—same-sex male couples tend to resemble each other less than same-sex female couples (Andersson et al. 2006; Jepsen and Jepsen 2002). Recently, Jepsen and Jepsen (2002) provided the first multivariate analysis of matching patterns among same- and different-sex couples using nationally representative data. Using 1990 U.S. census data, Jepsen and Jepsen found evidence of positive assortative matching for both same- and different-sex couples on non-labor-market traits such as age, education, race, investment income, as well as for labor-market traits, including earnings and hours worked, although to a lesser extent. For most non-labor-market traits (e.g., age, race), members of different-sex married couples were the most similar, followed by members of different-sex cohabiting couples, who were in turn more similar than members of same-sex couples. By contrast, for labor-market traits (e.g., hourly earnings), members of married couples were the least similar of all couple types, highlighting the division of household and market labor between husbands and wives. Other studies have largely relied on relatively small, nonrepresentative samples, but show similar results (Kurdek 2003; Kurdek and Schmitt 1987).

In addition to employing data from 2000, our paper extends past research by providing a more detailed account of differences in assortative matching by couple type. Prior research has generally focused on summary measures of couple resemblance, such as the absolute difference between partners' characteristics (Jepsen and Jepsen 2002; Kurdek and Schmitt 1987). However, other or more complex measures may better describe differences in assortative matching by couple type. For example, it may be that couple types vary according to the tendency of partners to share the same educational attainment rather than by differences in the number of years of schooling they have completed. We investigate these possibilities by testing several ways of representing differences in assortative matching by couple type. In addition, previous studies have examined differences in assortative matching without controlling for differences in the characteristics of couples by couple type (Jepsen and Jepsen 2002). This leaves open the possibility that previous results may be at least partially driven by differences in the characteristics of couples who form these relationships. Our statistical analyses control for differences in the demographic characteristics of same-and different-sex couples and show that a relatively consistent pattern of association emerges in both 1990 and 2000.

3. Data and methods

3.1 The sample

We use the 5% samples of the 1990 and 2000 U.S. censuses from the Integrated Public Use Microdata Series (IPUMS) to examine assortative matching patterns among same- and different-sex couples (Ruggles et al. 2004). Beginning in 1990, the census included a category on the household roster for "unmarried partner." We use this item in conjunction with marital status and sex to identify four types of coresidential couples: same-sex male cohabiting couples, same-sex female cohabiting couples, different-sex cohabiting couples, and different-sex married couples. We exclude same-sex couples who reported being married for reasons discussed below.

In defining our sample for 1990 and 2000, we exclude couples living in group quarters, as well as those for whom age, sex, or relationship to the householder was imputed (following Black et al. 2000:144-46) (N = 4,972,695). In addition, we drop households in which the household head reported having more than one spouse or partner and households in which the household head was excluded due to sample restrictions (N = 4,713,634).[3] The 1990 and 2000 censuses do not contain information with which to directly identify when couples began living together or when they were first married. Therefore, our data represent a cross-section of all coresiding couples in the population at a given time, or "prevailing unions." This means that the patterns of couple resemblance we observe are not only the result of assortative matching but are also affected by selective union dissolution and changes in partners' characteristics after union formation. Although this is a limitation of the data, if same-sex couples (for instance) are more tolerant of differences in their partners, then we would expect same-sex couples to both be more likely to choose and remain with dissimilar partners than different-sex couples. To partially counteract the effects of selective union dissolution and to minimize cohort overlap between 1990 and 2000, however, we restrict our sample to couples in which both partners were between the ages of 20 and 34 at the time of the census (N = 1,111,998 couples).[4] Because our sample of 20 to 34 year old same-sex couples is relatively small despite the very large size of our total sample, we also estimate our models using a wider age interval as a robustness check, including all couples in which both partners are between the ages of 20 and 49 (N = 3,172,977 couples).

3.2 Identifying same-sex couples

A comprehensive review of data on same-sex couples using the 1990 census, the General Social Survey (GSS), and the National Health and Social Life Survey (NHSLS) concluded that the 1990 census, although not without its problems, is a credible source of data for empirical studies of the gay and lesbian population (Black et al. 2000). However, a change in the Census Bureau's procedure for handling same-sex couples complicates comparisons of assortative matching by couple type between 1990 and 2000. In 1990, records in which the household head identified someone of the same sex as a "husband/wife" were most often edited so that the sex of the "husband/wife" was changed (Gates and Sell 2007). While this procedure exacerbates the undercount of same-sex couples in the U.S., analyses of these data suggest that same-sex couples in the 1990 census are very likely to be "true" same-sex couples (Black et al. 2000, 2007). By contrast, analyses of the 2000 census suggest that data on same-sex couples are highly contaminated by different-sex married couples in which the wrong sex was marked for one of the spouses (Black et al. 2007). This problem occurred because same-sex "spouses" were changed to "unmarried partners" to comply with the 1996 Defense of Marriage Act (H.R. 3396) in the 2000 census data. Black et al. (2007) estimate that over 40% of same-sex "unmarried partner" couples in the 2000 census are actually different-sex married couples in which sex was miscoded.

To obtain comparable samples of same-sex couples in 1990 and 2000, we follow Black et al.'s (2007) recommendation of excluding same-sex couples with edited marital status values. Rosenfeld and Kim (2005) also used this procedure and found that it improved the comparability of the samples. Excluding couples in which either partner's marital status was edited reduces the overall sample size of couples aged 20 to 34 by a very small percentage

[3]We define all couple types according to their relationship to the household head; therefore, couples in which one partner is not the household head are excluded. Only 4% of married couples are those in which neither partner is the household head. Cohabiting couples are only directly identifiable in the census through their relationship to the household head. The fraction of cohabiting couples in which neither partner is the household head is likely to be higher than it is for married couples as cohabitors tend to be younger and more economically disadvantaged (Pollard and Harris 2007; Seltzer 2000). To the extent that we reduce variation by couple type as a result of the exclusion of these couples, our measures will most likely underestimate differences in assortative matching.

[4]We select our sample based on the ages of both partners because of the arbitrariness of selecting on one or the other partner's ages in same-sex relationships. The results do not differ substantially from those presented here when we relax this restriction and use a sample of women aged 20 to 34 with different-sex partners/spouses aged 18 to 62 and household heads aged 20 to 34 with same-sex partners aged 18 to 62.

(0.58% in 1990 and 1.37% in 2000), but reduces the sample of same-sex male couples by 35% and the sample of same-sex female couples by 42% (total *N* for couples aged 20 to 34 = 1,101,499; *N* for same-sex male couples = 2,296; *N* for same-sex female couples = 2,329).[5] Doing so also means that our sample of same-sex couples is representative of same-sex couples in the U.S. who self-identified as "unmarried partners" rather than the population of all same-sex coresidential couples.

Same-sex couples who self-identify as "unmarried partners" may have quite different patterns of assortative matching than those who identify as married. Previous research on different-sex couples has shown that as relationships move from cohabitation to marriage they are less likely to be interracial (Joyner and Kao 2005). If this pattern holds for same-sex couples, then those who self-identify as married may be more likely to be homogamous than "unmarried partner" couples. On the other hand, Carpenter and Gates (2008) find that same-sex couples who officially register their partnerships with their local or state governments are more likely to be highly educated than those who are not registered. To the extent that highly educated individuals are more likely to form relationships that cross social boundaries (Rosenfeld 2007), same-sex couples who self-identify as married may be less likely to be homogamous than "unmarried partner" couples.

If same-sex couples who report being married are systematically more or less likely to be homogamous than couples who self-identify as "unmarried partners," then excluding same-sex couples who report being married may present a problem for our analysis if the proportion of same-sex coresidential couples who self-identify as married has grown. If this is the case, then changes (or the lack thereof) in assortative matching among same-sex couples may be due to differential selection of same-sex couples out of the "unmarried partner" category and into the "married" category. For example, same-sex couples overall may have become more likely to be homogamous between 1990 and 2000, but we may not observe this trend if homogamous couples were more likely to report being married in 2000. Thus, our findings on change over time should be interpreted with caution.

Despite our focus on unmarried same-sex coresidential couples rather than all same-sex coresidential couples, data from both 1990 and 2000 provide important information about differences in partner resemblance by couple type. In particular, if same-sex couples in more serious relationships are increasingly likely to identify as married, we might expect those who identify as "unmarried partners" to increasingly resemble different-sex cohabitors. To the extent that the resemblance of same-sex cohabiting couples remains lower than that of different-sex cohabiting couples, gay men's and lesbians' constrained partner markets and/or their greater tolerance of differences in their mates may provide an explanation. It should also be noted that it is not only who is a same-sex "unmarried partner" that has changed between 1990 and 2000. We study "moving targets" when we study each of these types of relationships (Seltzer 2000). The characteristics of married, cohabiting, and same-sex cohabiting relationships have all changed over time, which is an important motivation for studying family change. For example, some predict that as cohabitation becomes the norm in societies, differences in the attitudes and behaviors of cohabitors and married couples will decline (Hamplova 2009). Similarly, as same-sex relationships become more common, differences between same-sex cohabitors and different-sex cohabitors may also decline.

3.3 Measures

We examine assortative matching by couple type on race/ethnicity, education, and age. Our race/ethnic classification is based on individuals' self-reports on the census questionnaire. Our

[5]The total *N* for couples aged 20 to 49 is 3,145,700. 7,309 of these are same-sex male couples and 7,036 are same-sex female couples.

classification distinguishes among non-Hispanic whites, non-Hispanic African Americans, Hispanics, and those in all other race/ethnic groups. Hispanics are those who identify as persons of Hispanic/Spanish/Latino origin. In the 2000 census, the Census Bureau changed its race classification, allowing respondents to choose one or more race categories whereas previously, respondents could indicate belonging only to a single race. In an analysis of the effects of this change on race/ethnic intermarriage, Qian and Lichter (2007) find that changes in intermarriage are more comparable between 1990 and 2000 if biracial whites are classified as white. Thus, following Qian and Lichter (2007), we classify biracial whites as white in 2000. We use a four-category classification of individuals' education based on the highest level attained: less than high school, high school (includes those with a GED), some college (includes those with associate degrees), and college or above.

3.4 Statistical models

Many studies of assortative matching use log-linear models to examine the association between partners' characteristics (e.g., Qian and Lichter 2007; Schwartz and Mare 2005; Smits, Ultee, and Lammers 1998). Log-linear models are attractive because they estimate the association between partners' characteristics while controlling for variation in the distributions of these characteristics. Previous research has found that the demographic characteristics of same- and different-sex couples differ considerably (Black et al. 2000). If differences in assortative matching are due to differences in availability or preferences over and above differences in demographic characteristics, differences in matching by couple type should still be evident after controlling for these characteristics.

In this paper, we use multinomial logit models which produce coefficients and standard errors that are equivalent to those of log-linear models but are more parsimonious (DiPrete 1990; Logan 1983; see Appendix A for a discussion of the formal relationship between the multinomial logit models used here and log-linear models). To incorporate our covariates and examine differences in assortative matching by couple type, we estimate a multinomial logit model that predicts couple type as a function of couples' characteristics. Our baseline model assumes that couples' background characteristics differ but that the likelihood of matching assortatively does not vary by couple type. Formally, our baseline model is:

$$\log\frac{\pi_j(\mathbf{x})}{\pi_1(\mathbf{x})}=\alpha_j+\boldsymbol{\beta}_j'\mathbf{x}\quad j=2,\ldots,4 \tag{1}$$

where $\pi_j(\mathbf{x}) = [P(Y = j|\mathbf{x})]$, Y denotes the couple type (j=1,…,4; different-sex married, different-sex cohabiting, same-sex female, same-sex male) and $\mathbf{x}$ is a vector of the characteristics of both partners (race/ethnicity, education, and age) interacted with census year, which allows the association between demographic characteristics and couple type to vary over time. The $\mathbf{x}$ variables are defined as shown in Table 1, with the exception of age, which is classified into three categories: 20–24, 25–29, and 30–34. We do this to preserve the integrity of the relationship between log-linear and multinomial logit models. We add terms to capture differences in assortative matching by couple type as follows:

$$\log\frac{\pi_j(\mathbf{x},\mathbf{z})}{\pi_1(\mathbf{x},\mathbf{z})}=\alpha_j+\boldsymbol{\beta}_j'\mathbf{x}+\boldsymbol{\delta}_j'\mathbf{z}\quad j=2,\ldots,4 \tag{2}$$

where the $\mathbf{z}$ variables are indicators of assortative matching, the $\boldsymbol{\delta}$s are *differences* in the log odds of assortative matching between couples of type j and different-sex married couples, and all other terms are as defined above. Jepsen and Jepsen (2002) employ a similar strategy but instead of a multinomial logit model comparing all four couple types, they present binary logit models to compare assortative matching between same- and different-sex couples.

Although our multinomial logit model predicts couple type as a function of couples' characteristics and assortative matching, we are not suggesting that assortative matching preferences or couples' characteristics *cause* individuals to choose a particular. type of relationship. Rather, we view our multinomial logit model as a convenient way of summarizing differences in assortative matching by couple type while controlling for differences in couples' characteristics.

4. Results

4.1 Descriptive statistics

Table 1 shows descriptive statistics for the variables included in our analysis by couple type and year.[6] On average, individuals in same-sex cohabiting unions are somewhat older than those in different-sex cohabiting unions and somewhat younger than those in different-sex marriages. The race/ethnic distributions for those in same-sex male and female unions are similar, although those in same-sex female unions are somewhat more likely to be African American. What stands out most is that individuals in same-sex unions are more likely to be white than those in different-sex unions. Individuals in different-sex cohabiting unions are the least likely of any couple type to be white. Those in same-sex unions also tend to have higher levels of education than other couple types, a finding that is consistent with previous research (e.g., Black et al. 2000;Phua and Kaufman 1999). In 1990, about 40% of individuals in same-sex male and female cohabiting unions had completed college compared with only 15% of those in different-sex cohabiting unions and 21% of those in different-sex marital unions. By 2000, these differences had diminished. In 2000, less than 35% of those in same-sex male and female cohabiting unions had completed college compared with 20% of those in different-sex cohabiting unions and 28% of those in different-sex marital unions. Part of this trend may be due to an increased willingness of same-sex couples with low levels of education to identify themselves as such on government surveys and part may be due to growing numbers of these couples in the population. In either case, these findings suggest that same-sex cohabiting couples in the census have become a less educationally select group.

Table 1 also gives three simple measures of partner resemblance: the correlation between partners' ages; the percentage of couples who share the same race/ethnicity, or are *endogamous* (defined using our four-category race/ethnicity classification); and the percentage of couples who share the same educational attainment, or are *homogamous* (defined using our four-category education classification). Table 1 shows that in 1990 and 2000 the correlation between partners' ages is lowest for same-sex male couples and highest for different-sex married couples. The correlation between partners' ages for same-sex female couples is similar to the correlation for different-sex cohabiting couples in both years and falls between same-sex male and different-sex married couples. The finding that same-sex female couples are more likely to resemble one another on age than same-sex male couples is consistent with previous studies using data from personal advertisements, which show that preferred age differences are larger for gay men than lesbians (Hayes 1995;Over and Philips 1997).

A similar picture emerges from patterns of race/ethnic endogamy. In 1990 and 2000 same-sex male couples were the least likely to be in endogamous unions, followed by same-sex female couples, different-sex cohabitors, and lastly by different-sex married couples. By contrast,

[6]Throughout the majority of our analysis the units of observation are couples. To avoid arbitrarily describing the characteristics of one partner in a couple, Table 1 shows the characteristics of all *individuals* in coresidential unions. Thus, the total sample size in Table 1 is twice that in the remainder of the analysis (2*1,101,499 couples = 2,202,998 individuals).

patterns of resemblance are somewhat different for educational homogamy. On this measure of matching, same-sex male couples were slightly *more* likely to be educationally homogamous than different-sex cohabiting couples in both 1990 and 2000. Same-sex female couples were more likely to be homogamous than both same-sex male and different-sex cohabiting couples. In fact, educational homogamy was very similar among same-sex female and different-sex married couples in both years.

Overall, these simple measures of partner resemblance indicate that same-sex male couples are less likely to resemble one another than same-sex female couples. By contrast, whether same-sex female couples or different-sex cohabitors have higher resemblance depends on the characteristic in question. Married couples generally have the highest levels of resemblance, with the exception of education for which same-sex female couples have similar levels of resemblance. These descriptive measures should be interpreted with caution, however, as they may be affected by differences in the characteristics of couples in each of these union types. For example, same-sex female couples may be more likely to be educationally homogamous simply because of their high concentration in the top two education categories. When nearly everyone falls into one or two education categories, it is very likely that individuals will form educationally homogamous unions–this is known as a *concentration* effect (Simkus 1984). Same-sex couples may also be more likely to be interracial/ethnic because of their high educational attainment as those with high educational attainment are more likely to form interracial unions (Rosenfeld 2007). Thus, in what follows, we control for concentration effects and the possibility that differences in homogamy are the result of differences in the demographic characteristics of those who form these unions by controlling for the marginal distributions of partners' ages, educational attainments, and race/ethnicities.

4.2 Model fit

Our goal in this section is to find a model of assortative matching on race/ethnicity, age, and education by couple type that fits the data well but is parsimonious. We do this by first pooling the 1990 and 2000 census data and then testing whether there is evidence of change in these relationships between years. Table 2 shows estimates of model fit for various models of couple resemblance by couple type. We compare model fit by using the likelihood ratio chi-square test and the Bayesian information criterion (BIC), an index that adjusts the χ^2 statistic for sample size.[7] More negative BIC statistics indicate better fitting models. Each model's fit statistics are compared with those of the model to which new terms are added. We rely mainly on the BIC to choose models because of our very large sample size. The results shown in Table 2 are not weighted as the BIC is a function of the log-likelihood, but Wald tests and BIC statistics calculated using weighted data give similar results.

Model A is the baseline model shown in equation (1) above. It assumes that there are no differences in assortative matching by couple type but accounts for differences in the demographic characteristics of couples and variation in these characteristics by year. In the next series of models, we test various measures of time-invariant differences in assortative matching by couple type.[8] Models B1 and B2 test two specifications of differences in assortative matching on age. Model B1 represents differences in assortative matching on age using a linear-by-linear association term, which is conceptually similar to a correlation coefficient (Agresti 2002:369–370). Model B2 uses the absolute value of the difference between partners' ages, a measure similar to that used by Jepsen and Jepsen (2002).[9] A comparison of the χ^2 and BIC statistics and their improvement over Model A indicates that

[7]The BIC statistic is $-\chi^2 + df(\log n)$ where χ^2 is the likelihood ratio test statistic for testing the null model against the model of interest (model χ^2), df is the model degrees of freedom (number of independent variables in the model), and n is the number of observations in the sample (Raftery 1995).

[8]Sensitivity tests showed that the order in which these terms are added to the models does not affect the results.

differences in assortative matching by couple type are better described by the absolute value of the difference in partners' ages rather than a linear-by-linear association, albeit by a very small margin.

Models C1 and C2 add various specifications of differences in assortative matching by couple type on race/ethnicity to Model B2. Model C1 represents these differences with a single dichotomous variable that equals 1 when couples match within race/ethnic groups (as defined in Table 1), or are endogamous, and 0 when couples match across race/ethnic groups. This model assumes that couple types differ in their tendency to pair across race/ethnic groups but that these differences do not vary by the race/ethnic group in question. According to this model, for example, the odds of endogamy may differ for African Americans and Hispanics, but these odds are uniformly higher or lower by couple type. Model C2 allows differences in the odds of race/ethnic endogamy to vary both by race/ethnic group and by couple type. The more negative BIC statistic for Model C1 indicates that it is adequate to describe differences in assortative matching in terms of a single parameter indicating the varying tendencies of the four types of couples to match endogamously on race/ethnicity.

Models D1 through D3 add various specifications of matching on education to Model C1. Model D1 adds a term for educational homogamy, that is, whether or not both partners are in the same education category (as defined in Table 1). Model D2 uses the absolute difference between partners' years of schooling completed, which is again a measure similar to that used by Jepsen and Jepsen (2002). Finally, Model D3 adds terms for whether or not a couple crosses an educational boundary. This model represents the association between partners' educational attainments as a series of barriers to partnership between educational groups (see Powers and Xie 2000:117–119 for details). Specifically, assortative matching on education is parameterized in terms of the relative odds of crossing one of three adjacent educational barriers corresponding to the four educational categories shown in Table 1. The exponentiated parameter estimates from the crossings models may be multiplied to calculate the odds of crossing more distant barriers. By the BIC, the crossings model (Model D3) provides the best fit to the data. Finally, Model E1 allows each of the preferred measures of assortative matching on age, race/ethnicity, and education to vary over time. Although this model is not preferred to Model D3 by the BIC, we present results from Model E1 below since this will allow us to examine how the matching parameters vary over time.[10]

4.3 Assortative matching by couple type for couples aged 20 to 34

Table 3 shows differences in couple resemblance by couple type estimated from Model E1 (results are weighted using household-level probability weights). For ease of discussion, we refer to "differences" in assortative matching by couple type, but the measures shown in Table 3 are *odds ratios*. For race/ethnicity, they are the ratios of the odds of endogamy for a given couple type relative to a comparison group. Similarly, for education, they are the ratios of the odds of crossing an educational barrier for a given couple type relative to a comparison group. The age difference parameters are also odds ratios; their interpretation is discussed below. We present measures of couple resemblance for all possible combinations of couples: columns [1] through [3] show the odds of couple resemblance relative to different-sex married couples,

[9]The linear-by-linear association model (Model B1) estimates $\delta u_i v_j$ where u_i is the male partner's age in different-sex relationships and the head of household's age in same-sex relationships, v_j is the female partner's age in different-sex relationships and the "unmarried partner" in same-sex relationships, and δ is the parameter to be estimated. Scalar values of 22, 27, and 32 years, respectively, are assumed for u_i and v_j, that is, those in age category 20–24 are given an age value of 22, and so forth. The absolute difference between partners' ages is measured as $|u_i - v_j|$ (Model B2).

[10]Model E1 estimates assortative matching on a given characteristic (e.g., race/ethnicity) by couple type net of assortative matching on other characteristics (e.g., age and education). It is possible that controlling for other measures of assortative matching obscures variation in a given measure of matching. To test this possibility, we estimated three separate models of variation in assortative matching–one for each measure of assortative matching. The results were virtually indistinguishable from those presented here.

columns [4] and [5] show the odds relative to different-sex cohabiting couples, and column [6] shows the odds relative to same-sex female couples. Figure 1 illustrates our estimates of assortative matching on race/ethnicity, age, and education. One drawback of using multinomial logit models is that only the odds of matching *relative* to the odds for a comparison group are identified; the absolute *levels* (odds rather than odds ratios) of matching by couple type are not identified. Figure 1 is produced by estimating the odds of assortative matching for different-sex married couples using log-linear models and the levels of assortative matching for the other relationship types using the odds ratios shown in Table 3 (see Appendix A for details).

Panel A of Figure 1 shows the odds of race/ethnic endogamy by couple type and year. It shows striking evidence of a "gradient" in assortative matching, as was also evident in the descriptive statistics. Different-sex married couples are the most likely to be endogamous on race/ethnicity, followed by different-sex cohabiting couples, same-sex female couples, and lastly, by same-sex male couples. Table 3 shows that all of the differences by couple type are statistically significant at the 5% level, with the exception of the difference between same-sex male and female couples. Moreover, differences between same- and different-sex couples are quite large. For example, Panel A of Figure 1 shows that the odds of endogamy among same-sex male couples in 1990 were about 6:1. In other words, for every interracial/ethnic couple there were six endogamous couples, controlling for other variables. By contrast, the odds of endogamy among different-sex married couples were over 20:1. Column [1] of Table 3 shows the ratio of these odds. The ratio of the odds of endogamy for same-sex male couples compared with different-sex married couples in 1990 was 0.28 (6.34/22.55 = 0.28 as shown in Panel A of Figure 1). The smallest differences between same- and different-sex couples are those between same-sex female and different-sex cohabiting couples. Column [5] of Table 3 shows that the odds of race/ethnic endogamy among same-sex female couples were about 70% of the odds among different-sex cohabiting couples in both 1990 and 2000. Panel A of Figure 1 also shows that differences in assortative matching on race/ethnicity were remarkably stable between 1990 and 2000. The odds of endogamy decreased somewhat for all couple types except same-sex male couples, but these changes are quite small in comparison with the persistence of differences by couple type. Furthermore, none of the over-time changes in the contrasts between same-and different-sex couples are statistically significant.

Panel B of Figure 1 shows the association between a one-unit increase in the absolute value of the difference between partners' ages and the odds that a match exists between two individuals of a given couple type. For instance, a one-year age difference between same-sex male partners is associated with a 10% reduction in the odds of a match (1−0.90 = 0.10). The odds shown in Panel B are all less than one, which indicates that age differences are negatively associated with the odds of a match for each of the four couple types. In general, the pattern of couple resemblance on age is similar to that found for race/ethnic endogamy: same-sex couples tend to resemble one another less than different-sex couples. However, for age, these differences are less pronounced. Consistent with patterns of race/ethnic endogamy, the relationship between age differences and the odds of a match are significantly less negative for same-sex male couples than for different-sex cohabiting and married couples (Table 3, columns [1] and [4]). The odds that same-sex male couples are matched across a one-year age gap were about 1.15 times the odds that different-sex married couples were matched across this gap in both years. By contrast, couple resemblance on age for same-sex female partners was essentially equal to that for different-sex cohabiting couples in 1990 (Table 3, column [5]) but differences between same-sex female and different-sex cohabiting and married couples *increased* significantly between 1990 and 2000 (Table 3, columns [2] and [5]). These results are inconsistent with the hypothesis that differences in assortative matching between same- and different-sex couples have declined. Our findings suggest that differences in couple resemblance on age between same-sex female couples and different-sex cohabiting and married couples *grew* between 1990 and 2000.

Finally, Panels C and D of Figure 1 show the odds of crossing educational barriers by couple type and year. Panel C shows the odds of a match between high school graduates and college graduates. Panel D shows the odds of a match between more distant educational categories: those who have not completed high school and college graduates. Turning first to the odds of a match between high school and college graduates, we again see a strong pattern of assortative matching by couple type: same-sex male couples are the most likely to cross this educational divide, followed by same-sex female couples (in 1990 only), different-sex cohabiting couples, and different-sex married couples. Again, these differences are often large. In 1990, the odds of a union between a high school graduate and a college graduate among same-sex male couples were almost 60% higher than the odds for different-sex married couples and 45% higher than the odds for different-sex cohabiting couples (Table 3, columns [1] and [4]). These differences diminished in 2000, to 38% and 26%, respectively, but neither decline is statistically significant. Differences in assortative matching on education between same-sex female couples and different-sex couples also diminished, although again these declines are not statistically significant. In 1990 same-sex female couples were more likely than different-sex married and cohabiting couples to match across this educational divide (although the latter difference is not statistically significant) (Table 3, columns [2] and [5]), but were virtually indistinguishable from different-sex cohabiting couples in 2000 (Table 3, column [5]). Panel C also shows that the decline in the odds of educational intermarriage noted in previous studies (e.g., Schwartz and Mare 2005) was not limited to this group, but was a more general phenomenon occurring for all couple types.

A different pattern emerges when we consider the odds of matching across very large educational divides, that is, the odds of a union between those with a college degree or more and those with less than a high school degree. Panel D of Figure 1 shows that same-sex male and same-sex female couples were not more likely to match across large education divides than were different-sex cohabiting couples in 1990 and 2000 (Table 3, columns [4] and [5]). As has been the case in each of our previous results, however, different-sex married couples were the least likely of all the couple types to form unions across educational levels.

The education results from the multinomial logit models differ somewhat from the descriptive statistics presented in Table 1, which showed that educational homogamy was similar among same-sex female and different-sex married couples, and among same-sex male and different-sex cohabiting couples. Separate analyses indicated that the homogamy results shown in Table 1 for same-sex male and female couples are inflated by the concentration of same-sex couples in the highest education categories. Controlling for these concentration effects, same-sex female couples are less likely to be educationally homogamous than different-sex married and cohabiting couples, and same-sex male couples are less likely to be educationally homogamous than all other couple types.

4.4 Assortative matching by couple type for couples aged 20 to 49

Because our sample of same-sex couples aged 20 to 34 is relatively small, we checked the robustness of our results using a larger sample of couples—those in which both partners were between 20 to 49 years of age at the time of the censuses. Overall, Table 4 and Figure 2 show that the results for couples aged 20 to 49 are quite similar to those for couples aged 20 to 34. For matching on race/ethnicity, the same general “gradient” in matching is seen for couples aged 20 to 49 and there is no evidence of declining differences in assortative matching by couple type. In contrast to younger couples, the pattern of assortative matching on age for the larger sample appears more regular and is consistent with the pattern of assortative matching by couple type apparent in other results. Specifically, Panel B of Figure 2 shows that same-sex male couples are the most likely to match across age divides, followed by same-sex female couples, different-sex cohabitors, and different-sex married couples. Moreover, there is some evidence of convergence in assortative matching on age between same-sex couples and different-sex married couples (Table 4, columns [1] and [2]), but little evidence of convergence between same-sex couples and different-sex cohabitors (Table 4, columns [4] and [5]).

Finally, among couples aged 20 to 49, declining differences in educational homogamy between same- and different-sex married couples are somewhat more evident. The decline in the difference between same-sex male and different-sex married couples in the odds of partnership between high school graduates and college graduates is statistically significant (Table 4, column [1]). The difference in the odds of crossing this barrier between same-sex female couples and different-sex married couples also declined, although this change is not statistically significant. Overall, although there is somewhat more evidence of smaller differences in assortative matching on age and education in 2000 than in 1990 in the larger sample, substantial differences in matching patterns remain, especially for same-sex male couples. In addition, using the wider age range of couples, many of the differences in matching between same-sex male and female couples are now statistically significant, with same-sex male couples generally being less likely to resemble one another than same-sex female couples (Table 4, column [6]). [11]

5. Discussion

Same- and different-sex coresidential couples exhibit considerable positive assortative matching on age, race/ethnicity, and education. Nevertheless, there are large differences in matching by couple type, holding constant differences in couples' background characteristics. In general, different-sex married couples tend to be the most likely to resemble one another, followed by different-sex cohabiting couples, same-sex female cohabiting couples, and finally by same-sex male cohabiting couples. These patterns hold for the majority of measures of couple resemblance.

Following Rosenfeld and Kim (2005), we expected differences in the matching patterns of same- and different-sex couples to have declined between 1990 and 2000 as the number of same-sex couples in the population has increased and as same-sex relationships have become more accepted. We found limited evidence to support this hypothesis. Differences in the odds of race/ethnic endogamy by couple type were remarkably persistent. Differences in the association between partners' ages diverged somewhat by couple type for young couples, but lessened slightly for a wider age range of couples. By contrast, there is more consistent evidence of convergence in assortative matching on education. These changes did not attain conventional levels of statistical significance for couples aged 20 to 34, but were significant among couples aged 20 to 49. Among younger couples, convergence in educational assortative matching was large enough to completely eliminate the 1990 differences between same-sex female couples and different-sex cohabitors. These findings are consistent with the growing educational similarity of same- and different-sex couples in the U.S.

Caution must be exercised in the interpretation of our comparison of the 1990 and 2000 results, however, given changes in the U.S. Census Bureau's procedure for handling same-sex couples who self-identified as married. It is clear that in 2000, a nontrivial proportion of same-sex couples are misclassified different-sex married couples (Black et al. 2007). To address this issue, we limited our analysis of same-sex couples to those who self-identified as "unmarried

[11]Because the percentage increase in the number of same-sex couples in the U.S. was largest in Southern, Mountain, Midwestern, and Middle Atlantic states (Gates 2007), we also tested whether trends and patterns of matching differed in these areas from those in New England and West Coast states. Patterns of assortative matching by couple type are roughly similar for both groups of states (although same-sex male and female couples' matching patterns are more similar to one another in New England and West Coast states than in other states) and both groups of states show limited evidence of convergence in patterns of assortative matching between 1990 and 2000, again with the possible exception of education.

partners." One potential consequence of limiting our sample in this way is that if an increasing proportion of homogamous same-sex couples self-identify as married, then the observed stability of differences in assortative matching by couple type may be due to the selection of homogamous same-sex "unmarried partner" couples into marriage. In other words, assortative matching among same-sex couples may have increased, but we may not observe this if homogamous couples are increasingly likely to identify themselves as married.

Despite the tentativeness of our comparisons over time, these findings add to a growing body of literature pointing to an empirical regularity in couple resemblance by couple type, especially with respect to race/ethnic matching, which deserves further exploration. Previous studies point to the smaller pool of potential mates from which gay men and lesbians have to choose in explaining their lower odds of resemblance (Harry 1984; Hayes 1995; Kurdek 2003; Kurdek and Schmitt 1987), and the possibility that individuals who have already transgressed social norms by forming same-sex relationships may be more likely to transgress other social norms (Rosenfeld and Kim 2005). However, neither of these hypotheses addresses why same-sex male couples are less likely to resemble one another than same-sex female couples. Same-sex female couples are more likely to emphasize the importance of egalitarianism in their relationships and have a more equal division of housework and market work than either same-sex male or heterosexual couples (Blumstein and Schwartz 1983; Kurdek 2006). This may explain why same-sex female couples are more likely to be homogamous than same-sex male couples, but does not explain why same-sex female couples are less likely to be homogamous than different-sex couples. It seems probable that no single explanation will account for the observed differences in couple resemblance but that a combination of explanations will be necessary.

Other possible explanations for differences in couple resemblance include the diversity of the available pool of partners, geographic mobility, and differential selection out of unions. Same-sex couples are more likely to live in diverse neighborhoods than different-sex couples (Black et al. 2002; Gates and Ost 2004:35–36) and thus, gay men and lesbians may come into contact with partners with different characteristics than themselves more often than heterosexuals. Alternatively, because same-sex couples have higher levels of geographic mobility than different-sex couples, gay men and lesbians may not be subject to the same level of partner selection pressures from their friends and family as are heterosexuals (Rosenfeld and Kim 2005). Finally, like other studies that have relied on recent census data, we have examined a sample of prevailing unions and thus differential selection out of unions may affect our results. If dissimilar different-sex couples are more likely to split up than dissimilar same-sex couples, then differential selection out of unions may partially account for the differences in resemblance we observe (Schwartz forthcoming). Future research should investigate these explanations. As for future trends, whether differences in assortative matching between same- and different-sex couples persist depends on the extent of change in individuals' preferences for partners and changes in partner availability.

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Appendix

The relationship between multinomial logit and log-linear models

In what follows, we outline the relationship between the multinomial logit models used in this paper and log-linear models. Our discussion relies heavily on Agresti's more detailed treatment of this issue (Agresti 2002:330–332).

For simplicity, consider a multinomial logit model in which we are only interested in differences in race/ethnic matching by couple type. A multinomial logit model similar to that presented in equation (2) but considering only race/ethnic matching and the race/ethnic characteristics of partners is:

$$\log \frac{P\left(Y=j \middle| R_1=k, R_2=l\right)}{P\left(Y=1 \middle| R_1=k, R_2=l\right)}=\alpha_j+\beta_{jk}^{R_1}+\beta_{jl}^{R_2}+\delta_j^{O_R}\ j=2,\ldots,4 \tag{A1}$$

where Y denotes couple type (j=1,…,4; different-sex married, different-sex cohabiting, same-sex female, same-sex male) and different-sex married couples are the baseline category, R_1 and R_2 are partner 1 and 2's race/ethnicity (k,l=1,…4), and O_R is a race/ethnic endogamy term.[12]

A log-linear model that produces coefficients and standard errors equivalent to those in equation (A1) can be written as:

$$\log\left(\mu_{jkl}\right)=\lambda+\lambda_j^Y+\lambda_k^{R_1}+\lambda_l^{R_2}+\lambda_{kl}^{R_1R_2}+\lambda_{kj}^{R_1Y}+\lambda_{lj}^{R_2Y}+\lambda_j^{O_RY} \tag{A2}$$

In fitted marginals notation (Knoke and Burke 1980), equation (A2) can be written as $[R_1R_2]$ $[R_1Y]$ $[R_2Y]$ $[O_RY]$. To see the equivalency between the log-linear and multinomial coefficients, we can calculate the log odds of being in couple type *j* versus type *J*, which is the dependent variable in equation (A1), using the log-linear model equation. In this example, we compare same-sex male couples (*j*=4) to different-sex married couples (*j*=1):

$$\begin{aligned}\log \frac{P\left(Y=4 \middle| R_1=k, R_2=l\right)}{P\left(Y=1 \middle| R_1=k, R_2=l\right)} &=\log\left(\frac{\mu_{4kl}}{\mu_{1kl}}\right)=\log\left(\mu_{4kl}\right)-\log\left(\mu_{1kl}\right)\\ &=\left(\lambda+\lambda_4^Y+\lambda_k^{R_1}+\lambda_l^{R_2}+\lambda_{kl}^{R_1R_2}+\lambda_{k4}^{R_1Y}+\lambda_{l4}^{R_2Y}+\lambda_4^{O_RY}\right)\\ &-\left(\lambda+\lambda_1^Y+\lambda_k^{R_1}+\lambda_l^{R_2}+\lambda_{kl}^{R_1R_2}+\lambda_{k1}^{R_1Y}+\lambda_{l1}^{R_2Y}+\lambda_1^{O_RY}\right)\\ &=\left(\lambda_4^Y-\lambda_1^Y\right)+\left(\lambda_{k4}^{R_1Y}-\lambda_{k1}^{R_1Y}\right)+\left(\lambda_{l4}^{R_2Y}-\lambda_{l1}^{R_2Y}\right)+\left(\lambda_4^{O_RY}-\lambda_1^{O_RY}\right).\end{aligned}$$

In the last line of the equation above, the first parenthetical term is the constant in the multinomial logit model for same-sex male couples relative to different-sex married couples (α_4) and is equal to λ_4^Y in equation (A2) when different-sex married couples are the omitted category. The second parenthetical term represents the association between partner 1's race/ethnicity and the log odds of being a same-sex male couple versus a different-sex married couple, which is $\beta_{4k}^{R_1}$ in equation (A1) and $\lambda_{k4}^{R_1Y}$ in equation (A2). Similarly, the third

[12]Partner 1 is males in different-sex relationships and household heads in same-sex relationships. Partner 2 is females in different-sex relationships and the "unmarried partners" of household heads in same-sex relationships.

parenthetical term is equal to $\beta_{4l}^{R_2}$ in equation (A1) and $\lambda_{l4}^{R_2 Y}$ in equation (A2). Finally, the fourth parenthetical term is the difference in the log odds of endogamy for same-sex male couples versus different-sex married couples, which is equal to $\delta_4^{O_R}$ in equation (A1) and $\lambda_4^{O_R Y}$ in equation (A2). Note that the log-linear model contains all possible interactions between variables not involving couple type and their lower-order terms ($\lambda_{kl}^{R_1 R_2}, \lambda_k^{R_1}, \lambda_l^{R_2}$) and that these terms cancel when taking the difference in logarithms.

The multinomial logit models used in this paper are more complex, but the same principles apply. Written in fitted marginals notation, the log-linear equivalent of equation (2) is

$$[R_1R_2A_1A_2E_1E_2T][R_1YT][R_2YT][A_1YT][A_2YT][E_1YT][E_2YT][O_RY][O_AY][O_EY]$$

where A_1 and A_2 are the age categories of partners 1 and 2, respectively, E_1 and E_2 are their education categories, T is census year, O_A is the association between partners' ages, O_E is the association between their educational attainments, and all other terms are as defined above. This model allows the baseline association between partners' race/ethnicity, age, and education to vary freely by census year, the marginal distributions between partners' characteristics to vary by couple type and census year, and the homogamy parameters to vary by couple type. As illustrated with the simpler model above, the $[O_RY][O_AY][O_EY]$ coefficients and their associated standard errors are equal to the δ's in equation (2). Model E1 in Table 2 allows the homogamy coefficients to vary over time (i.e., $[O_RYT][O_AYT][O_EYT]$). The exponentiated time-varying δ's from Model E1 appear in Table 3 and Table 4.

The odds ratios shown in Figure 1 and Figure 2 were estimated using Model E1, which is equivalent to the log-linear model given in fitted marginals notation above. These equations do not produce interpretable coefficients for the odds of homogamy for the omitted couple type (different-sex married couples) because of the inclusion of the full set of interaction terms for male and female partner's characteristics ($[R_1R_2A_1A_2E_1E_2T]$). Rather than choosing the odds of homogamy for married couples arbitrarily, we estimate the log odds of homogamy for different-sex married couples using a log-linear model in which these interaction terms are not included, i.e., $[R_1YT][R_2YT][A_1YT][A_2YT][E_1YT][E_2YT][O_RYT][O_AYT][O_EYT]$. Next, we calculate the log odds of homogamy for all other couple types by adding the difference in the log odds of homogamy for other couple types relative to those for different-sex married couples from Model E1 to the log odds of homogamy for different-sex married couples estimated from this log-linear model. Previous research has also used this method to estimate baseline odds for graphical purposes when using complex log-linear models (Mare 1991;Schwartz forthcoming;Schwartz and Mare 2005).

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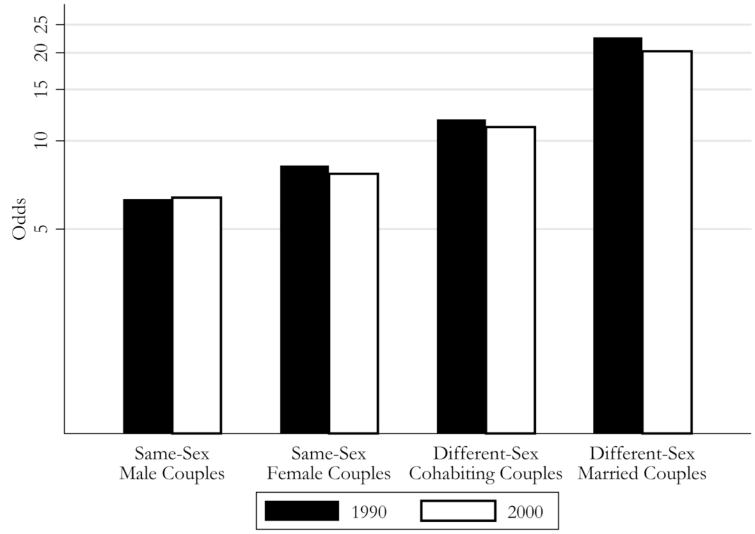
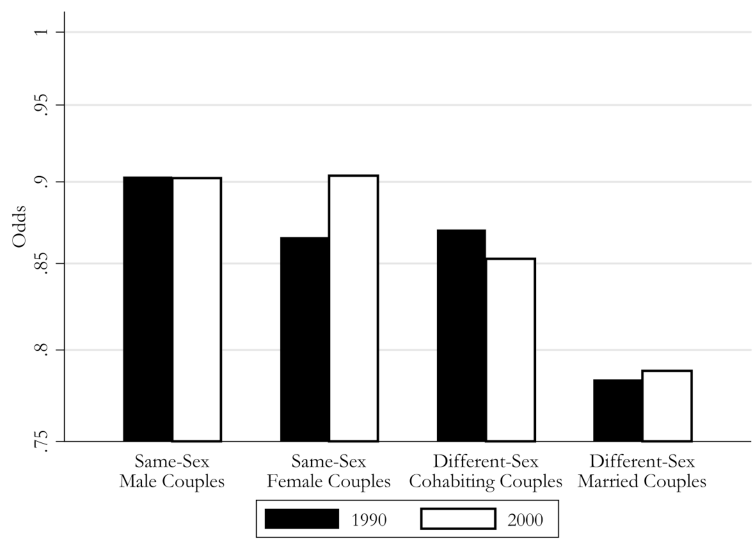
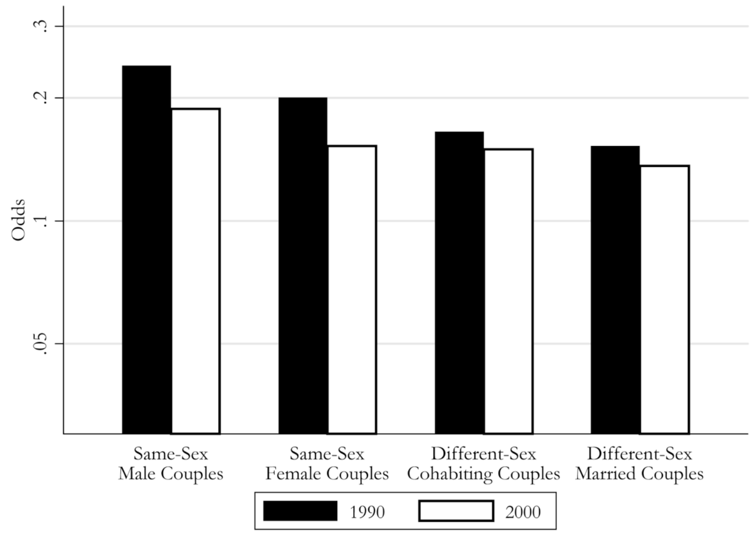
Panel A: Odds of race/ethnic endogamy



Panel B: Odds of a match by the absolute value of the difference between partners' ages



Panel C: Odds of crossing the high school/college and above barrier



Panel D: Odds of crossing the less than high school/college and above barrier

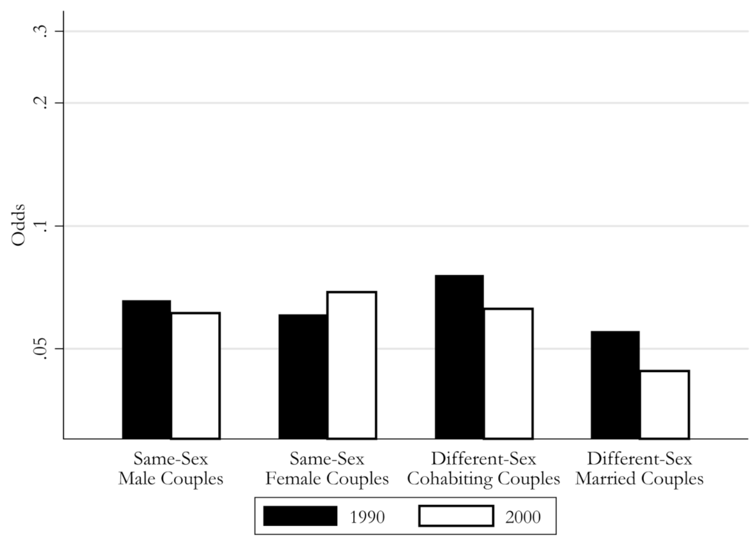
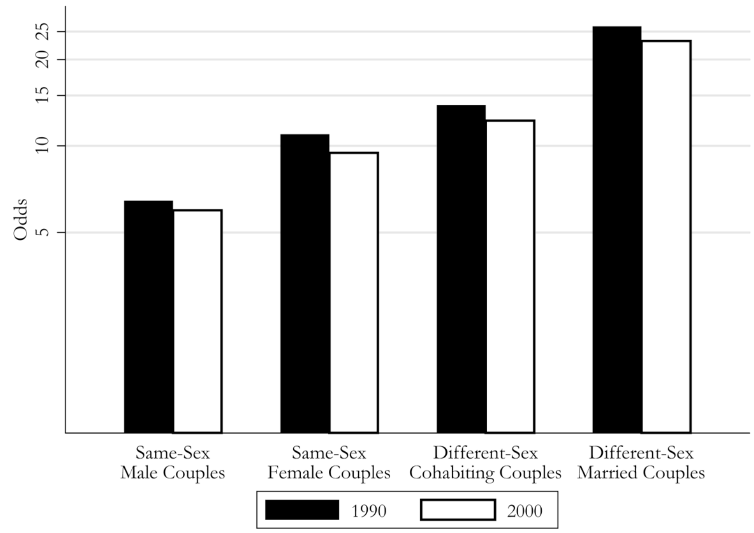
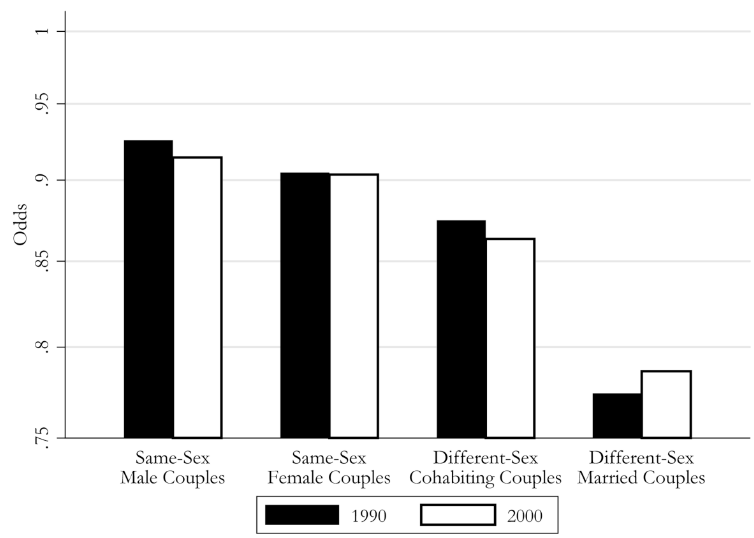


Figure 1.
Measures of assortative matching by couple type (couples aged 20–34), 1990–2000

Panel A: Odds of race/ethnic endogamy



Panel B: Odds of a match by the absolute value of the difference between partners' ages



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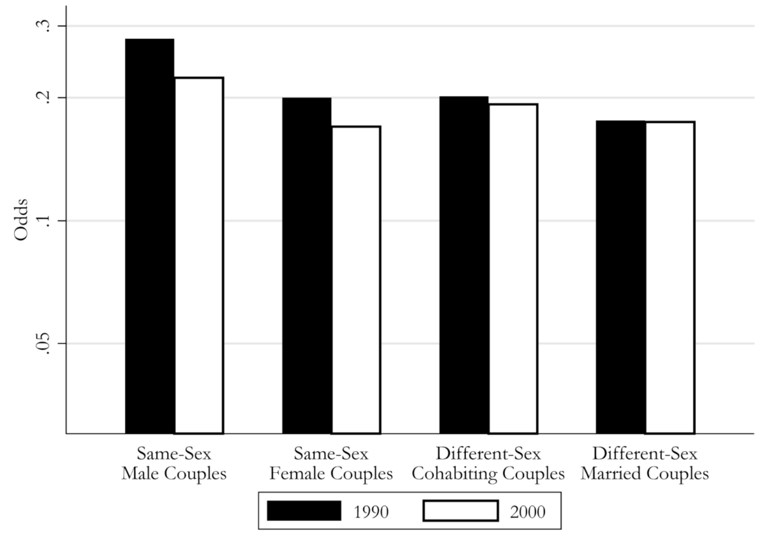
Panel C: Odds of crossing the high school/college and above barrier



Panel D: Odds of crossing the less than high school/college and above barrier

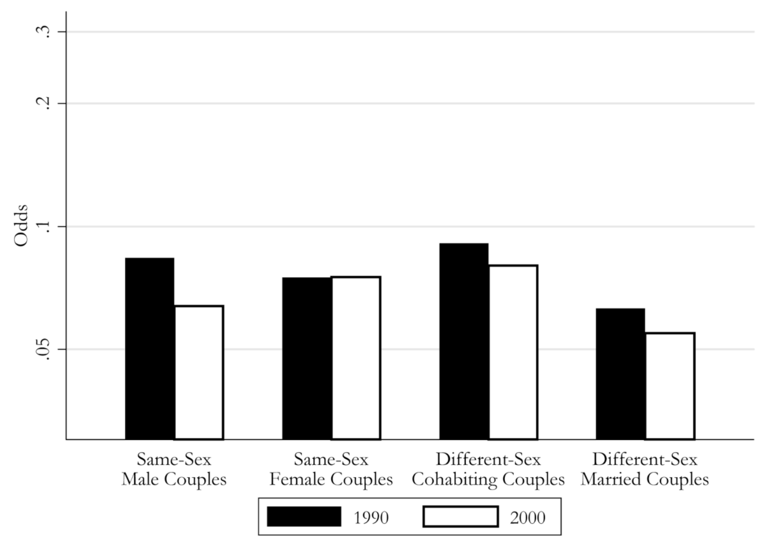


Figure 2.
Measures of assortative matching by couple type (couples aged 20–49), 1990–2000

Table 1

Characteristics of individuals aged 20 to 34 in coresidential unions by couple type, 1990–2000

	Same-Sex Cohabiting Male		Same-Sex Cohabiting Female		Different-Sex Cohabiting		Different-Sex Married	
	1990	**2000**	**1990**	**2000**	**1990**	**2000**	**1990**	**2000**
Age								
Mean	28.02	28.04	28.06	27.42	26.64	26.48	28.42	28.55
SD	3.67	4.06	3.61	3.93	3.87	3.84	3.59	3.57
Race/Ethnicity (%)								
White	83.9	75.5	84.7	74.7	75.2	69.5	80.9	72.1
Black	5.2	7.2	6.0	11.0	11.9	12.1	6.4	6.6
Hispanic	8.6	13.7	7.1	11.1	9.9	14.3	9.3	16.0
Other	2.4	3.6	2.3	3.2	3.0	4.1	3.3	5.3
Educational Attainment								
Less than High School	4.6	6.9	4.9	6.5	15.7	12.6	10.7	10.6
High School	17.4	22.7	15.3	21.0	37.5	33.4	35.9	28.7
Some College	37.9	35.8	36.8	37.6	31.5	34.1	32.0	32.5
College and Above	40.0	34.7	43.0	34.8	15.3	20.0	21.4	28.2
Partner Resemblance								
Correlation between Partners' Ages	0.369	0.477	0.466	0.490	0.453	0.511	0.620	0.627
Race/Ethnic Endogamy (%)	83.4	79.5	87.0	82.8	88.6	85.8	93.5	91.4
Educational Homogamy (%)	51.2	52.9	55.1	55.4	50.4	51.8	54.1	56.7
N	2,036	2,556	1,668	2,990	117,056	161,036	1,073,330	842,326

Note: Weighted statistics from the 5% samples of the 1990 and 2000 U.S. censuses (IPUMS).

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Table 2

Estimates of model fit for models of couple resemblance by couple type (couples aged 20–34), 1990–2000

Model	Model χ^2	*df*	Model χ^2/df Difference[a]	BIC	BIC Difference[a]
A. Baseline Model	58422.41	99	---	−57045	---
B1. A + Age Linear-by-Linear Association	66077.66	102	7655/ 3	−64659	−7614
B2. A + |Age Difference|	66084.04	102	7662/ 3	−64665	−7620
C1. B2 + Race/Ethnic Endogamy	69578.60	105	3495/ 3	−68118	−3453
C2. B2 + Race/Ethnic Variable Endogamy	69630.59	114	3547/ 12	−68045	−3380
D1. C1 + Educational Homogamy	69951.05	108	372/ 3	−68449	−331
D2. C1 + |Education Difference|	69928.15	108	350/ 3	−68426	−308
D3. C1 + Education Crossings Parameters	70345.32	114	767/ 9	−68759	−642
E1. D3 + Association Measures × Year	70507.48	129	162/ 15	−68713	46

Notes:

[a]"Model χ^2/df Difference" and "BIC Difference" refer to the difference between the model in a given row and the model to which terms are being added, e.g., these columns compare Model B2 to Model A and Model D3 to Model C1. All of the Model χ^2 differences are statistically significant at $p < 0.01$. Results are not weighted. N = 1,101,499.

Table 3

Odds ratios of couple resemblance by couple type (couples aged 20–34), 1990–2000

Measure of couple resemblance	Same-sex male vs. different-sex married couples [1]	Same-sex female vs. different-sex married couples [2]	Different-sex cohabiting vs. different-sex married couples [3]
Odds of race/ethnic endogamy			
1990	0.281 **	0.366 **	0.526 **
2000	0.316 **	0.381 **	0.552 ** †
Age difference (absolute value)			
1990	1.153 **	1.105 **	1.111 **
2000	1.145 **	1.147 ** †	1.082 ** ††
Odds of crossing adjacent educational barriers			
Less than high school/high school			
1990	0.756	0.836	1.266 **
2000	1.006	1.394 * †	1.294 **
High school/some college			
1990	1.107	1.050	1.034 **
2000	1.012	1.027	1.044 **
Some college/college and above			
1990	1.421 **	1.251 *	1.047 **
2000	1.363 **	1.091	1.052 **
Odds of crossing multiple educational barriers			
High school/college and above			
1990	1.574 **	1.314 *	1.083 **
2000	1.379 **	1.120	1.098 **
Less than high school/college and above			
1990	1.190	1.098	1.371 **
2000	1.387 *	1.561 **	1.420 **

Measure of couple resemblance	Same-sex male vs. different-sex cohabiting couples [4]	Same-sex female vs. different-sex cohabiting couples [5]	Same-sex male vs. same-sex female couples [6]
Odds of race/ethnic endogamy			
1990	0.534 **	0.696 *	0.768
2000	0.572 **	0.690 **	0.829
Age difference (absolute value)			
1990	1.037 **	0.995	1.043 *
2000	1.059 **	1.060 ** ††	0.998
Odds of crossing adjacent educational barriers			

Measure of couple resemblance	**Same-sex male vs. different-sex married couples [1]**	**Same-sex female vs. different-sex married couples [2]**	**Different-sex cohabiting vs. different-sex married couples [3]**
Less than high school/high school			
1990	0.597 *	0.660	0.904
2000	0.778	1.077	0.722
High school/some college			
1990	1.071	1.016	1.054
2000	0.969	0.984	0.986
Some college/college and above			
1990	1.357 **	1.194 *	1.136
2000	1.296 **	1.037	1.249 *
Odds of crossing multiple educational barriers			
High school/college and above			
1990	1.453 **	1.213	1.198
2000	1.256 *	1.020	1.231
Less than high school/college and above			
1990	0.868	0.801	1.084
2000	0.977	1.099	0.889

Note: Significance levels for two-tailed tests of the difference in couple resemblance by relationship type:

* $p < 0.05$;

** $p < 0.01$. Significance levels for two-tailed tests of changes in the difference in couple resemblance between 1990 and 2000:

† $p < 0.05$;

†† $p < 0.01$. Results are estimated using Model E1 for couples aged 20 to 34 and are weighted using household-level probability weights. *N* = 1,101,499.

Table 4

Odds ratios of couple resemblance by couple type (couples aged 20–49), 1990–2000

Measure of couple resemblance	Same-sex male vs. different-sex married couples [1]	Same-sex female vs. different-sex married couples [2]	Different-sex cohabiting vs. different-sex married couples [3]
Odds of race/ethnic endogamy			
1990	0.247 **	0.420 **	0.531 **
2000	0.258 **	0.408 **	0.529 **
Age difference (absolute value)			
1990	1.196 **	1.169 **	1.130 **
2000	1.163 ** ††	1.149 ** ††	1.098 ** ††
Odds of crossing adjacent educational barriers			
Less than high school/high school			
1990	0.838	1.047	1.259 **
2000	0.908	1.408 **	1.328 ** ††
High school/some college			
1990	1.195 **	0.999	1.073 **
2000	1.001 †	0.919	1.065 **
Some college/college and above			
1990	1.329 **	1.140 *	1.069 **
2000	1.283 **	1.061	1.037 ** †
Odds of crossing multiple educational barriers			
High school/college and above			
1990	1.588 **	1.139	1.148 **
2000	1.284 ** †	0.975	1.104 ** †
Less than high school/college and above			
1990	1.330	1.192	1.444 **
2000	1.116	1.373 **	1.467 **

Measure of couple resemblance	Same-sex male vs. different-sex cohabiting couples [4]	Same-sex female vs. different-sex cohabiting couples [5]	Same-sex male vs. same-sex female couples [6]
Odds of race/ethnic endogamy			
1990	0.466 **	0.791 *	0.589 **
2000	0.488 **	0.770 **	0.633 **
Age difference (absolute value)			
1990	1.058 **	1.035 **	1.023 **
2000	1.059 **	1.046 **	1.012 *
Odds of crossing adjacent educational barriers			

Measure of couple resemblance	Same-sex male vs. different-sex married couples [1]	Same-sex female vs. different-sex married couples [2]	Different-sex cohabiting vs. different-sex married couples [3]
Less than high school/high school			
1990	0.666 **	0.832	0.800
2000	0.684 **	1.060	0.645 **
High school/some college			
1990	1.113	0.930	1.196
2000	0.940 †	0.863 **	1.089
Some college/college and above			
1990	1.243 **	1.067	1.165 *
2000	1.237 **	1.024	1.208 **
Odds of crossing multiple educational barriers			
High school/college and above			
1990	1.383 **	0.992	1.394 **
2000	1.163 **	0.883 *	1.317 **
Less than high school/college and above			
1990	0.921	0.825	1.115
2000	0.795 *	0.936	0.850

Note: Significance levels for two-tailed tests of the difference in couple resemblance by relationship type:

* $p < 0.05$;

** $p < 0.01$. Significance levels for two-tailed tests of changes in the difference in couple resemblance between 1990 and 2000:

† $p < 0.05$;

†† $p < 0.01$. Results are estimated using Model E1 for couples aged 20 to 49 and are weighted using household-level probability weights. $N = 3{,}145{,}700$.