How Do Marriage, Divorce, and Educational Upgrading Affect Trends in Educational Assortative Mating?
(Abstract)

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The degree to which spouses resemble each other on various characteristics, e.g., education, race, occupation, and religion, has long been of interest to social scientists. Assortative mating patterns can provide insight into the "openness" of a society and are an important aspect of population composition. Because marriage creates close ties between individuals and families, the number of marriages that cross social boundaries can be used to indicate the social distance between groups. Further, because spouses share resources, assortative mating has implications for the distribution of cultural and economic resources in a society. Finally, assortative mating shapes the characteristics of families and, to the extent that social attributes are inherited or learned from parents, the population composition of the next generation.

Recent research on assortative mating has been primarily concerned with explaining variation over time and space. Particular attention has been paid to variation in educational assortative mating because of the links between education and both socioeconomic status and cultural capital. Studies that examine change across time have shown that educational sorting into marriage has increased over the past several decades in the United States (Kalmijn 1991a, 1991b; Mare 1991; Qian and Preston 1993). Other studies have examined variation in educational assortative mating patterns across nations (Raymo and Xie 2000; Smits, Ultee, and Lammers 1998; Ultee and Juijkx 1990). These studies use cross-sectional data that represent "snapshots" of marriages in a population at a particular point in time. Studies of trends in assortative mating analyze many of these snapshots across time and studies of variation across space analyze multiple snapshots across space.

These methods, however, conceal the underlying demographic processes that determine assortative mating patterns. One approach to this problem is to think about cross-sectional marriage data as made up of multiple birth cohorts, i.e., groups of married people of similar ages.

Each cohort's life is structured in ways that potentially affect the degree of resemblance between spouses. Variation in marriage timing, in divorce rates, and in the extent to which spouses increase their education after marriage may all affect the degree of resemblance between spouses in a cohort. Thus, the snapshot is a compilation of multiple cohorts' assortative mating patterns, each shaped by potentially different and changing demographic processes.

Past research has made some attempt to control for the dynamic nature of assortative mating within cohorts. Where possible, studies have limited their analyses to newly married couples or couples in first marriages so that selective marital disruption and educational changes after marriage do not bias the results (e.g., Kalmijn 1991a, 1991b; Lewis and Oppenheimer 2000; Mare 1991; Qian and Preston 1993). In so doing, however, they present an incomplete picture of the social distance between groups and can only make limited inferences about the implications of assortative mating patterns for the distribution of resources in society or for population composition.

In earlier work, we incorporated the dynamic nature of assortative mating within a single cohort by developing an analytic framework for studying the effects of marriage, divorce, and educational upgrading on intracohort variation in educational assortative mating (Schwartz and Mare 2003). In the present paper, we extend this approach to the analysis of intercohort trends. Within a single cohort, there are three ways in which the degree of resemblance between spouses may change as it ages: (1) the types of new marriages that occur may change as it ages; (2) there may be selective attrition from marriage through marital dissolution; and (3) couples may change their education characteristics by way of post-marital educational upgrades. Intercohort change in the degree of resemblance between spouses may result from changes in any one of these intracohort changes. We use data from the June Current Population Survey (CPS) to examine the relative contribution of these intracohort changes to historical trends in educational assortative mating across three birth cohorts (1955-60, 1961-66, and 1967-72). Because both divorce rates and the incidence of post-marital educational attainment have increased over this period (Bumpass and Call 1989; Goldstein 1999), we expect that marital dissolutions and educational upgrades play an increasingly important role in explaining the degree of resemblance between spouses in prevailing marriages. Furthermore, we expect that the trend toward delayed marriage over this period has also had a substantial impact on the degree of resemblance between spouses. The relative effects of these factors provide insight into how delayed marriage and increases in

divorce and the incidence of post-marital educational attainment have affected changes in the degree of resemblance between spouses over time.

DATA AND METHODS

In this paper, we conceptualize intracohort variation in assortative mating as a "stock and flow" process, in which the stock of all marriages at a particular time is made up of flows into and out of marriage as well as status changes within marriage. The flows that change the stock of marriages in any given cohort are: (1) new marriages (first and later marriages); (2) educational upgrades; and (3) marital dissolutions. This process can be represented with the following accounting equation (adapted from Schwartz and Mare 2003):

$$M_{ij(a+1)} = M_{ija} + W_{ija} - D_{ija} + R_{ija} \pm E_{ija} \qquad (1)$$

where,

i = husband's education category (i = <10, 10-11, 12, 13-15, 16+),

j = wife's education category (j = <10, 10-11, 12, 13-15, 16+),

a = respondent's age category (a = 18-19, 20-21, 22-23, 24-25, 26-27, 28-29, 30-31, 32-33, 34-35, 36-37), and

M_{ija} = the number of prevailing marriages at age a between husbands of education i and wives of education j,

W_{ija} = the number of weddings (first marriages) at age a between husbands of education i and wives of education j,

D_{ija} = the number of marital dissolutions at age a between husbands of education i and wives of education j,

R_{ija} = the number of remarriages at age a between husbands of education i and wives of education j, and

E_{ija} = the net increase or decrease in the number of marriages in joint education category ij due to educational upgrading.

Thus, prevailing marriages between husbands of education i and wives of education j at age a + 1 ($M_{ij(a+1)}$) are made up of the stock of marriages at age a (M_{ija}), plus the number of weddings between ages a and a+1 (W_{ija}), minus the number of couples that dissolve between ages a and

a+1 (D_{ija}), plus the number of remarriages between ages a and a+1, and plus or minus the net migration of couples into/out of joint education category ij as a result of educational upgrading. By rearranging equation (1):

$$M_{ij(a+1)} - M_{ija} = W_{ija} - D_{ija} + R_{ija} \pm E_{ija} \qquad (2)$$

we see that all changes in the stock of marriages by age ($M_{ij(a+1)} - M_{ija}$) can be decomposed into changes in these four components.

The June CPS data contain information on the date of respondent's first marriage and on both respondent's and spouse's completed education.[1] These data allow us to examine age patterns of educational assortative mating in the stock of marriages (M_{ija}) and to identify the impact of first marriages (W_{ija}) on historical trends. Unfortunately, the June CPS data do not allow us to separately identify the impacts of marital dissolutions, remarriages, and educational upgrades. However, assuming equation (1) is correct and there are no interactions between the flows that determine the stock of marriages, the impact of marital dissolutions, remarriages, and educational upgrades on age patterns of educational assortative mating will equal the difference between age patterns of educational assortative mating in prevailing marriages and the portion of these patterns that are explained by first marriages. We can see this by rearranging equation (1) once more:

$$M_{ij(a+1)} - M_{ija} - W_{ija} = -D_{ija} + R_{ija} \pm E_{ija} \qquad (3)$$

which shows that the difference between the change in prevailing marriages in an age interval ($M_{ij(a+1)} - M_{ija}$) and the portion of this change that is due to first marriages in this interval (W_{ija}) is equal to the portion of the change that is due to marital dissolutions, remarriages, and educational upgrading that occur in this interval ($-D_{ija} + R_{ija} \pm E_{ija}$). Thus, we determine the relative contribution of changes in first marriage (W_{ija}) and changes in marital dissolution,

[1] June data containing this information are available for 1971, 1973-77, 1979-83, 1985-90, 1992, 1994, and 1995.

remarriage, and educational upgrading ($-D_{ija} + R_{ija} \pm E_{ija}$) to changes in the degree of resemblance between spouses in prevailing marriages for each cohort as it ages.

In the first part of our paper, we use log linear homogamy models to describe how assortative mating patterns in prevailing marriages change both within and across cohorts. In the second section, we apply these models to our sample of newlyweds. This section reveals how assortative mating into first marriages changes as each cohort ages and how these patterns have changed over time. In the third section, we simulate what age patterns of assortative mating would have been had first marriages been the only flow into or out of marriage. We then examine the relative contributions of first marriages and marital dissolutions, remarriages, and educational upgrades on the way in which educational assortative mating evolves across a cohort's life. By arranging these portraits sequentially, we can determine how intracohort changes in assortative mating account for historical shifts in the degree of resemblance between spouses. In doing so, we provide a framework for understanding historical changes in educational assortative mating in terms of changes in intracohort demographic processes.

Preliminary findings show that the odds of homogamy have increased across cohorts at almost every age. These findings are consistent with past studies that do not explicitly account for age patterns of educational assortative mating (Kalmijn 1991a, 1991b; Mare 1991; Qian and Preston 1993). We find that the bulk of the increase in the degree of resemblance between spouses is accounted for by increases in the odds of homogamy among persons moving into their first marriages. However, the impact of first marriages has declined over time relative to marital dissolutions, remarriages, and educational upgrades. Thus, our preliminary results show that factors other than first marriage play an increasingly important role in determining the degree of resemblance between spouses in prevailing marriages. This points to the growing importance of incorporating the dynamic nature of educational assortative mating when using historical trends to make inferences about changes in the social distance between groups, the distribution of resources across families, and the consequences of assortative mating for the intergenerational transmission of inequality.

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