Structural Opportunity and Individual Preference: The Determinants of Spouse Selection in Second Marriages

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Abstract

In the context of fundamental changes in union formation, union dissolution, and assortative mating in the United States in recent decades, we still do not fully understand the structural and individual factors driving spouse selection the second time around. Based on a nationally representative sample drawn from the 1979-2014 waves of the geo-coded National Longitudinal Survey of Youth (NLSY79), we examine the changes in spousal choice that occur between women's first and second marriages, controlling for the changing pool of locally available potential spouses on various dimensions, including age, education level at marriage, and race. Specifically, we test three hypotheses: 1) Women's spousal choice in first and in second marriages is associated with the composition of the pool of unmarried men; 2) if the number of available single men as potential husbands is limited, then a woman is forced to cast a wider net and will be more likely to marry heterogamously; and 3) independent of the composition of available men in the remarriage market, divorced women will change their preference toward homogamy in the second marital search. In addition, the extent to which women change their preferences varies by the duration since divorce. We find preliminary empirical evidence that lends support to these hypotheses, suggesting that changes in spouse selection in second marriages are due to both structural changes in the remarriage market and changing individual preference.

Motivation and Previous Research

In the context of fundamental changes in union formation, union dissolution, and assortative mating in the United States in recent decades, we still do not fully understand the factors driving spouse selection the second time around. Spousal heterogamy (i.e., marriage between a couple with disparate demographic characteristics like age, education, and race) tends to be more common in second and higher-order marriages than in first marriages (Lin 2013, Shafer 2013). Are these second marriages more heterogamous than first marriages due to changes in structural opportunities, such as marriage market sex ratio constraints? Or are second marriages more heterogamous than first marriages due to individual preferences changing, perhaps from what was learned from the failed first marriages? In this study, we decompose changes between first and second marriages to disentangle whether structural or individual factors determine age and education heterogamy in women's second marriages.

Like rates of first marriage, by one, albeit somewhat crude, measure – the ratio of remarriages in a given year to those "eligible" for remarriage, among those 18 and older – remarriage rates have been declining in recent decades, dropping 44 percent between 1990 and 2013 (Payne 2015). Further, among all marriages in 2016, 27 percent were remarriages, compared to 31 percent in 2008 (Payne 2018). That said, remarriage is so common that one might say that the rejection taking place is most often not one of the institution of marriage, per se, but merely of the individual to whom one was first married (Bennett 2017).

Remarriage has become almost as common as first marriage – indeed, more than two in five marriages that took place in 2008-2012 were ones in which one or both spouses had been previously divorced. Further, among older individuals – women over 50 and men over 60 – the proportion of the population in higher-order marriages has actually increased since the mid-1990s (Lewis and Kreider 2015).

While these summary statistics are certainly informative, we must still work towards a more nuanced understanding of who marries whom in second marriages and of the roles that spousal preferences and marriage market structure play leading to the remarriage rates we observe.

Past research on spouse selection and assortative mating has focused on first unions. Generally, individuals have been found to show a preference for homogamy and tend to choose a partner with a similar social, economic, and demographic background (Charles, Hurst, & Killewald 2013; Mare 1991; Qian and Lichter 2011; Schwartz 2013; Schwartz, Zeng, & Xie 2016). In the structural framework, assortative mating is conceptualized as a marriage market in which spousal preference matching is constrained by structural opportunities and availability (Becker 1974, Mortensen 1988). Despite this substantial body of research on assortative mating in first marriages, the issue of spouse selection the second time around has received comparatively little attention – do these patterns and findings apply to higher-order marriages? Some recent studies of second-marriage assortative mating have found that divorce and remarriage do not, in fact, seem to lead to more or less heterogamy once selection effects and other relevant determinants are accounted for, perhaps because of the prevalence and normalization of remarriage in recent decades (Fu 2010, Schwartz and Mare 2012). Others have found that divorce and remarriage are indeed meaningfully associated with substantially higher levels of at least some forms of heterogamy – such as prevalence of marriages between whites and Asian-Americans, but not between whites and African-Americans (Choi & Tienda 2017a; Qian & Lichter 2018).

There are several reasons that divorced individuals may have spousal matching patterns that differ from those of never-married individuals. First, individual preferences in remarriage may change *because of* first marriages. After divorce, partner preferences may reflect whatever was learned from mistakes in the first marriage, to the extent that any of us learns from our own mistakes. Second, the composition and structural dynamics of the marriage market may change in second marriages, such as less availability of preferred matches.

Past research on first-order marriages has found that structural limitations in the marriage market do, indeed, play a role in the increased incidence of both heterogamous marriages and foregoing marriage altogether (Goldscheider, Kaufman, & Sassler 2009; Lichter, Anderson, and Hayward 1995). It is unclear whether a similar process may take place in the remarriage market, as well. In other words, are divorced women willing to cast a wider net in the face of market constraints, or are they more open to a different sort

of partner as a result of either the aging process or learning from mistakes they feel they may have made the first time around?

The few very recent studies exploring these questions in higher-order marriages tend to be cross-sectional, and thus cannot directly observe how a given person's spousal selection compares from their first to their second marriage. Qian and Lichter (2018), for example, find that previously married people enter more heterogamous pairings than those entering first marriages. They search more broadly than in their first marriages, largely due to more limited local marriage market opportunities. However, the results are based on cross-sectional analysis of American Community Survey (ACS) data, which leaves open the question of how a given person's preferences may change between first marriage and remarriage. Does examining this heterogamy pattern across individuals' marriages yield the same findings? Our study will decompose the longitudinally observed changes into changes in preferences and changes in the market structure to which she is exposed.

Additionally, our county-based geographic data will allow us to break down the marriage markets into more granular spatial units than previous analyses of second-marriage markets. The spatial extent of what constitutes a local marriage market is not inherently clear, since some people are prone to searching further from home than others (Kalmijn 1998). Previous studies of marriage markets tend to examine local markets using metropolitan statistical areas (Choi & Tienda 2017b; Hou et al. 2015; Qian & Lichter 2018), while some assume marriage markets could span as broadly as entire states (Kalmijn & van Tubergen 2010) or regions of the country (Fu 2007, Lee & Boyd 2008). Examining counties allows for a more refined understanding of how local marriage markets influence remarriage decisions.

Current Study

In this study, we examine marital histories of participants in the National Longitudinal Survey of Youth, 1979 cohort (NLSY79) to explore how their assortative mating patterns change between first and second marriages. We decompose any such changes between marriages to explore the research questions above about how preference

and opportunity affect heterogamy in second marriages. Specifically, we examine changes in spousal choices in terms of age and educational attainment that occur between women's first and second marriages in the context of a changing pool of available potential spouses. We merge the NLSY79 data with marriage market information from the 1970-1990 decennial Censuses, and the ACS from 2000 to 2014. There is only a small literature examining the independent effects of structural opportunities (i.e., marriage market constraints) versus individual preferences (Abramitzky et al. 2011; Choo and Siow 2006; Fisher et al. 2014; Logan et al. 2008; Xie, Cheng, & Zhou 2015). We build on the work of Tan and Bennett (2012) in two important ways: (a) we incorporate several more recent waves of the NLSY in our analysis, and (b) we refine geographic markets considerably in our effort to understand the influence of market constraints on spouse selection.

Perspectives on Assortative Mating in Second Marriage After Divorce

Based on the above, this study examines the following three hypotheses about changes in assortative mating between first and second marriages.

Hypothesis 1:
Women's spousal choice in the first and second marriage is driven, in part, by marriage market composition.

Hypothesis 2:
Women will be forced to 'cast a wider net' and be more likely to marry heterogamously if there is a relative dearth of unmarried men with similar characteristics.

Hypothesis 3:
Independent of marriage market composition, divorced women will change their preferences for the second marital search. In addition, the extent to which women change their preferences varies by the duration since divorce.

Data and Methods

The main data for this study are drawn from the restricted-use, geo-coded 1979 to 2014 waves of the NLSY79, a survey of 12,686 men and women ages 14 to 22 in 1979. These data uniquely track marital histories of each respondent from youth to late middle age. In this study, we restrict our sample to women who had ever divorced during the observed time period. We exclude those whose marriages began prior to 1979, since we have complete information only on marriages that began after the start of the NLSY. We also exclude those widowed and those younger than 18 at the time of their first marriage because their remarriage choices are considered potentially different from those of adult women whose first marriages end in divorce. The restricted sample consists of 2128 such women ever divorced, with the average age at first marriage 22.7. Due to the detailed household rosters and marital histories in the NLSY79, we are able to collect information on age, education, and race of all first and second husbands in the sample.

Dependent Variable: Spouse Selection by Age and Education

Following Qian (1998), we define age homogamy as a woman marrying a man no more than five years older or two years younger than herself, and age heterogamy is defined as the complement of age homogamy.

Educational homogamy is defined as a husband's highest grade-level completed at time of marriage being no more than four years greater than the wife's (or two years if that difference spans high school or college graduation), or a wife's highest grade-level completed no more than two years greater than the husband's. Educational heterogamy is defined as the complement of educational homogamy.

Measuring Structural Opportunity: Sex Ratio

To construct marriage market indicators as proxies of the relative supply of marriageable men, we construct a sex ratio of unmarried men to women in the segment of the population within which they are most likely to search.

We stratify marriage markets by location, age, education, and race/ethnicity. For location, we intend to stratify by county. As of September 2018, we are waiting for restricted-use geo-coded data from the NLSY so that we can stratify the marriage markets by county (the smallest available spatial unit). Until we receive these geocoded data, following deGraaf and Kalmijn (2003), we make a simplifying assumption that marriage markets are geographically divided by four regions of the country, then by metropolitan status.

Within these marriage market strata, we consider mate availability by two dimensions: age and education. We create a sex ratio indicator for each dimension to capture the relative availability of men of different characteristics. Following Spanier and Glick (1980), the sex ratio of similarly aged men is defined for each woman in geographic region *g* of race *r* who married at age *a* in year *t*:

$$\text{SexRatio}_{grat} = \frac{\sum_{a-2}^{a+5} Single\ Men_{grat}}{Single\ Women_{grat}}$$

Similarly, we construct sex ratios that reflect the relative availability of men with different educational characteristics.

Analytic Strategy: Two-Stage Model

To test whether differences in spouse selection patterns between first and second marriages result from characteristics associated with the evolving marriage market or changing preferences, we employ a two-stage research design to examine first and second marriages separately.

For the first stage, we use binomial logistic regression models to examine a divorce's spousal choice in her first marriage. We model the probability of entering a homogamous first marriage as a function of sex ratios measuring the relative supply of marriageable men at the time of first marriage. We control for individual characteristics correlated with entry into first marriage. We classify sex ratio measures into tertiles according to the variable's distribution. Thus, for example, a high sex ratio of men of

similar age captures first marriage markets in which the ratio of the number of single men to single women within the same age group falls within the 'high level' category. The model follows the following general form.

$$Probability(Homogamous\ First\ Marriage)_i = \alpha_i + \boldsymbol{\delta}_i + \boldsymbol{Sex\ Ratio}_{i(at\ first\ marriage)} + \boldsymbol{X_i\beta_i} + \varepsilon_i$$

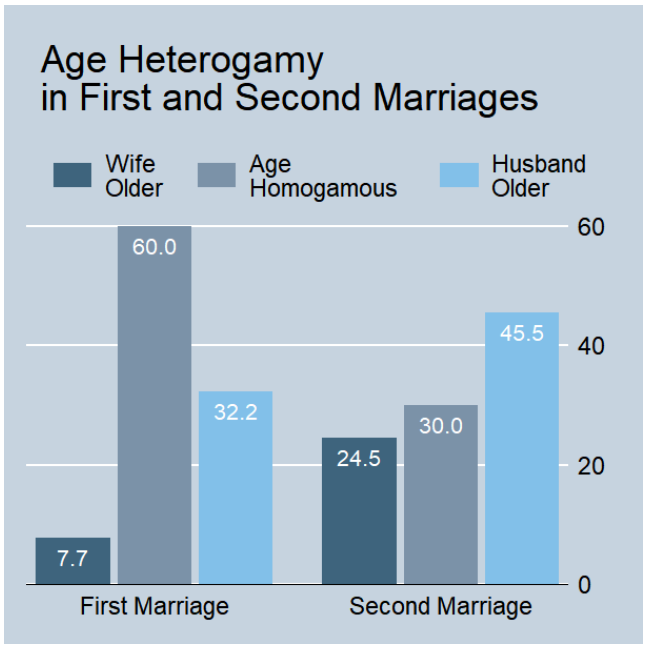
The matrix **X** includes vectors of various control variables (included in the tables at the end of this extended abstract). Based on the model estimation, we then calculate the predicted probability of age and educational homogamy for each individual by imposing a sex ratio at the sample mean. We assume the predicted outcome for each individual, netting out of marriage market composition, captures the latent propensity revealed from women's spouse selection in the first marriage. In other words, we proxy the unobserved individual's propensity of choosing a similar spouse with the adjusted predicted probability of entering into age/educational homogamous first marriage, controlling for the marriage market effect and all of her individual characteristics.

In the second step, we model spouse selection the second time around in a discrete-time multinomial logistic regression setting. We use multinomial models because staying single after first divorce becomes a possible outcome for women in the second marriage market. Using a discrete-time multinomial logistic model in an event-history framework not only addresses the right-censoring problem associated with survey data, but also permits us to compare the likelihood of entering each marriage type across key characteristics and variables. The three outcomes are (1) homogamous second marriage relative to heterogamous second marriage; (2) not marrying after first divorce relative to heterogamous second marriage; and (3) homogamous second marriage relative to not marrying. Along with the time-varying second marriage market indicators, our model also includes each individual's predicted propensity for homogamous marriage, as well as variables describing individual characteristics.

Preliminary Results

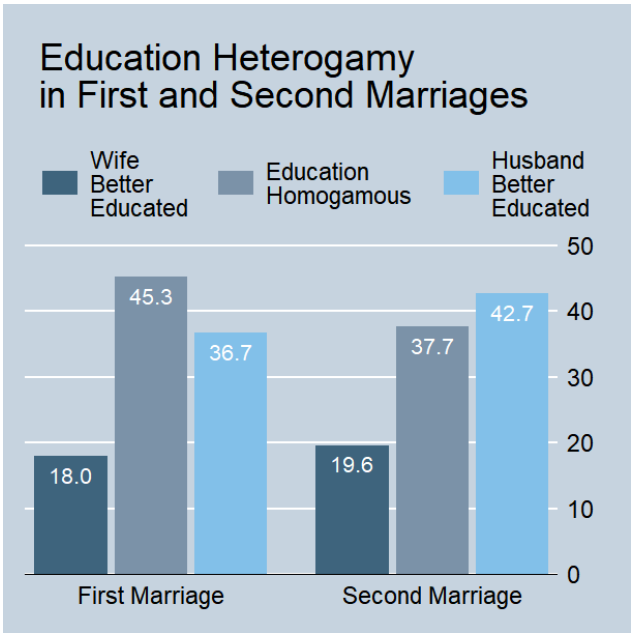
Preliminary Descriptive Statistics

Figure 1: Age Heterogamy in First and Second Marriages



Note: Calculations based on authors' preliminary tabulations from NLSY79. Age Homogamy defined as husband no more than 2 years younger or 5 years older than wife. Age Heterogamy defined as wife at least 2 years older than husband ("Wife Older") or husband at least 5 years older than wife ("Husband Older").

Figure 2: Education Heterogamy in First and Second Marriages



Note: Calculations based on authors' preliminary tabulations from NLSY79.

> Educational homogamy defined as couples in which the husband's highest grade completed is no more than 4 years higher than that of the wife. Educational heterogamy defined as one spouse having at least four years higher completed grade, or at least two years higher completed grade if the difference spans high school or college graduation.

Figures 1 and 2 present preliminary summary statistics about the NLSY79 sample. They confirm that second marriages in this sample become more heterogamous with respect to both age and education. The changing pattern of spousal choice is most apparent among the group of age homogamous women (i.e., those who married men at most two years younger or five years older). The proportion of overall age homogamous marriage declines from 60 percent to 30 percent. Specifically, only 31 percent of the women in age homogamous first marriages enter age homogamous second marriages, while 41 percent of formerly age-homogamous women marry husbands more than five years older in their second marriages.

Preliminary Regression Results

We are still refining our dataset, but our preliminary results suggest that structural changes in the remarriage market lower the likelihood of a homogamous match in second marriages. In addition, independent of the changes due to structural forces, the changes in women's actual tastes or preferences also exert some influence on age assortative mating the second time around.

Below are two tables for results of the two-stage age homogamy analysis, but they are devoid of results. Our analysis is still underway, but these tables provide a sense of how our final results will be presented.

Table 1: First-Stage Logistic Regression: Odds Ratio Statistics for the Likelihood of Age Homogamy in First Marriages

Main Variables	Model A Main Effects		Model B Including Controls	
	(1) Odds Ratio	(2) P-Value	(3) Odds Ratio	(4) P-Value
Relative Supply of Same Aged Men				
High			—	—
(ref. Medium)				
Low			—	—
Relative Supply of Much Older Men				
High			—	—
(ref. Medium)				
Low			—	—
Relative Supply of Younger Men				
High			—	—
(ref. Medium)				
Low			—	—
Control Variables				
Co-residential Child Present	—	—	—	—
Age at First Marriage	—	—	—	—
Residence				
Urban Residence	—	—	—	—
Southern Residence	—	—	—	—
Religious Background, Age 14				
Catholic	—	—	—	—
Jewish	—	—	—	—
No Religion	—	—	—	—
(ref. Mainstream Protestant)				
Family Background, Age 14				
Single Parent	—	—	—	—
Step-Parent Present	—	—	—	—
Other Family Structure	—	—	—	—
(ref. Two Biological Parents				
N, Respondents	2,128			2,128
-2 Log Likelihood	—			—
Pseudo R^2	—			—

Source: NLSY79. Significance: *p<0.1 **p<0.05 ***p<0.01
Note: Age homogamous marriages are defined as those in which women marry husbands no more than two years younger or no more than five years older.

Table 2: Second-Stage Multinomial Regression
Odds Ratio Statistics for Spouse Selection the Second Time Around: Age Assortative Mating

Marriage Market Effect	(1) Homogamy Vs. Heterogamy	(2) Heterogamy Vs. Stay Single	(3) Homogamy Vs. Stay Single
Relative Supply of Same Aged Men			
High	—	—	—
(ref. Medium)			
Low	—	—	—
Propensity Toward Age Homogamy	—	—	—
Duration X Propensity Interactions			
Duration <= 5 Years	—	—	—
5 Years < Duration <= 10 Years	—	—	—
10 Years < Duration <= 15 Years	—	—	—
15 Years < Duration <= 20 Years	—	—	—
Duration >= 20 Years	—	—	—
N, Respondents	2,128		
N, Person-Years	—		
-2 Log Likelihood	—		
Pseudo R^2	—		

Source: NLSY79. Significance: *p<0.1 **p<0.05 ***p<0.01. Estimates of all continuous variables are rescaled to reflect odds ratio of one standard deviation increase.
Note: Age homogamous marriages are defined as those in which women marry husbands no more than two years younger or no more than five years older. All specifications include controls for a vector of dummy variables of duration years, the presence of a co-residential child, age at second marriage, residence, and religious and family background at age 14.

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