Age at Migration and Marital Exogamy: An Analysis of First Marriages

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Introduction and Motivation

This paper builds on an emergent literature about the lifecycle consequences of migration by examining whether and how age at migration influences marriage behavior, putatively the crucial marker of social integration (Rosenfeld, 2002; Gordon, 1964). Synthesizing insights from literatures that portray immigrant integration using synthetic "decimal" generations (Rumbaut, 2004; 2001), we examine whether the odds of marital exogamy depend on the age at immigration for persons who arrived in the U.S. during childhood, adolescence, and early adulthood. Our analyses extend the existing literature about marital exogamy in several ways. First, we focus on the significance of immigrant status in a lifecycle perspective. Second, we use data that captures the surge in mass migration since 1980, a period when the sending country origins shifted toward Asia and Latin America. Third, our methodological approach takes into account relative group size in assessments of propensity to cross ethnic and racial boundaries.

In what follows, we present an abridged theoretical overview of immigrant integration that serves to frame the significance of intermarriage as a dimension of assimilation, to review recent empirical research about the potential significance of age at migration for nuptial behavior, and to formulate testable hypotheses. Following a description of data and methods, we present preliminary empirical results and outline our next steps.

Theoretical Background and Empirical

Assimilation, broadly defined as the process by which immigrants become full-fledged members of their host society, is the most studied aspect of U.S. immigration both historically and now.[1] Although leading scholars disagree about terminology—some preferring neutral terms such as integration or incorporation—in fact, most of Milton Gordon's (1964) ideas about assimilation have withstood the test of time. Building on the Chicago School's ideas about inter-group contact and social hierarchies, Gordon expanded prevailing conceptualizations of immigrant assimilation from an emphasis on adopting the customs and language of the host society (cultural assimilation) to include participation in socioeconomic hierarchies (structural assimilation), civic engagement and the development of a unified sense of *peoplehood* (identificational assimilation*)*. Identification assimilation presumes the absence of prejudice, discrimination and value conflict (Brown and Bean, 2006).

[1] Because the social science literature about immigrant integration has been extensively summarized in several review articles and volumes (Hirschman, Kasinitz and DeWind, 1999; Waters and Ueda, 2007), for parsimony we focus on a few comprehensive studies that both synthesize the core historical debates and bring into sharp relief similarities and differences in immigrant integration experiences across time and space.

According to Gordon's formulation, structural assimilation, which refers to the large-scale entry of immigrants and their descendants into the social organizations, interpersonal networks, and families of natives, holds the key to immigrant integration. Not surprisingly, most contemporary research about immigrant integration examines various facets of cultural and structural assimilation, based on native-immigrant gaps in home language maintenance (Rumbaut, et al., 2006) schooling (Kao and Tienda, 1995; Schneider, et al., 2006), labor market attainments (Duncan, et al., 2006), and patterns of residential segregation (Iceland, 2009). Studies of immigrant intermarriage with natives of same or different ethno-racial origins, however, are less common.

Alba and Nee's (2003) theoretical reformulation of assimilation as a construct for understanding contemporary immigration emphasizes *shifting boundaries* and *boundary crossing* as well as *distal* and *proximate* influences on immigrant integration. The distinction between boundary crossing and boundary shifting helps separate group from individual identity maintenance and to identify the mechanisms that promote or retard integration. Individuals can cross ethnic boundaries through acculturation, inter-marriage, and ethnic identification, leaving ethnic boundaries intact. Group boundaries also can change owing to institutional and social mechanisms, such as the creation of pan-ethnic categories (e.g., Asian, Hispanic) and, importantly, intermarriage. Both the Anglo conformity and melting pot assimilation scenarios require intermarriage on a large scale because it signals the virtual elimination of social distance in primary group relations. Yet, with a few notable exceptions (Rosenfeld, 2002; Qian and Lichter, 2001; Qian, 1997; Lieberson and Waters, 1988), immigration researchers have largely eschewed the study of intermarriage.

Most contemporary scholarship acknowledges that immigrant integration is a *two-way* process by which newcomers become part of their host communities, and through which their communities learn from and adapt to their presence (U.S. Commission on Immigration Reform, 1997; Alba and Nee, 2003). Nevertheless, in execution, researchers typically compare individual outcomes, such as nativity differences in education, labor market statuses, and political participation, or aggregate outcomes, such as residential concentration. To acknowledge the bi-directional impacts of immigration on the newcomers and their host communities, Gordon developed three alternative integration scenarios dubbed Anglo conformity, the melting pot, and cultural pluralism. The Anglo conformity scenario (also known as straight-line assimilation) assumes that immigrants make all adaptations to the host society as a condition of acceptance and integration. The straight-line formulation presumed both acceptance of newcomers and inevitable conformity, thus rendering intergroup relations, including marriage, unproblematic.

Cultural pluralism allows for the maintenance of symbolic and cultural differences even as immigrant groups advance in the economic and social hierarchies. The implication for marriage is that ethnic boundary maintenance not only reflects preferences rather than prejudice and discrimination by host country groups toward newcomers, but also is inconsequential for identificational assimilation. This view concords with the emergence of hyphenated identities, as immigrants' ethnicity is rendered symbolic in an otherwise accepting society. Finally, the melting pot envisions a new socio-cultural and biological amalgam that *requires* wide-scale marital exogamy, not only between native and foreign-born couples, but also across racial and ethnic boundaries. Given the importance of intermarriage in differentiating among Gordon's modes of

assimilation, we focus on the odds of exogamy among immigrants who arrived during the most recent surge in mass migration.

Synthetic Approaches to Temporal Process

Immigrant integration is a social process that not only evolves over time, but also is shaped by period and context. Owing to the limited availability of longitudinal data with adequate samples of foreign-born respondents however, most assessments of immigrant integration use cross-sectional data and represent temporal change using a variety of strategies. Among the most common are synthetic generational comparisons, which are social aggregates "defined by age and life stage at migration for the foreign born, and by parental nativity for the native born" (Rumbaut, 2004: 1160). Synthetic generation comparisons are especially popular for studying various dimensions of structural assimilation, such as scholastic achievement (Kao and Tienda, 1996; Schneider, et al., 2006; Cortes, 2006), employment and earnings (Duncan, Hotz and Trejo, 2006); and family structure (Landale, et al., 2006), especially since Rumbaut coined the "decimal generations" (Rumbaut, 1998; 1996) to represent immigrants who arrived during childhood or early adolescence (Rumbaut, 2004; Oropesa and Landale, 1997).

The core dimension undergirding Rumbaut's decimal generations is *age at arrival*, which serves as a proxy for the extent of socialization into host country institutions. Despite the identification of systematic regularities in a variety of social outcomes according to "synthetic" generations (Rumbaut, 2004; Oropesa and Landale, 1997), there is no consensus about the appropriate age divisions to represent the decimal generations for different adult outcomes (Lee and Edmonston, 2010). Whether denoted as decimal generations or age categories, however, there is mounting empirical evidence that early lifecycle timing of international migration has profound implications for various aspects of social integration measured at adult ages (Corak, 2009; Aslund, et al., 2009; Lee and Edmonston, 2010; Chiswick and Houseworth, 2008).

Illustrative Studies of Age at Immigration and Marriage Behavior

Comparing the experiences of young Asian immigrants to the Canada and the United States, for example, Lee and Edmonston (2010) argue that age of immigration is a powerful predictor of adult integration, which is evident in educational and occupational attainments, as well as rates of homeownership, although they document variation in the strength of association by sex and national origin groups. Aslund and associates (2009) analyze a cohort of Swedes born between 1960 and 1971 who immigrated to Sweden before age 15, as well as persons whose parents immigrated to Sweden 10 or more years prior to their birth data to evaluate social integration during early adulthood (ages 31-34), including intermarriage. They find that on average, a five-year difference in age of immigration is associated with a 12-percentage point increase in the likelihood of marrying another immigrant, with stronger associations between age at migration and marital endogamy for women compared with men.

Chiswick and Houseworth (2008) study interethnic marriages among U.S. immigrants using 1980 census data. They show positive associations between length of U.S. residence and the likelihood of marital exogamy as well as an inverse association according to age at immigration. Specifically, persons who immigrate to the U.S. at younger ages are more likely to marry out of

their ethnic group compared with their statistical counterparts who immigrate at later ages. Although these results are generally consistent with findings based on Canadian (Corak, 2009) and Swedish (Aslund, et al., 2009), Chiswick and Houseworth's age categories are not well justified from a developmental or life cycle perspective (Rumbaut, 2004). Three additional aspects of their analysis warrant further examination. First, their use of 1980 census data excludes the most recent immigrants, whose ethno-racial diversity exceeded that of the pre-1970 arrivals and also fails to capture significant changes in marriage behavior since 1970. Second, because Chiswick and Houseworth restrict their analysis to the foreign-born, they ignore the considerable possibility that ethno-racial endogamy may involve marriages between native and foreign-born couples. Finally, their use of logistic regression obfuscates patterns of intermarriage resulting due to demographic factors shaping opportunities for intermarriage (e.g. group size, sex ratio) with those originating due to the strength of preferences for endogamy.[2]

Hypothesized Associations

Because of differences in populations studied, empirical methods used, and, importantly, operational specification of age at immigration, the existing empirical literature does not yield clear hypotheses about the early life cycle timing of migration and marital assimilation. That the influence of age at migration differs across a range of integration indicators signals a need for theoretical justification of age bands, and recognition that the underlying integration process may not be linear (Aslund, et al., 2009). Language acquisition, for example, appears to be associated with sensitive periods in cognitive development (Corak and Delahousse, 2009; Beck, Corak and Tienda, 2009). Thus, immigration before age six should be associated with the fastest pace of second language acquisition because they begin their schooling using the host language, but the association between age at migration and language proficiency need not be linear if gains are cumulative as well as responsive to sensitive periods.

The influence on intermarriage of age at migration is theoretically ambiguous. Time spent in source countries appears to be associated with marriage and employment behavior in destination countries (Aslund, et al., 2009; Lee and Edmonston, 2010), but the life cycle patterns are not likely to be linear because of differences in exposure to traditional and new social expectations about mating behavior; because nativity boundaries are likely to be more permeable than racial boundaries, even within nativity groups; and because the availability of same-group partners depends on group size. For example, immigrants from countries where racial boundaries are less sharply defined compared with the United States may be *more likely* to cross ethnic and racial boundaries than their counterparts from regions with less ethno-racial diversity.

Age at immigration may alter the likelihood of crossing boundaries, particularly for those who arrive at young ages and become socialized into the U.S. social hierarchy. Therefore, we expect that the odds of marital exogamy will be similar for U.S. immigrants who arrive before age 12, which represents a biosocial boundary in two senses: socially it demarcates late childhood and early adolescence, and the transition from primary to middle school; biologically it roughly

[2] The construction of an "availability ratio" from prior censuses does not solve the problem because the analysis presumes that marriage boundaries are confined within nativity groups.

corresponds to the onset of puberty. Immigrants who arrive during late adolescence not only are more likely to retain home languages and thus associate with own-ethnic potential mates, but also to have absorbed origin country marriage expectations.

Data and Methods

Our empirical analysis is based on pooled data from the 1995, 2002, and 2006-2008 National Survey of Family Growth (NSFG). The NSFGs are nationally representative, cross-sectional surveys of individuals between the ages of 15 and 44. The NSFGs collected socio-demographic information and retrospective histories of marriage for 10,847 women in 1995; 7,643 women and 4,928 men in 2002; and 7,323 women and 6,139 men.

The NSFGs are particularly well suited for an analysis comparing the intermarriage patterns of immigrants with distinct ages of arrival into the U.S. due to several reasons. First, they provide detailed reports of women's socio-demographic characteristics, including women's year of birth, nativity status, and year they arrived in the U.S. to stay. Second, the NSFGs collected complete retrospective histories on marriages, including dates of all marriages and the race/ethnicity of all spouses. Unlike most prior work focusing on current marriages due to data limitations, having information on the race/ethnicity of all spouses allows us to focus on first marriages. Doing so allows us to produce estimates of intermarriage rates that are unaffected by biases introduced due to differences in assortative mating patterns among first marriages that remain, first marriages that dissolve, and higher order marriages (Qian 1997; Mare 1991). Third, the NSFGs oversample Hispanics and therefore contain large numbers of immigrant women from Latin America. This ensures that we have a large enough sample of married immigrant women with origins in Latin America to further disaggregate them by age at migration.

Despite the many advantages of using pooled data from the NSFGs, this approach also has some drawbacks. NSFGs did not collect information about the migration experiences of the first spouse (i.e. nativity status and year of arrival in the U.S.). Therefore, although we can ascertain variations in patterns of interracial marriage depending on the respondent's characteristics, we cannot ascertain how these patterns differ depending on the spouse's migration experiences or the combined effects of husband and wife's migration experience. Second, they do not include a large enough sample of Asian and Black immigrants and as a result we must combine the two groups before disaggregating them by respondent's age at migration. Third, the 1995 NSFG limited their data collection to women. As a result, our sample of female respondents includes a cohort of women born in slightly earlier periods compared to our sample of men. Despite the missing data on men, we do not exclude the 1995 NSFG or the subset of women born in the slightly earlier birth cohort because data from all three waves are necessary to secure a sufficiently large sample size of immigrants who migrated as children and as adolescents.

Sample

We restrict our sample to ever-married women ages 20 and older. We exclude individuals between the ages of 15 and 19 to ensure that the sampled individuals have had sufficient time to

transition into marriage so that we can minimize the effects of right censoring on our results[3]. The sample also excludes women who failed to provide information about their nativity status; dates of marriage if they report having ever married; and year of immigration among foreign-born migrants. In addition, we also exclude married women who did not provide information about their husband's race/ethnicity. Because our objective is to capture the degree of socialization into U.S. institutions, we also exclude women who married prior to migration.

These restrictions yield a sample of 13,133 married women and 3,650 married men. Table 1 shows how the different restrictions affect the sampling distribution for each of the NSFG surveys and the pooled totals, by nativity status.

Key Measures

Our log-linear analyses of intermarriage model four attributes of respondents:

Respondent's Race/Ethnicity. We use respondents' self-reported descriptors to identify (1) Hispanics, (2) Non-Hispanic Whites, and (3) Non-Hispanic Blacks and Others.

Race/Ethnicity of First Spouse. We use proxy reports about his/her first spouse to distinguish (1) Hispanics, (2) Non-Hispanic Whites, and (3) Non-Hispanic Blacks and Others.

Respondent's Age at Migration. We compute age of migration by subtracting year of birth from year of arrival. Once computed, we categorize respondents into four groups: (1) the U.S.-born, (2) foreign-born who migrated prior to 12 years of age, (3) foreign-born who migrated between the ages of 12 and 17; and (4) foreign-born who migrated when they were 18 years or older.

Respondent's Education. We use information on highest completed years of schooling to distinguish between those with fewer than 12 years of schooling and those with 12+ years of schooling.

Analytical Plan

Our analyses consist of two parts. In the first part, we describe how patterns of interracial marriage vary among immigrants who arrived as children (<12), adolescents (12 to 17), and adults (18+). We then consider whether variation in interracial marriages by age at migration differs among lesser and highly educated immigrants.

In the second part, we employ log-linear models for contingency tables to describe the association between age at migration and interracial marriages. Log-linear models show the association between husband's and wife's race/ethnicity while controlling for the marginal

[3] The lower age restriction is consistent with those adopted by Qian and Lichter (2001), who restricted their sample to women between the ages of 20 and 34. We do not apply the upper age limit used in their analyses because excluding women who transitioned into first marriages at older ages has the effect of overstating the odds of intermarriage as young couples are more likely to be in homogamous unions compared to older couples (Qian and Lichter 2001).

distribution of spousal characteristics (Agresti 2002; Mare 1991). This feature of the log-linear models allow us to gain insights about the general tendency of members of a race/ethnic group to marry within (or outside) their group, independent of the constraints imposed by group size on the opportunities to marry within the race/ethnic group (Stevens and Tyler 2002).

We represent variations in the association between husband and wife's race/ethnicity using homogamy and crossings models. Homogamy models use a single parameter to portray the odds that husbands and wives belong to the same rather than to different ethno-racial groups. Crossings models use parameters specific to each race/ethnic barrier to describe the odds that individuals of a certain race/ethnicity is married to a spouse of another race/ethnicity. The crossing parameters distinguish among the ethno-racial boundaries that are relatively rigid versus fluid barriers to intermarriage.

For the initial analyses presented here, we cross-classify husband's race/ethnicity by wife's race/ethnicity, respondent's age at migration, and respondent's level of education. This yields a contingency table with 72 (3 x 3 x 4 x 2) cells. The baseline model assumes that the association between husband's and wife's education is invariant by age at migration. Subsequent log-linear models relax this constraint by allowing the association between husband's and wife's race/ethnicity to differ by age at migration, respondent's education, and later the interaction between age at migration and respondent's education.

Preliminary Findings

Preliminary Descriptive Analyses

Figure 1 reveals that the patterns of intermarriage do not vary much by nativity status. Instead, the demarcating differences correspond to immigrants who arrive in the United States at different stages of their life cycles. The association between age at migration and likelihood of marrying a spouse of the same ethno-racial group reveals a non-monotonic pattern. Specifically, immigrants who arrived as children are least likely to marry spouses of their same race or ethnicity, but those who followed migrated as adolescents reveal considerably higher rates of intermarriage. Intermarriage rates of immigrants who arrived at ages 18 and older are lower than those who migrated as adolescents.

The distinct patterns of interracial marriage by age at migration may result due to group differences in socioeconomic composition and the resulting discrepancies in the amount of opportunities to interact with members of other race/ethnic groups. To account for some of the socioeconomic differences, we investigate how patterns of intermarriage vary by age at migration among immigrants with distinct levels of education. Figure 2 presents the results. Not surprisingly, immigrants those with less than 12 years of education are more likely to marry *within* their ethno-racial group compared with their group counterparts with higher levels of education. Among spouses with fewer than 12 years of education, immigrants are consistently more likely than the U.S.-born to marry within their race/ethnic group. In this educational group, individuals who migrated as children are less likely to marry within their race/ethnic group compared to those who migrated during adolescence or adulthood. The patterns of marital sorting do not differ among lesser-educated immigrants who migrated during adolescence and

childhood. Among immigrants with higher levels of education, the variation in patterns of intermarriage by age at migration is consistent with the general patterns observed in Figure 1.

Variation in the patterns observed in the descriptive analyses, however, may occur due to differences in the preference for exogamy; the degree of isolation experienced by immigrants who migrate to the U.S. at distinct ages, or the size of in-group marriage markets dictated by the size of the race/ethnic group as well as the socioeconomic composition of the group (Fu 2001; Kalmijn 1998; Landale et al. 2006). Therefore, in the next section, we employ log-linear methods to show the tendency of individuals to marry within (or outside) their race/ethnic group, independent of the constraints imposed by the size of their group and resulting opportunities in the marriage market.

Preliminary Log-Linear Analyses

We ran several log-linear models to determine how preferences for endogamy differ by age at migration independent of the demographic factors that govern opportunities to marry within (or outside) their race/ethnic groups. Figure 3 presents the results for our preferred homogamy model. Within the immigrant population, the relationship between age at migration and the association between husband's and wife's race/ethnicity follows a non-monotonic pattern. The odds of homogamy are lowest among couples who migrated as children[4]; increase considerably for couples who migrated as adolescents; and decline for couples who migrated as adults. This pattern of variation is consistently found for both- couples with high and low levels of education.

Comparisons by respondent's level of education reveal that the odds of homogamy are larger among lesser-educated couples than highly educated couples. The degree of variation in the odds of homogamy by age at migration also tends to be larger among lesser-educated couples compared to their counterparts with higher levels of education.

Our crossing models capture the relative permeability of specific race/ethnic boundaries for intermarriage. Table 2 displays the relevant. The overall results tend to be consistent with those found in the homogamy models. The odds of crossing are highest for couples who migrated as children; lowest among couples who migrated as adolescents. With regards to specific barriers, the "Hispanic-White" boundary seems to be the most permeable boundary for most combinations of age at migration and education. In contrast, the "Hispanic-Other" boundary tends to be the least permeable boundary with regards to intermarriage.

Next Steps

In our ongoing work, we will examine whether there are sex differences in the way age at migration affects patterns of intermarriage. This extension will allow us to determine whether female and male immigrants with varying ages of migration "assimilate" to the U.S. society at different speeds.

[4] For presentation, we refer to "couples in which the respondent spouse migrated prior to 12 years of age" as couples who migrated as children; "couples in which the respondent spouse migration between 12 to 17 years of age" as couples who migrated as adolescents; and "couples in which the respondent spouse migrated when they were 18+ years of age as couples that migrated as adults.

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TABLES

Table 1. Sample Restrictions by Survey Year, Nativity Status, and Reasons for Exclusion, Female in 1995, 2002, 2006-2008 NSFG

	NSFG 1995	NSFG 2002	NSFG 2006/08	NSFG95/08	Total
Total	10,847	7,643	7,356	25,846	25,846
Missing nativity status	(2)	(20)	(3)	(25)	(25)
Number of people left	10,845	7,623	7,353	25,821	25,821

	FB	USB	FB	USB	FB	USB	FB	USB	All
By Nativity Status, subtotal	1,117	9,728	1,299	6,324	1,256	6,097	3,672	22,149	25,821
Migration									
Yr of mig, missing	(11)	0	(26)	0	(14)	0	(51)	0	(51)
YOB > YRMIG	(22)	0	(3)	0	(1)	0	(26)	0	(26)
Subtotal, missign	(33)	0	(29)	0	(15)	0	(77)	0	(77)
Number of people left	1,084	9,728	1,270	6,324	1,241	6,097	3,595	22,149	25,744
Union Formation									
No. of times married	0	(3)	(3)	(4)	0	0	(3)	(7)	(10)
Marriage, Missing	(12)	(52)	(8)	(9)	(6)	(6)	(26)	(67)	(93)
Marriage prior to age 15	(12)	(30)	(11)	(13)	(13)	(10)	(36)	(53)	(89)
Subtotal, missing	(24)	(85)	(22)	(26)	(19)	(16)	(65)	(127)	(192)
Number of people left	1,060	9,643	1,248	6,298	1,222	6,081	1,353	11,588	12,941
Marital Status									
Never Married	(278)	(3,711)	(463)	(3,036)	(476)	(3,450)	(1,217)	(10,197)	(11,414)
Subtotal, missing	(278)	(3,711)	(463)	(3,036)	(476)	(3,450)	(1,217)	(10,197)	(11,414)
Number of people left	782	5,932	785	3,262	746	2,631	136	1,391	1,527
Characteristics of first husband									
Race/ethnicity	(2)	(6)	(2)	(3)	0	(4)	(4)	(13)	(17)
Subtotal, missing	(2)	(6)	(2)	(3)	0	(4)	(4)	(13)	(17)
Number of people left	780	5,926	783	3,259	746	2,627	132	1,378	1,510
Married before migration									
Married before migration	(266)	0	(301)	0	(307)	0	(874)	0	(874)
Subtotal, missing	(266)	0	(301)	0	(307)	0	(874)	0	(874)
Number of people left	514	5,926	482	3,259	439	2,627	(742)	1,378	636
Socioeconomic Characteristics									
Age restriction	(5)	(61)	(10)	(17)	(2)	(19)	(17)	(97)	(114)
Subtotal	(5)	(61)	(10)	(17)	(2)	(19)	(17)	(97)	(114)
Number of people left	509	5,865	472	3,242	437	2,608	1,418	11,715	13,133

Table 1. Sampling Restrictions by Survey Year, Nativity Status, and Reasons for Exclusion, Male in 2002, 2006-2008 NSFG (Continued)

	NSFG 2002		NSFG 2006/08		NSFG02/08		Total
Total	4,928		6,139		11,067		11,067
Missing nativity status	(14)		(5)		(19)		(19)
Number of people left	4,914		6,134		11,048		11,048
	FB	USB	FB	USB	FB	USB	Total
By Nativity Status, subtotal	866	4,048	1,115	5,019	1,981	9,067	11,048
Migration							
Year of Migration	(31)	0	(12)	0	(43)	0	(43)
YOB > Year of Mig	0	0	(2)	0	(2)	0	(2)
Subtotal, missing	(31)	0	(14)	0	(45)	0	(45)
Number of people left	835	4,048	1,101	5,019	1,936	9,067	11,003
Union Formation							
No. of times married	0	(1)	0	0	0	(1)	(1)
Marriage, Missing	(15)	(42)	(19)	(63)	(34)	(105)	(139)
Marriage prior to age 15	0	(1)	0	0	0	(1)	(1)
Subtotal, missing	(15)	(44)	(19)	(63)	(34)	(107)	(141)
Number of people left	820	4,004	1,082	4,956	1,902	8,960	10,862
Marital Status							
Never Married	(433)	(2,711)	(574)	(3,252)	(1,007)	(5,963)	(6,970)
Subtotal, missing	(433)	(2,711)	(574)	(3,252)	(1,007)	(5,963)	(6,970)
Number of people left	387	1,293	508	1,704	895	2,997	3,892
Characteristics of first husband							
Race/ethnicity	0	(5)	(1)	(3)	(1)	(8)	(9)
Subtotal, missing	0	(5)	(1)	(3)	(1)	(8)	(9)
Number of people left	387	1,288	507	1,701	894	2,989	3,883
Married before migration							
Married before migration	(88)	0	(129)	0	(217)	0	(217)
Subtotal, missing	(88)	0	(129)	0	(217)	0	(217)
Number of people left	299	1,288	378	1,701	677	2,989	3,666
Socioeconomic Characteristics							
Age restriction	(1)	(7)	(1)	(7)	(2)	(14)	(16)
Subtotal	(1)	(7)	(1)	(7)	(2)	(14)	(16)
Number of people left	298	1,281	377	1,694	675	2,975	3,650

TABLE 2. Odds of Crossing an Ethno-Racial Barrier by Age at Migration and Level of Education, Log-linear Analyses (Model 4)

	HW		HO		WO	
	<12	12	<12	12	<12	12
U.S.-born	0.10	0.17	0.04	0.07	0.08	0.08
<12	0.07	0.12	0.07	0.10	0.21	0.21
12 to 17	0.04	0.07	0.01	0.02	0.02	0.02
18+	0.08	0.13	0.02	0.03	0.09	0.09

Notes: *Model 4 in Table A2 is the preferred model.*

APPENDIX TABLES

TABLE A1. Distribution of Education by Age at Migration

	Education				
Age at migration	<12	12	13-15	16+	Total
U.S.-born	12	27	31	30	100
<12	16	21	30	32	100
12 to 17	42	24	14	20	100
18+	29	19	21	32	100
Total	14	27	30	30	100

TABLE A2. Log-linear Association between Spouse's Educational Attainments

	MODEL	d.f.	Log-likelihood	BIC
PANEL A: HOMOGAMY MODELS				
1	HL HA WE WA EA HW	28	-311	-1
2	Model 1 + OA	25	-258	-24
3	Model 1 + OE	27	-296	-21
4	Model 2 + OE	24	-272	-41
5	Model 4 + OAE	21	-250	-56
PANEL B: CROSSINGS MODEL				
1	HL HE WL WE LE HW	28	-311	-1
2	Model 1 + XA	19	-261	-20
3	Model 1 + XE	25	-291	-16
4	Model 2 + XE	16	-244	-22
5	Model 4 + XAE	7	-214	8

Notes:
H denotes "Husband's Race"
W denotes "Wife's Race"
A denotes "Age at Migration"
E denotes "Respondent's Level of Education"
O is the parameter for *homogamy*
X is the parameter for *crossings*

Highlighted in grey is the preferred model

FIGURES

FIGURE 1. Percent of Ethno-Racially Endogamous First Marriages by Respondent's Age at Migration

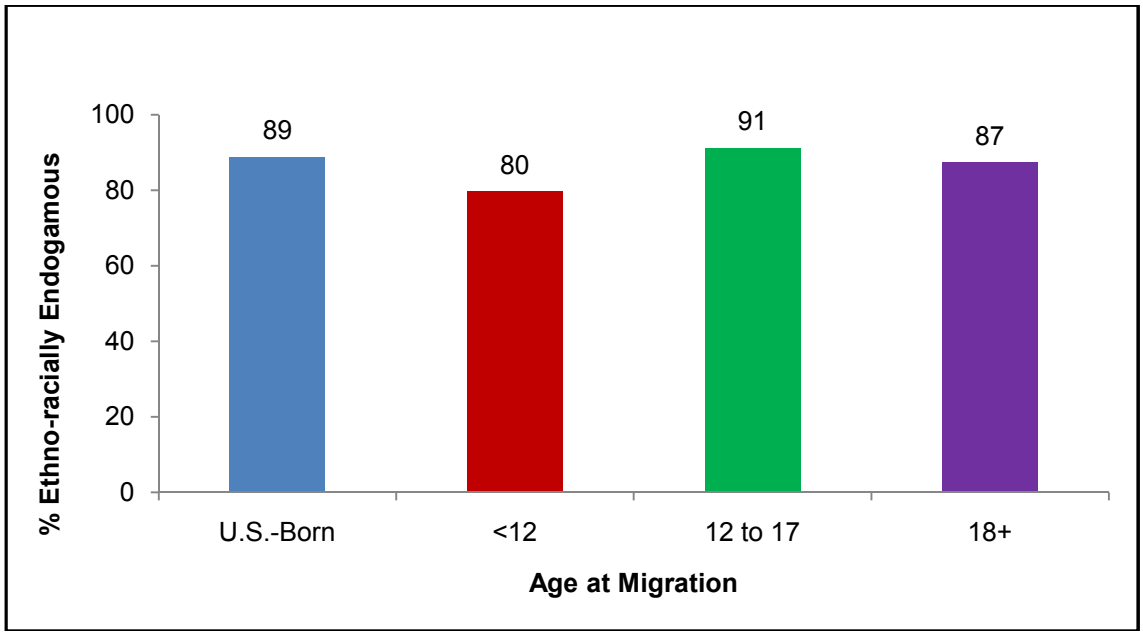


FIGURE 2. Percent of Ethno-Racially Endogamous First Marriages by Respondent's Age at Migration and Level of Education

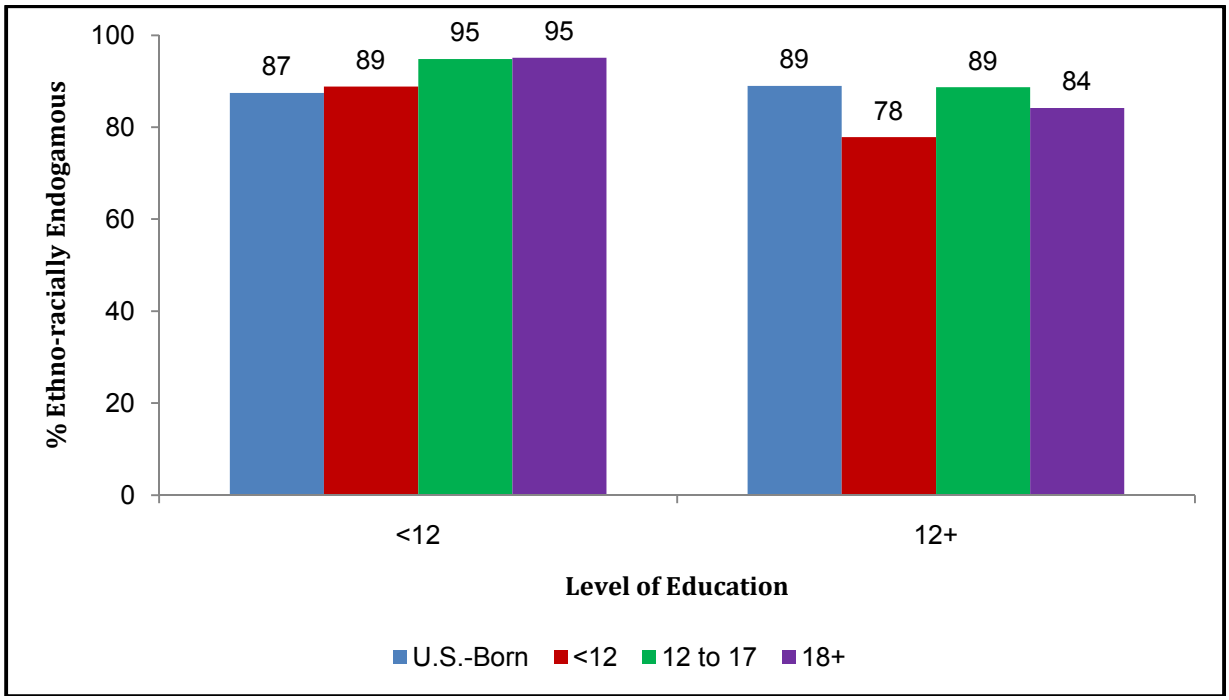
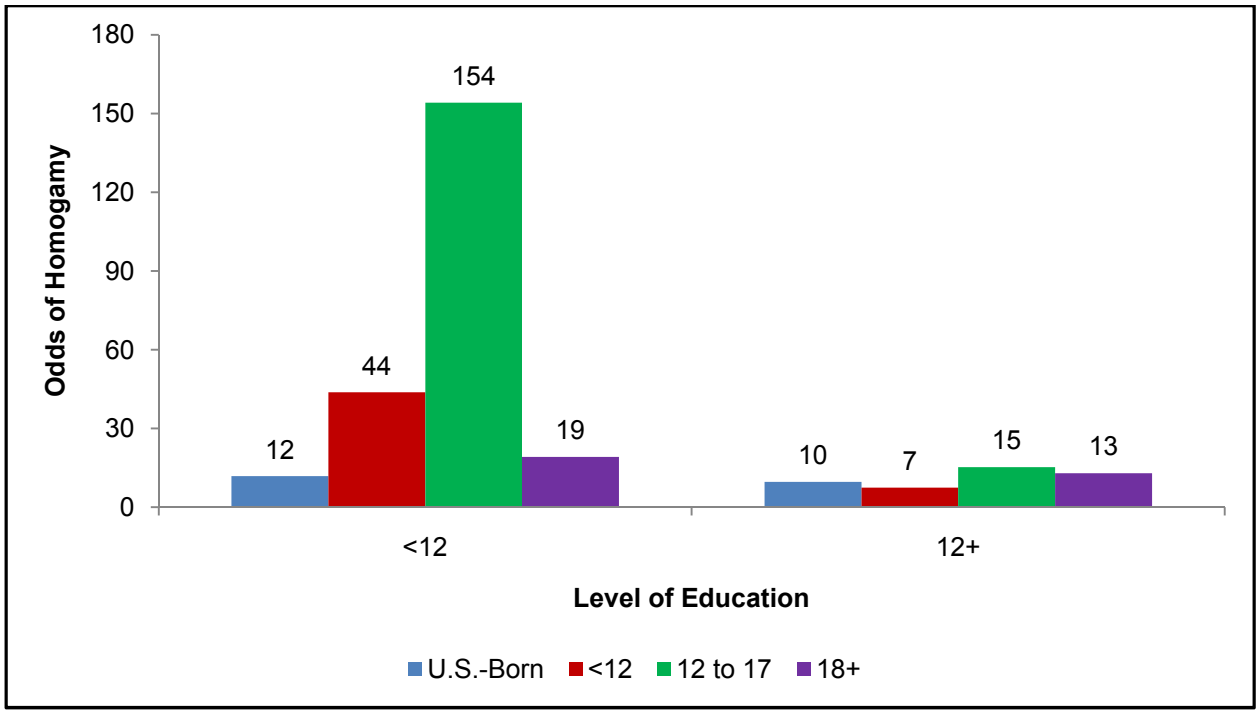


FIGURE 3. Odds of Ethno-Racial Homogamy by Age at Migration, Log-linear Analyses (Model 5)



Notes:

Model 5 in Table A2 is our preferred model