Draft.
November 15, 2013

ETHNIC ENDOGAMY IN CROSS-NATIVITY MARRIAGES

Gillian Stevens
Department of Sociology
University of Alberta

ABSTRACT

A substantial percentage of immigrants in the United States have native-born American spouses. The goal of this paper is to investigate whether cross-nativity marriages such as these are ethnically endogamous, i.e., the foreign-born spouse and American-born spouse have the same ethnic or national origins. In general, the results of the analyses, which rely on U.S. census data, show that levels of ethnic endogamy in cross-nativity marriages are low although levels vary widely across ethnic (or national origin) groups. The variation is partly attributable to structural factors put into place by the group's demographic history in the United States but individuals' characteristics, such as educational attainment, also play a role. The paper then discusses the implications of the results for understanding processes of ethnic assimilation through intermarriage in the United States.

INTRODUCTION

Early in the 20th century when levels of immigration were high, scholars considered high rates of marriage between the foreign-born and native-born generations necessary to "fuse" the foreign national groups migrating from Europe into the American population

(e.g., Drachsler 1920). The high rates of immigration throughout the latter part of the 20th century have turned scholars' attention once more to the investigation of marriage between foreign nationals and native-born Americans. This research shows that cross-nativity marriages are relatively common – over a fifth of married adult immigrants in the United States are married to a native-born American {Stevens, 2012 #47}. In addition, cross-nativity marriages are marked by (or are a marker of) rapid political, social, and cultural integration of the foreign-born spouse and of the couples' children. For example, immigrants with American citizen spouses are eligible for citizenship after only three years of residency rather than five and children with a native-born American parent are either granted or are eligible for American citizenship whether the child is born in the United States or not. Children with a native-born American parent are also very likely to identify themselves as "American" (Portes and Rumbaut 2001).

But marriages between foreign nationals and native-born Americans may not propel ethnic assimilation. As (Carpenter 1927) pointed out almost a century ago, marriages between immigrants and native-born Americans may be "ethnically pure" and thus provide a mechanism for strengthening or revitalizing ethnicity in the American context. The goal of this paper is to describe and investigate patterns of ethnic endogamy and exogamy among cross-nativity marriages in the United States to see the extent to which cross-nativity marriages are a vehicle for the social and cultural "fusing" of national origin groups into the American population versus providing a means of refreshing ethnic and cultural groups in the United States.

In general, the results of the analyses, which rely on U.S. census data, show that levels of ethnic exogamy in marriages between immigrants and native-born Americans

are high although the levels vary widely across ethnic (or national origin) groups. The variation across national origin groups is partly attributable to structural factors put into place by the group's demographic history in the United States but individuals' characteristics, such as educational attainment, also play a role. The results of the analyses also suggest that an important source of variation in levels of endogamy within cross-nativity marriages is a result of the different and gendered pathways that lead to marriages between native-born Americans and foreign-born nationals. In particular, foreign-born women from countries with a significant U.S. military presence are very unlikely to marry a native-born American of the same national origins. The paper then discusses the implications of the results for understanding processes of ethnic assimilation through intermarriage in the United States.

NATIVITY, ETHNICITY, AND INTERMARRIAGE

Most recent intermarriage research based on contemporary data has emphasized patterns of ethnic endogamy *within* generations. Some analyses, for example, are restricted to native-born respondents with the spouse's generational status dropped from consideration (e.g., Alba and Golden 1986; Lieberson and Waters 1988) while others are restricted to marriages among the foreign-born generation (Tubergen and Maas, 2006). Some scholars drop the generational statuses of both spouses from consideration (e.g., Stevens and Tyler 2002) or the generational status of spouses in ethnically exogamous marriages (Mittelbach and Moore 1968). Other research relies on the nativity (or occasionally generational) status of the respondent (but not of the respondent's spouse) as one of several individual-level characteristics to predict individuals' probabilities of marrying outside of their ethnic or national origins descent group. These analyses show

that foreign-born respondents are less likely to intermarry than later-generation respondents (e.g., Liang and Ito 1999; Montero 1981; Rosenfeld 2002; Schoen and Cohen 1980){Kulczycki, 2002 #219} but cross-generation marriages still remain hidden from view. In only a few cases are cross-nativity or cross-generation marriages distinguished in the analyses (e.g., Dribe and Lundh, 2008; Feliciano 2001; Pagnini and Morgan 1990; Qian 1999) but these studies do not consider patterns of ethnic endogamy or exogamy.

Explicitly considering ethnic endogamy or intermarriage within cross-nativity marriages raises several issues. What explains the patterns of ethnic intermarriage within cross-nativity marriages? Why are they important? The answers have both pragmatic and theoretical value. The marriage regime of the contemporary foreign-born generation sets the parameters for the group-specific affiliations of later generations. Because cross-nativity marriages are common, conclusions reached from assessing levels of levels of intermarriage only *within* the foreign-born generation or successive native-born generations omit a numerically important portion of the marriage regime. If levels of cross-nativity marriages are high and levels of ethnic endogamy are high (or low), then the results have implications for the interpretation of nativity status as a marker of the salience of cultural group membership for marriage patterns; they also speak to the speed of integration of the national origins group into the larger American population.

A Framework for Investigating Ethnic Endogamy in Cross-Nativity Marriages

Because of the common emphasis in recent research on patterns of ethnic endogamy and exogamy within generations, little is known about patterns of ethnic intermarriage in cross-nativity marriage. Kalmijn (1998) suggests, however, that there are

three major classes of factors explaining levels and patterns of intermarriage in general: structural factors, preferences, and the participation of third parties in marriage decisions.

Structural parameters, such as the size of the native-born national-origin descent group and patterns of geographic concentration, can impose constraints on the possibility of immigrants marrying into native-born ancestry groups. The structural parameters are set into place by prior levels and patterns of immigration, fertility, and geographic concentration and mobility. For example, recent arrivals from countries such as Ireland and Germany, which sent massive immigration streams to the United States in the 1800s, are entering a society in which large numbers of the American native-born population claim the same national origins (and sometimes larger numbers than might be expected on the basis of demographic processes (Hout and Goldstein 1994)). Recent arrivals from countries such as Taiwan or Laos, on the other hand, enter a context in which there are few native-born Americans claiming the same national origins and so the opportunities for marriage into the native-born ancestry group are severely constrained.

Prior processes of acculturation at a group level, which are related to the country-of-origin group's demographic history in the United States, may also affect preferences for endogamy among the new arrivals and their prospective native-born spouses. The social and cultural boundaries between what used to be considered racial groups, e.g., Germans versus Italians, are now so faint that many researchers argue that they are immaterial in (native-born) Americans' marriage decisions (Lieberson and Waters 1988). Kalmijn (1998) argues that recent immigrants from these countries should thus find few racial or ethnic barriers to out-marriage. On the other hand, new immigrants from some of these groups are also entering a context in which there are numerous opportunities to

marry native-born American of the same national ancestry. If immigrants prefer native-born Americans with even weak ties to their national origin culture, there are numerous opportunities for them to act upon these preferences.

However, group-specific processes of cultural change and redefinition occurring over time (Yancey, Ericksen, and Juliani 1976) may dampen preferences for endogamous marriages between immigrants and native-born Americans by increasing the social distance between new arrivals and the corresponding native-born ancestry groups in the American context. Erdmans (1995), for example, points to linguistic and social cleavages between Americans of Polish descent and recently arrived Polish immigrants in Chicago. Ian et al (2001) suggest that the higher probabilities of interracial marriage among foreign-born Asians in mixed nativity marriages than for Asians in native-born or foreign-born couples reflect the social distance between immigrant and native-born Asians, perhaps as a result of the emergence of intra-racial integration among Asian native-born groups in the American context.

At the individual level, the probability of an immigrant marrying a native-born American of the same national origins (versus different national origins) may be strongly related to educational attainment for several reasons. First, preferences for in-group marriage tend to be weaker among more highly educated individuals because of the more universalistic norms conveyed and explored at higher levels of education. Educational attainment is strongly linked, for example, to probabilities of out-group marriage among native-born Americans (e.g., Kalmijn 1993; Lieberson and Waters 1988) as well as foreign-born Asians (e.g., Qian, Blair, and Ruf 2001). Second, one of the major pathways into cross-nativity marriage consists of young adults visiting the United States for the

purpose of full-time study in an American college or university and then marrying a native-born American, or its reverse, young Americans studying abroad and then returning with a foreign-born spouse (Stevens et al 2012) —and colleges and universities provide numerous opportunities for out-group marriage, particularly among members of minority groups (Mare 1991).

Scholars also often consider length of residence in the United State as an individual-level measure of knowledge and adherence to the norms and attitudes found in the larger American context. The longer the length of residence, the larger immigrants' social networks, and the more likely that these social networks include native-born Americans of different national origins. In particular, immigrants who enter the United States early in life, often labeled the "1.5" generation, are likely to be strongly integrated into American society. As a result, immigrants who have lived in the United States for longer periods of times, and who entered early in life, may be more likely to encounter Americans of different national origins and less likely to actively search for prospective marriage partners of matching national origins.

An immigrant's level of proficiency in English can also be considered a measure of integration into a predominantly English-speaking society. Immigrants' levels of English proficiency are an outcome of the language characteristics of their country of origin (whether, for example, English is an official or dominant language) as well as an outcome of selection processes operating within each sending country that favor potential immigrants with higher fluency in English. Because immigrants who are less proficient in English are likely to form intimate relationships with Americans who share facility in the same non-English language, and fluency in a specific non-English language among

native-born Americans is largely contained within selected national-origin groups, immigrants who are not fluent in English are likely to form relationships with Americans who share the same national origins.

The prevalence of cross-generation marriages between the foreign-born and native-born generations may also be viewed as generated, in part, by U.S. immigration policy. Immigration law is generous in the privileges granted to American citizens for sponsoring a foreign-born spouse for entry into the country (Jasso, Massey, Rosenzweig, and Smith 2000). Because American men are more likely to travel abroad than American women, and because men are still much more likely to serve in the military (Segal and Segal 2004), American men have more opportunities to meet potential foreign-born spouses overseas and to sponsor them for admission into the United States. Foreign-born women, particularly Asian women living in countries with a strong U.S. military presence, thus have more opportunities than foreign-born men do to enter the U.S. as legal immigrants sponsored by an American-citizen spouse {Jacobs, 2002 #246}. Because relatively few military personnel are of the same national origins as the country in which they are stationed, relatively few of the resulting marriages are likely to be ethnically endogamous.

Levels of endogamy within cross-nativity marriages may also be dampened by another gender-specific phenomenon: the advertising, often via the Internet, of prospective foreign-born brides for American men. The U.S. Citizenship and Immigration Service estimated that marriage or introduction agencies are responsible for between 2,000 and 5,000 women entering the country each year as fiancées or brides of American men (U.S. Citizenship and Immigration Service 2004). In some cases, the

target audience of the introduction agencies seems to be American men who are interested in pursuing relationships with women with specific attributes (see, for example, "Cherry Blossoms.com") and the men's national origins, or the match between the prospective partners' national origins, seems unimportant. Still, some of the websites are clearly oriented towards overseeing introductions between prospective brides and grooms who are of the same national origins. The numerous websites extolling single men and women of Indian national origins to view the educational and regional backgrounds of other men and women of Indian origins living in India or elsewhere are a prime example (see, for example, "Indian Matrimonial Network.com"). Ethnographic accounts also portray scenarios in which the Internet sites provide a means for Americans (and non-Americans) to search across national borders for prospective spouses with specific educational or occupational attainments as well as national origins (e.g., Constable 2003; Thai 2005).

DATA AND METHODOLOGICAL APPROACH

This analysis focuses on ethnic endogamy versus exogamy within cross-nativity marriages. The goal is to investigate differences in cross-nativity endogamy across country-of-origin groups (or national origins). Variation across countries of origin is viewed as attributable to individual-level factors, context-specific factors and country of origin (or group-specific) factors.

The individual level data are from the 5% public use sample of the 1990 U.S. Census. The primary analysis sample consists of married foreign-born men and women aged 20-34 years living in the same household as their native-born American spouse. Information on the foreign-born person's gender, educational attainment, level of English

proficiency, and year (or time period) of entry into the U.S. were obtained directly from the census files. The number of years lived in the U.S. and age at immigration were estimated from the respondents' year or time period of immigration to the United States. Whether or not the foreign-born spouse completed his or her education in the United States was estimated by comparing age at completion of education with age at immigration. For ease of comparison, the variables "years lived in the U.S." and "years of education" were centered on their respective grand means.

The Dependent Variable: Endogamy versus Exogamy

The dependent variable, whether or not a foreign-born person has a spouse of the same national origins, is dichotomous. The national origin of the foreign-born spouse is measured via his or her country of origin; the national origin of the native-born American spouse is measured via his or her self-identified ancestry. If the national origins of the spouses match, the foreign-born person is considered to be married "endogamously"; otherwise, the foreign-born person is considered to be married "exogamously." Determining the value of the dependent variable for each respondent thus required the pairing of country of origin among the foreign-born with an ethnic descent or ancestry[i] among native-born Americans.

The pairing of country of origin and ancestry was guided by empirical criteria. These included (i) the level of detail in the available data codes for "place of birth" among the foreign-born population and "ancestry" codes among the native-born American population, (ii) the distribution of place-of-birth ancestry responses of adult foreign-born persons in the 5% sample of the census, and (iii) numbers of respondents. For example, although "French Canadian" is a separate ancestry code, there is no

corresponding separate 'country-of-birth' code so "French Canadian" was subsumed under "Canadian" and paired with "Canada" as the country of origin. In a few cases, pairing was guided by the national ownership of islands (e.g., Isle of Man which was subsumed under Great Britain) or of internal areas (e.g., Catalonia which was subsumed under Spain). Some respondents could not be included because there were so few from a particular country (e.g., Pitcairn Island) or because their national origins were vague (e.g., "born at sea"). Overall, it was possible to code a possible match between the foreign-born respondent's country of birth and his or her spouse's ancestry for 43,038 couples.

The Contextual and Group-Specific Variables

There are several contextual (level-2) variables in the analysis. Every couple, identified by the country of origin of the foreign-born spouse, lives in a particular geographic context. The first contextual variable is the number (in millions) of the native-born Americans reporting a matching ancestry who live in the same state as the respondent. A second contextual measure, intended to assess the dispersion or concentration of the native-born ancestry community, refers to the proportion of the ancestry group in the United States who live in the same state as the respondent. About 30% of native-born Americans of Mexican descent, for example, live in the state of Texas while a very small percentage of native-born Americans of Mexican descent live in Wyoming. A third measure is analogous to the second but refers to the percentage of native-born Americans of *non-matching* ancestry living in the state. For example, about 5% of native-born Americans reporting an ancestry other than Mexican live in Texas.

These contextual variables are only estimates of the marriage market. They include all persons, rather than single people of appropriate ages, pertain to state-specific

information, and are based on information at the time of the census rather than on information around the time the respondents married. Using state-level information may over-estimate the size of the marriage market, particularly for respondents living in Texas and California, and perhaps under-estimate the size of the marriage market in states such as Rhode Island. Moreover, these particular contextual variables do not directly tap the contours of the marriage market for those couples who met overseas. The contextual variables are thus conservative measures of the opportunities for immigrants to have married an American of matching (or non-matching) national origins.

Several variables describing attributes of the thirty-four countries of origin are also included in the analysis. Because earlier research suggests that levels of minority language retention in the United States, a measure of the cultural assimilation of the national origin group as a whole, is associated with levels of ethnic intermarriage (Stevens and Swicegood 1987), one group-specific variable is the percentage of native-born Americans of the matching ancestry who speak a non-English language at home. An allied variable is whether the country of origin is English-speaking. A third group-specific variable is the relative size of the foreign-born generation to the native-born generations in the United States, a measure of the recency of the group's history in the American context.

Methodological Approach

Because the explanatory factors are measured at different levels, and because the dependent variable is dichotomous, the analysis employs multilevel logistic regression techniques (Snijders and Bosker 1999). The equation for a three-level hierarchical model using one explanatory variable measured at the first level (x_{ijk}) to predict the value on Y

for respondent 'i' who lives in context 'j' and is a member of country-of-origin 'k', and allowing the coefficient for the individual-level variable to vary across level-2 units, can be written as:

(1) $Y_{ijk} = (\gamma_{000} + (\delta_{100})x_{ijk}) + ((U_{1jk})x_{jk} + U_{0jk} + V_{00k} + R_{ijk})$

where γ_{000} is the overall intercept; γ_{100} represents the average slope of variable x; U_{1jk} represents the deviation of the slope from γ_{100} for context 'j' in country of origin 'k'; U_{0jk} is the intercept for the j^{th} context in the k^{th} country-of-origin group (or the level-2 error term); V_{00k} is the intercept for country-of-origin 'k' (or the level-3 error term); and R_{ijk} is the individual-level error term, which here is distributed normally and has a mean of zero. The terms enclosed in the first set of brackets are fixed effects and the terms in the second bracket are "random" or stochastic effects, each of which has a mean of zero and are independent.

In this analysis, the dependent variable, Y_{ijk}, is dichotomous. The dichotomous outcome on Y can be expressed as the sum of a group-specific probability and an individual-dependent residual, which equals either $1-P_{ijk}$ or $-P_{ijk}$.

(2) $Y_{ijk} = P_{ijk} + R_{ijk}$

If the P_{ijk} are transformed using the logit function (logit $(P_{ijk}) = \ln (P_{ijk}/(1-P_{ijk}))$, then it is possible to write an equation parallel to the one above in which the logit of the probabilities are a sum of a linear function of the explanatory variables and random group-specific deviations.

(3) logit $(P_{ijk}) = (\gamma_{000} + (\delta_{100})x_{ijk}) + ((U_{1jk})x_{jk} + U_{0jk} + V_{00k})$

Again, the effects enclosed in the first set of brackets are fixed and those in the second bracket are stochastic. Although equations (1) and (3) are, for the most part,

parallel, there are two differences. The coefficients represent linear effects on the log odds of the dependent variable because the dependent variable has been transformed using the logit function and there is no individual-level error term because it has been incorporated via equation (2).

RESULTS

Table 1 shows summary characteristics for marriages involving at least one young adult foreign-born person from one of thirty-four countries of origin. The first column shows the probabilities by country of origin that a young adult immigrant in the United States has a native-born American spouse. Overall, almost a third were married to a native-born American although the percentages range widely across country of origin. Among married foreign-born people from Czechoslovakia, for example, over a third (38%), were married to a native-born American, and the remaining 62% were married to a foreign-born person. Only 2% of foreign-born persons from Laos were married to native-born Americans while over 70% of persons from France, Germany, and Canada were married to native-born Americans.

(Table 1 about here)

The second column in Table 1 shows the percentage of cross-nativity marriages that are "endogamous," i.e., the native-born spouse is of the same ethnic ancestry or national origins as the foreign-born person. Again, the percentages vary widely. Less than 1% of Taiwanese immigrants married to native-born Americans are married to an American of Taiwanese descent. At the other extreme, 60% of Mexicans in cross-nativity marriages have American-born spouses of Mexican descent. Figure 1 shows the percentages of individuals in cross-nativity marriages by country of origin, ordered from

the country of origin with the highest percentage of immigrants in cross-national marriages (Canada with 72%) to the lowest (Laos with 2%). Overlaying the graph is a broken line showing the percentage of cross-nativity marriages that are endogamous. There is no clear pattern: the correlation between the percentage of marriages that are cross-nativity and the percentage of cross-nativity marriages that are endogamous is almost zero, .06.

(Figure 1 about here)

The preliminary conclusions are thus: a significant percentage of young foreign-born married adults in the United States are in cross-nativity marriages, the percentages vary widely across their country of origin, and levels of endogamy within the marriages also vary widely across country of origin. Moreover, the variation in levels of endogamy across country of origin is not related to the proportion of immigrants from each country who are in cross-nativity marriages.

The statistics presented in Table 1 also show some of the major characteristics of the foreign-born spouses who are in cross-nativity marriages. As suggested in previous research (Stevens, Ishizawa, and Escandell 2005), overall, cross-nativity marriages are fairly balanced by gender with a little over half (54%) consisting of foreign-born wives and native-born American husbands — although the percentage varies widely across the foreign-born spouse's country of origin. In about 16% of the cross-nativity marriages involving an immigrant from Pakistan, for example, the foreign-born spouse is the wife while the corresponding number for cross-nativity marriages involving an immigrant from Korea is 93%. This study also pointed to participation in higher educational institutions as a pathway into cross-nativity marriages, a result confirmed by the

relatively high average educational attainments for the immigrants in cross-nativity marriages from most countries of origin.

Table 2 shows the results of models in which the log odds of endogamy versus exogamy are viewed as a function of a set of individual-level variables, context-specific variables, and two random parameters. The first model is an empty model in which the intercept is the average log odds of endogamy. The second model includes a parameter allowing the log odds of endogamy to vary for each country of origin. The change in the deviance statistics across the two models, a difference of over 15,000, demonstrates quite forcefully that the log odds of endogamy vary statistically significantly across country of origin. The variance for "country of origin" is the average residual variance in the model.

(Table 2 about here)

The third model is the first one of major substantive interest. It includes the individual level characteristics: gender, whether the foreign-born person is female and from a country with a substantial U.S. military presence (e.g., Japan, Korea,, Germany, the Philippines), length of residence in the United States, educational attainment, completion of education in the United States, and level of proficiency in English. All but one of the coefficients are statistically and substantively significant. Foreign-born men, for example, are more likely to have a native-born spouse sharing their national origins than are foreign-born women. The coefficient for the interaction term measuring U.S. military presence abroad and gender (referred to as "Female & US military presence in country of origin" in the table) shows that women from countries such as Korea, Japan or the Philippines that have a large U.S. military presence, are much less likely to be married endogamously than women from other countries.

The effect of proficiency in English is large: immigrants who speak only English at home (and were therefore not asked about their level of proficiency in English) or who speak English "very well" are much less likely to marry endogamously than those reporting lower levels of proficiency in English. The effects may reflect preferences for in-group marriage among immigrants who retain usage of a non-English language or the pragmatic difficulties of meeting and establishing an intimate relationship with native-born Americans who typically lack proficiency in languages other than English. Low levels of proficiency in English thus guide immigrants towards the relatively few native-born Americans with some facility in the immigrant's native language, most of whom share the same national origins.

The coefficients for educational attainment show, as expected, that educational attainment has a dual effect on patterns of intermarriage. First, more highly educated immigrants are less likely to marry endogamously than those who are less educated. Second, the relationship is stronger for those who complete their education in U.S. educational institutions.

The coefficient for length of residence is positive, rather than negative. The effect is substantively small and perhaps reflects an impact of immigration timing and family interference. Young foreign-born adults who have lived in the United States for a substantial amount of time probably entered the United States during childhood accompanying their immigrant parents. Immigrant parents often wish to shape their children's lives and may encourage their children to marry someone of the same national origins (e.g., Foner 1997). In contrast, young foreign-born adults who are recent entrants into the United States are much more likely to have entered as independent migrants.

Parental control or wishes concerning their potential marriage partners may be less of an issue. It is also possible that the more recent entrants entered the country having been sponsored by their American-born spouse or fiancée with the relationship having been initiated under the auspices of a marriage agency, or begun when the American partner was traveling or living outside of the country.

The next model adds in contextual factors that describe demographic characteristics of the marriage market: the numerical size of the native-born ancestry group, the relative concentration of the native-born group in the state, and the representation of other native-born Americans in the context. The coefficients for each of the three contextual variables are large and statistically significant. The larger the number of native-born persons of matching ancestry, the more likely immigrants are to marry Americans of the same national origins as themselves. The higher the geographic concentration of the native-born group in each state, the higher the odds that foreign-born immigrants marry within the group. Finally, the greater the availability of potential native-born spouses of other national origins, the lower the odds that immigrants marry endogamously. Although these contextual variables are conservative measures of the marriage market, the results show that demographic features of the national origin group in the American context affect marriage behavior among immigrants.

One of the features of hierarchical models is the ability to allow fixed effects at lower levels (as described in models C and D) to vary across higher levels. I investigated a variety of models that allowed the fixed effects of individual-level variables (e.g., educational attainment) and of contextual or second level variables to vary at the second and third levels respectively. With one exception, the results were insignificant. For

example, because education is an important factor in marriage decisions in almost all contexts, because different countries of origin show different educational patterns of marriage (e.g., Smits, Ultee, and Lammers 1998), and because the mean educational levels of the country-of-origin groups differed (see Table 1), I investigated whether the effect of educational attainment varied across country of origin groups. It did not.

Kalmijn (1998) conjectured that recent arrivals from the "older" established groups with a longer history in the United States would be less likely to marry endogamously than immigrants in the newly established groups. This conjecture suggests that structural parameters would be less important for members of newer groups because cultural preferences, and perhaps racial barriers, would over-ride the impact of structural constraints. Allowing the contextual effects (measured at the state level) to vary across country of origin groups, however, did not significantly add to the explanatory power of the model. Adding in country-of-origin variables that described in some way the demographic and social history of the ancestry group in the United States, e.g., the relative size of the foreign generation in the entire ancestry group in the United States, whether the country of origin is English-speaking, or the extent of language retention in the native-born generations, also did little to add to the descriptive power of the model.

However, allowing the coefficient for gender to vary at the highest level (country of origin) did significantly improve the fit of the model (see model E). The country-specific effect of the gender composition of immigrants in cross-nativity marriages implies a strong gender-specific effect of selection into marriages with native-born Americans. The total relationship between the gender of the immigrant, whether the immigrant is from a country with a U.S. military presence, and the percentage of women in cross-

nativity marriages is graphed in Figure 2. The figure shows that the higher the percentage of immigrants in cross-nativity marriages who are female, the lower the probability that the cross-nativity marriages are endogamous — but only for women, not for men. Earlier research has suggested that the pathways into cross-nativity are heavily gendered and race-specific (Stevens et al, 2012). Figure 2 clearly suggests that the immigrant women from selected countries of origin enter the United States in different ways or for different reasons than do immigrant men, and that these gendered pathways affect their probabilities of immigrants marrying a native-born American within their national origin descent group.

(Figure 2 about here)

SUMMARY AND CONCLUSIONS

There are numerous reasons to investigate patterns of marriage among the foreign-born generation. First, increased levels of immigration over the last several decades have increased the proportion of young adults who are foreign-born. Their marriage behavior has therefore assumed greater importance. Second, the common presumptions that almost all marriages contracted by immigrants in the United States are marriages between two foreign spouses, and that almost all marriages involving immigrants are endogamous, are no longer fully accurate. Overall, almost a third of young foreign-born adults are married to native-born Americans and the majority of these do not marry within their national origin descent group.

There are several layers of conclusions from these results of the analysis, which concentrated on the sizeable proportion of young adult immigrants married to native-born Americans. First, the analysis showed that whether or not immigrants are married to a

native-born American of the same national origins is strongly affected by individual-level characteristics, such as educational attainment and level of proficiency in English, and by demographic features of national origin groups in the United States. In general, individuals with characteristics that can be interpreted as evidence of more integration into American society, e.g., higher levels of education or of English fluency, were less likely to marry within their national origin descent group. In addition, the one variable measuring a pathway into American society via a major U.S. institution, the military, also showed large and gender-specific effects.

One way to interpret the importance of the individual-level characteristics is to place the subpopulation of immigrants who marry native-born Americans into a generational niche. In many cases, the immigrants marrying native-born Americans in this analysis entered the country in childhood. Perhaps their marriage behavior is better understood as the behavior of the "1.5" generation. Their relatively low levels of ethnic endogamy and the fact that preferences for in-group marriage do not appear to over-ride marriage market constraints suggest that in some ways the marriage behavior of this subpopulation is more akin to that of native-born Americans than of their foreign-born peers. On the other hand, the gender-specific patterns of intermarriage suggest that factors that do not apply to native-born Americans, e.g., reason for, or probable mode of entry into the United States, imply that structural factors in countries outside of the United States or policy issues governing immigration flows into the country, also play a role in shaping the marriage regime in the United States.

Characteristics of the "marriage market" were both substantively and statistically significant. Previous analyses of ethnic intermarriage have included only a few measures

of structural constraints, usually measured for fewer groups and across fewer contexts. Here the comparisons across groups and contexts add to the rationale for a continuing emphasis on marriage market constraints in analyses of intermarriage in two ways, one methodological and the other theoretical. Scholars have been hesitant to include cross-nativity marriages in analyses of intermarriage because some take place outside of the American context and therefore are not subject to the same marriage market constraints as those occurring within the country. But the analyses presented here show that demographic constraints are, on average, important when investigating cross-nativity marriages. Second, because the demographic constraints were, to a large degree, put into place by the accumulation of historical and recent patterns of immigration and geographic dispersion, the results argue that the demographic history of national origin groups exerts continuing effects on the marriage behavior of more recent arrivals to the United States. Meanwhile, the lack of importance of group-specific cultural or social features, e.g., the age of the immigrant group, or rates of language retention within the native-born generations, suggests that individual-level and demographic marriage market characteristics are the over-riding elements in determining probabilities of endogamy among immigrants.

A second layer of conclusions concerns the time frame of processes of assimilation. Previous research has suggested that generational succession provide the time frame, if not also providing the engine (Alba and Nee 1999), of group-specific processes of assimilation because levels of ethnic intermarriage have been observed to increase dramatically across successive generations. The results presented here suggest, however, that processes of ethnic assimilation through intermarriage currently encompass the

foreign-born generation. Marriages between immigrants and native-born Americans are now common, especially among young foreign-born adults, although the percentages of cross-nativity marriages vary widely across immigrants' countries of origin. For some national origin groups in the United States, especially the Mexican descent group, the proportion of immigrants with native-born American spouses is low and a small majority of these marriages are ethnically endogamous. In cases such as these, the relatively high levels of endogamy within the cross-nativity marriages can be at least partially explained through demographic features (group size and geographic concentration) that increase the opportunities for in-group marriage as well as the array of personal characteristics of immigrants, such as relatively low levels of education and of proficiency in English, that encourage marriages between foreign-born Mexicans and native-born Mexican Americans. The resulting combination of low levels of cross-nativity marriages and high levels of endogamy within the cross-nativity marriages may regenerate cultural content and reaffirmation of ethnic distinctiveness for some groups in the American context.

For some other country of origin groups, such as the Canadians, the Swiss, and the French, the opposite holds: the proportions of immigrants with native-born American spouses are quite high and levels of ethnic endogamy within those marriages are quite low. The personal characteristics of these national origin group members, especially the high levels of educational attainments and English fluency (refer to Table 1), and the demographic features of these origin groups in the U.S. context appear to be deterring immigrants from forming marriages with Americans of similar national origins. The result minimizes their potential unique cultural contributions (and those of their children) to American ethnic groups.

For some country of origin groups, e.g., Vietnamese, Pakistani, and Indian, the proportion of immigrants involved in cross-nativity marriages is low and the proportion of these marriages that are endogamous are also low. To a large extent, the results of the analyses point to demographic characteristics as part of the explanation: there are relatively few native-born Americans of similar origins because the immigration streams from these countries are too recent to have produced a sizeable second generation. It seems plausible that the data presented here has caught these national origin groups at a particular stage in the formation of ethnic groups in America: they are still too new and too small to have enough centrifugal demographic presence to retain foreign-born compatriots via marriage within the native-born country-of-origin community.

At the turn of the early 20th century, a time of heavy immigration into the United States, scholars investigated cross-nativity marriages because they were seen as a way in which the foreign national groups could be quickly and easily integrated into the larger American population. At the turn of the 21st century, also a time of heavy immigration, marriages between immigrants and native-born Americans are common. Not only are these marriages associated with the quick political, cultural and social integration of the immigrants and of their children, the analyses presented here show that cross-nativity marriages are typically across national origin, or ethnic descent boundaries. The assimilative impact of ethnic intermarriage begins and is well established within the foreign generation. In fact, among immigrants from some countries of origin, ethnic intermarriage in the foreign generation is the modal outcome. Well over half of *all* married immigrants from countries such as France and Japan, for example, are married exogamously because of high rates of marriage to native-born Americans and high rates

of exogamy within those marriages. Omitting cross-nativity marriages from consideration in analyses of marriage regimes can thus drastically underestimate the role of intermarriage as an integrative force for some national origin groups in the United States. Omitting cross-nativity marriages as a setting for ethnically exogamous marriages also blocks a richer theoretical consideration of how and why the demographic history of particular national origin groups in the United States, the individual characteristics of newly arriving immigrants, and the greater ease of forming intimate relationships across national borders through travel and communication, are involved in the weakening of ethnic and national origin boundaries in the American context.

REFERENCES

Alba, Richard D. and Reid Golden. 1986. "Patterns of Ethnic Marriage in the United States." *Social Forces* 65:202-223.

Alba, Richard and Victor Nee. 1999. "Rethinking Assimilation Theory for a New Era of Immigration." Pp. 137-160 in *The Handbook of International Migration: The American Experience*, edited by C. Hirschman, P. Kasinitz, and J. DeWind. New York: Russell Sage Foundation.

Carpenter, Niles. 1927. *Immigrants and Their Children. 1920.* Washington, DC: U.S. Government Printing Office.

Constable, Nicole. 2003. *Romance on a Global Stage: Pen Pals, Virtual Ethnography, and "Mail-Order" Marriages*. Berkeley: University of California Press.

Drachsler, Julius. 1920. *Democracy and Assimilation: The Blending of Immigrant Heritages in America*. New York: MacMillan.

Erdmans, Mary Patrice. 1995. "Immigrants and Ethnics: Conflict and Identity in Chicago Polonia." *Sociological Quarterly* 36:175-95.

Feliciano, Cynthia. 2001. "Assimilation or Enduring Racial Boundaries? Generational Differences in Intermarriage among Asians and Latinos in the United States." *Race and Society* 4:27-45.

Foner, Nancy. 1997. "The Immigrant Family: Cultural Legacies and Cultural Changes." *International Migration Review* 31:961-974.

Hout, Michael and Joshua R. Goldstein. 1994. "How 4.5 Million Irish Immigrants Became 40 Million Irish Americans: Demographic and Subjective Aspects of the Ethnic Composition of White Americans." *American Sociological Review* 59:64-82.

Jasso, Guillermina, Douglas S. Massey, Mark R. Rosenzweig, and James P. Smith. 2000. "Assortative Mating among Married New Legal Immigrants to the United States: Evidence from the New Immigrant Survey Pilot." *International Migration Review* 34:443-59.

Kalmijn, Matthijs. 1993. "Spouse Selection among the Children of European Immigrants: A Study of Marriage Cohorts in the 1960 Census." *International Migration Review* 27:51-78.

—. 1998. "Intermarriage and Homogamy - Causes, Patterns, Trends." *Annual Review of Sociology* 23:395-421.

Liang, Zai and Naomi Ito. 1999. "Intermarriage of Asian Americans in the New York City Region: Contemporary Patterns and Future Prospects." *International Migration Review* 33:876-900.

Lieberson, Stanley and Mary C. Waters. 1988. *From Many Strands: Ethnic and Racial Groups in Contemporary America*. New York: Russell Sage Foundation.

Mare, Robert D. 1991. "Five Decades of Educational Assortative Mating." *American Sociological Review* 56:15-32.

Mittelbach, Frank G. and Joan W. Moore. 1968. "Ethnic Endogamy-the Case of Mexican Americans." *American Journal of Sociology* 74:50-62.

Montero, Darrel. 1981. "The Japanese Americans: Changing Patterns of Assimilation Over Three Generations." *American Sociological Review* 46:829-39.

Pagnini, Deanna L. and S. Philip Morgan. 1990. "Intermarriage and Social Distance among U.S. Immigrants at the Turn of the Century." *American Journal of Sociology* 96:405-432.

Portes, Alejandro and Rubén G. Rumbaut. 2001. *Legacies. The Story of the Immigrant Second Generation*. Berkeley, CA: University of California Press.

Qian, Zhenchao. 1999. "Who Intermarries? Education, Nativity, Region, and Interracial Marriage,1980 and 1990." *Journal of Comparative Family Studies* 30:579-595.

Qian, Zhenchao, Sampson Lee Blair, and Stacey Ruf. 2001. "Asian American Interracial and Interethnic Marriages: Differences by Education and Nativity." *International Migration Review* 35:557-586.

Qian, Zhenchao and Daniel T. Lichter. 2001. "Measuring Marital Assimilation: Intermarriage among Natives and Immigrants." *Social Science Research* 30:289-312.

Rosenfeld, Michael J. 2002. "Measures of Assimilation in the Marriage Market: Mexican Americans." *Journal of Marriage and the Family* 64:152-62.

Schoen, Robert and Lawrence Cohen. 1980. "Ethnic Endogamy among Mexican American Grooms: a Reanalysis of Generational and Occupational Effects." *American Journal of Sociology* 86:359-66.

Segal, David R. and Mady Wechsler Segal. 2004. "America's Military Population." *Population Bulletin* 59:1-40.

Smits, Jeroen, Wout Ultee, and Jan Lammers. 1998. "Educational Homogamy in 65 Countries: An Explanation of Differences in Openness Using Country-Level Explanatory Variables." *American Sociological Review* 63:264-85.

Snijders, Tom A.B. and Roel J. Bosker. 1999. *Multilevel Analysis. An Introduction to Basic and Advanced Multilevel Modeling*. London: Sage Publications.

Stevens, Gillian. 1985. "Nativity, Intermarriage, and Mother-Tongue Shift." *American Sociological Review* 50:74-83.

Stevens, Gillian, Hiromi Ishizawa, and Xavier Escandell. 2005. "Marrying into the American Population: Cross-Nativity Marriages in the United States." in *Annual Meeting of the Population Association of America*. Philadelphia, PA.

Stevens, Gillian and Gray Swicegood. 1987. "The Linguistic Context of Ethnic Endogamy." *American Sociological Review* 52:73-82.

Stevens, Gillian and Michael K. Tyler. 2002. "Ethnic and Racial Intermarriage in the United States: Old and New Regimes." Pp. 221-242 in *American Diversity. A*

Demographic Challenge for the Twenty-first Century, edited by N. A. Denton and S. E. Tolnay. Albany, NY: State University of New York Press.

Thai, Hung Cam. 2005. "Clashing Dreams in the Vietnamese Diaspora: Highly Educated Overseas Brides and Low-Wage U.S. Husbands." Pp. 145-165 in *Cross-Border Mariages: Gende and Mobility in Transnational Aisa*, edited by N. Constable. Philadelphia, PA: University of Pennsylvania Press.

U.S. Citizenship and Immigration Service. 2004. *International Matchmaking Organizations: A Report to Congress*. Washington, DC: U.S. Government Printing Office.

Yancey, William L., Eugene P. Ericksen, and Richard N. Juliani. 1976. "Emergent Ethnicity: A Review and Reformulation." *American Sociological Review* 41:391-403.

TABLE 1. Characteristics of Marriages by Foreign-born Spouse's Country of Origin

Country of Origin	% with native-born spouse	Foreign Spouse in Cross-Nativity Marriages				
		% Endo-gamous	% Female	Mean Education (years)	Length of residence (years)	# in analysis
European countries						
Czechoslovakia	37.64	4.23	51.20	14.61	16.99	71
Scandinavia	62.97	8.02	51.69	14.35	13.73	499
France	70.32	1.77	67.64	14.25	17.73	679
Germany	71.76	13.35	66.06	13.25	20.82	3,864
Greece	22.35	31.84	33.08	13.22	18.14	515
Hungary	25.77	7.22	35.19	14.00	24.87	180
Ireland	47.49	28.66	55.74	13.47	15.20	471
Italy	36.80	35.33	37.94	12.85	22.01	1,650
Poland	22.98	23.46	42.85	14.05	18.25	520
Portugal	14.67	23.87	40.47	11.60	19.82	662
Spain	43.39	6.48	56.24	12.99	13.52	293
Switzerland	52.20	1.88	50.27	14.63	14.41	160
U.K.	67.51	13.46	61.33	13.82	13.82	3,240
U.S.S.R.	13.31	8.77	38.79	15.17	13.01	114
Asian countries						
China	10.79	39.26	60.47	14.69	17.05	698
India	4.33	8.11	31.17	15.95	12.03	419
Iran	10.96	1.53	21.28	15.29	12.56	721
Iraq	8.40	1.04	24.16	13.55	13.78	96
Japan	61.18	8.13	85.01	13.90	16.08	1,033
Korea	30.65	1.54	93.03	12.09	11.61	1,758
Laos	2.13	8.06	56.08	10.19	10.90	62
Pakistan	4.90	2.65	15.67	14.76	13.36	151
Philippines	32.65	10.67	77.53	13.16	7.61	3,309
Taiwan	16.46	0.50	86.74	14.98	13.39	397
Vietnam	12.58	1.79	81.07	12.38	13.87	448
The Americas						
Canada	71.93	2.39	57.00	13.75	19.82	4,486
El Salvador	11.10	4.20	54.60	11.01	12.06	548
Guatemala	16.27	3.98	55.31	11.97	12.25	327

Mexico	19.74	59.27	43.21	9.50	15.18	11,776
Cuba	13.60	13.17	43.47	13.72	23.08	1,807
Domin. Republic	17.75	12.14	49.57	12.31	13.95	560
Haiti	6.65	9.64	40.22	13.22	16.31	166
Jamaica	18.41	6.32	38.68	13.18	13.76	570
Colombia	26.13	3.43	60.64	13.36	14.45	788
TOTAL	31.65	24.46	54.48	12.36	15.95	43,038

Table 2. Hierarchical Models Showing the Effects of Individual-Level and Contextual Characteristics on the Log Odds of an Immigrant in a Cross-Nativity Marriage Being Married Endogamously

	A	B	C	D	E
Individual-level: Fixed Effects					
Intercept	-1.128***	-2.812***	-1.605***	-1.555***	-.244
Gender (male = 1)			.168***	.168***	-.987**
Female & U.S. military presence in country of origin			-.505***	-.506***	.349**
Years in U.S.			.004*	.004	.004*
Years of education			-.014***	-.015***	-.015**
Educated in U.S.? (yes=1)			.013*	.014	.013
Education × educated in U.S.			-.042***	-.041***	-.042***
Speaks English:					
Only			-1.751***	-1.744***	-1.746***
Very well			-1.067***	-1.062***	-1.071***
Well			-.715***	-.706***	-.711***
Not well			-.256**	-.256**	-.259*
Not at all			(a)	(a)	(a)
Contextual: Fixed Effects					
Size of native-born group				.036***	.036***
% of native-born group in state				.567***	.572***
% of other in state				-.083***	-.084***
% female					-.028**
Interaction term					
% female × gender					.027***
Random Parameters					
σ^2 [Country of origin (k)]		1.114***	1.190***	1.115***	1.045***
σ^2 [Context (k(j)]		.511***	.467***	.276***	.275***

Model Statistics					
Deviance	47,881	32,755	31,876	31,795	31,776
Extra-dispersion	1.000	.895	.894	.916	.920

Notes

*** $p < .001$ ** $p < .01$ * $p < .05$

(a) Omitted category.

(b) In model B, σ^2 [Country of origin (k)] refers to the average residual variance. The value of σ^2 [Country of origin (k)] increases between models B and C. In hierarchical models with normal distributions, the increase in level-2 variances would suggest model misspecification. In hierarchical models for dichotomous variables, however, this is not necessarily the case because adding level-1 variables with strong effects will tend to increase estimated level-two variances (Snijders and Bosker, 1999).

Figure 1. Percentages of Immigrants in Cross-Nativity Marriages and of Cross-Nativity Marriages that are Endogamous by Country of Origin of Foreign-born Spouse

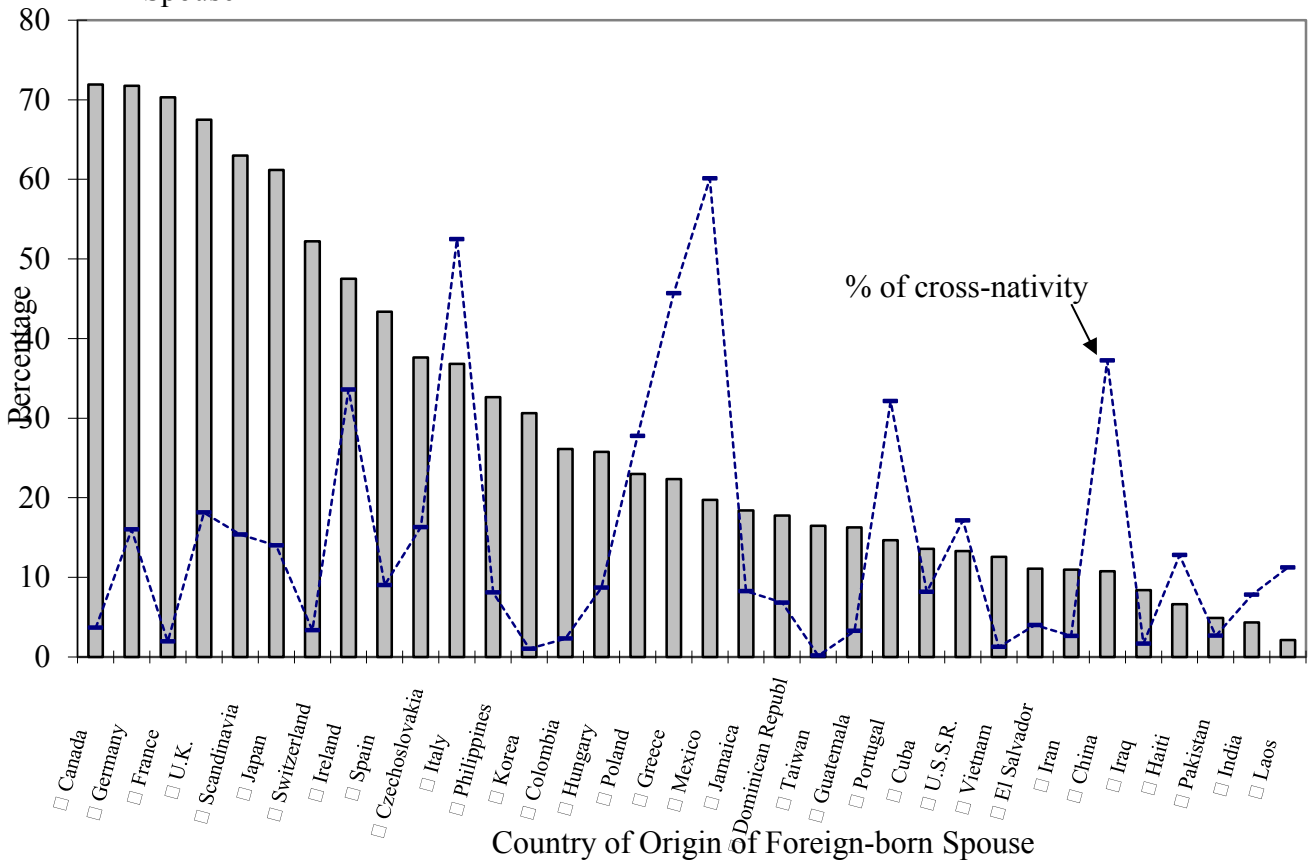
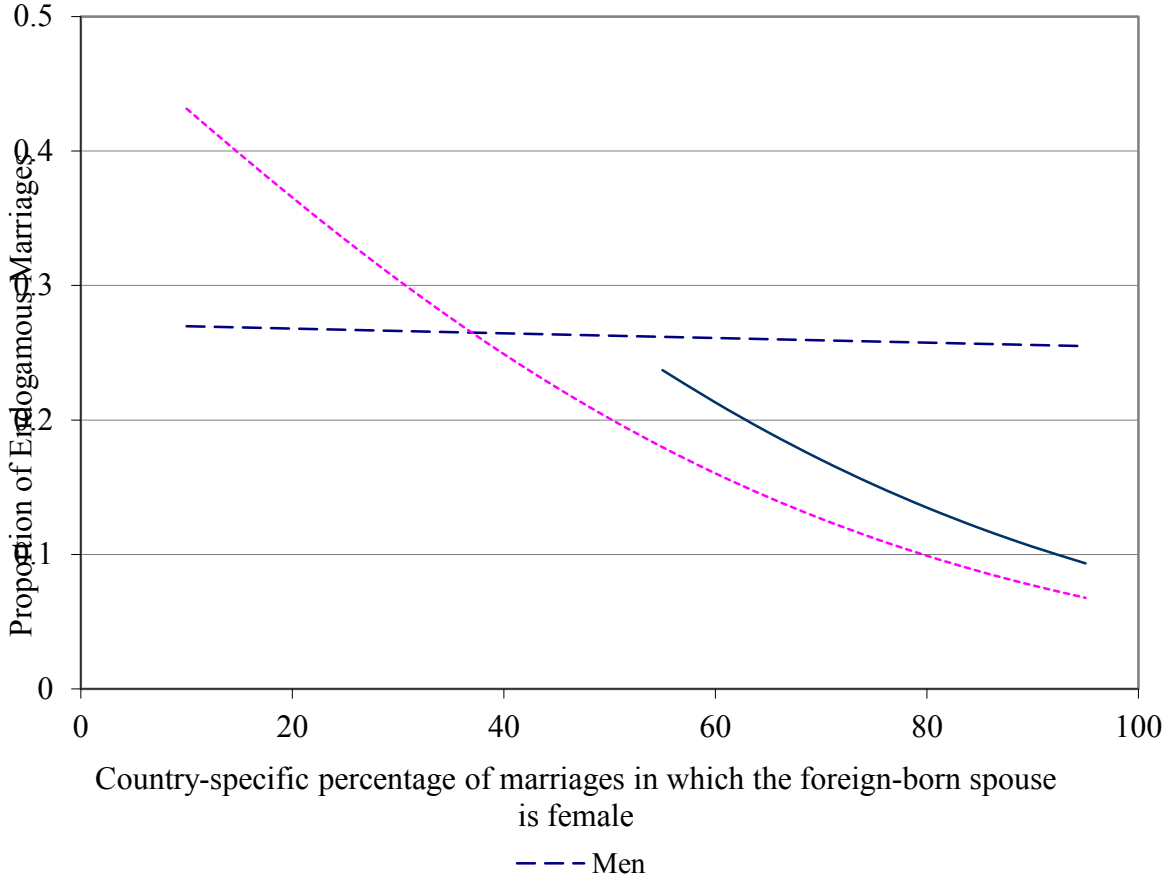


Figure 2. The Proportion of Cross-Nativity Marriages that are Endogamous by Gender of the Foreign-born Spouse and the Country-Specific Gender Composition of Cross-Nativity Marriages.



FOOTNOTES

[i] In the 1980 and 1990 censuses, the question on ancestry was open-ended and many respondents chose to report several ancestries. Farley's (1991) analysis of ancestry responses in the 1980 census suggests a higher degree of consistency among those who reported single responses, particularly among those of European national origins. Accordingly, the assessment of the match between the national origins of foreign-born respondents and their spouses considered only single ancestry responses.