Educational Assortative Mating Among New Immigrants to the United States

Introduction

Marital decisions reflect an intersection of cultural, economic and structural factors. Research indicates that partnering choices are correlated with marital stability, socioeconomic status, fertility preferences, children's well-being, socioeconomic stratification, gender relations, structural assimilation. Given these wide-ranging associations and the context of the increasing racial and ethnic diversity (stemming primarily from immigration) of the United States' population, there is a growing interest in studying inter and intra-group marriage patterns and trends by ascribed characteristics such as race, ethnicity, nationality as well by achieved characteristics like education. This study by examining educational assortative mating for a demographically significant group, namely new legal immigrants adds to our existing knowledge of marital partnering. It employs the New Immigrant Survey (NIS) and builds on the (NIS) pilot study that finds mode of entry, place of origin, citizenship status as important in marital decisions (Jasso et.al 2000). Immigration policies of the host country determine the type and the flexibility of the visas and therefore potentially impact the immigrant marriage market. NIS is the first dataset that provides information on couples that help distinguish the mode of entry by specific visas and the education received in the home country from that in the United States (U.S. henceforth).

From a structural point of view, mating patterns are a measure of openness and therefore of stratification in societies (Kalmijn 1991; Blossfeld 2009). As marriage creates new ties and networks, the decision about who marries whom is critical to the reproduction of inequality. In case of immigrants, marital choices are also an indication of social assimilation in the host country (Pagnini and Morgan 1990; Qian and Lichter 2001; Alba and Nee 2003; Qian and Lichter 2007; Kalmijn and van Tubergen 2010). The extent of immigrant inter-marriage across social groups and classes is a measure of 'social distance' and of the strength of social boundaries and impacts assimilation of the first and forthcoming generations. An additional factor that potentially affects partnering patterns is the immigration laws. There are, typically, restrictions on immigration especially when the migration is between the developed

and developing countries. Research in case of European countries has shown such controls to have an effect on the marriage market of immigrant groups (Celikaksoy, Nielsen, and Verner 2006). While controls potentially impact the size of the pool available marriage, marriage migration from the home country in such situation, is seen as an attractive way to get admittance into the developed country by trading positive attributes such as education for a good quality of life. The latter can be seen as a special case of exchange hypothesis, evidence of which is found in the recent on Mexican immigrants to the U.S. (Choi and Mare 2012).

Given that the post 1965 immigration to the U.S. has been dominated by people from the developing countries that are economically, socially, and culturally distant from the native population and experience restrictive immigration laws, marital patterns of this new group are critical for understanding immigrant assimilation and implications for reproduction of inequalities. This study contributes to an understanding of educational assortative mating patterns of new legal immigrants by exploring the relationship between likelihood of homogamous unions relative to non-homogamous (hypergamous and hypogamous) unions with mode of entry and central sociodemographic characteristics such as education received in the U.S., region of origin, region of residence in the U.S.

Background

Research across the disciplines of Demography, Economics, and Sociology, on marriage markets in the U.S have focused on several facets such as the interaction between cultural and structural factors, determinants of racial/ethnic exogamy and endogamy, effects on ethnic identity, varying bargaining power within marriage, gender equity/relations, inequality. The theoretical framework employed overwhelmingly is a combination of the economic, structural and cultural factors. Economic theory suggests a positive correlation between educational attainments of spouses because educational levels of husband and wife complement one another in the production of non-market commodities. In the same vein, a negative relationship between characteristics that tend to be substitutes in the production of market commodities in the household. Sociologists have examined assortative mating from the point of view of it

having implications on the stratification and inequality. The application of the exchange theory developed by Davis (1941) and Merton (1941) in the context of marriage decisions would imply that marriage can be considered as an exchange of higher status or money for good looks. Since marriage creates intimate ties not only between the two individuals but also among families and social groups, the exchange between social groups is robust if the society is more open and boundaries among social groups are not rigid. On the contrary, if there is a considerable social distance between groups, the exchange between groups is weak. The marital choice in who marries whom is hence critical in understanding the reproduction of social inequalities. The three main perspectives that have been employed in the literature are modernization theory, industrialization theory and individualization theory. The underlying premise shared by all these perspectives is that increased modernization, industrialization and individualization is associated with social openness and hence plausibly greater homogamy. The overall findings, notwithstanding some ambiguity indicate that there is a strong correlation between characteristics of spouses in terms of race, age, religion, education, occupation, father's occupation suggesting that important social mechanisms exist in modern societies that influence spouse selection.

Education is one of the central variables factoring in assortative mating decisions because a) education is the most important marker of socioeconomic success and mobility and b) it reflects cultural resources influencing individuals' preferences for specific partners. Thus, educational homogamy helps perpetuate the level of inequality by leading to resource pooling. The present study adds to the existing body of knowledge by examining educational assortative mating patterns for immigrants, a population group whose marriage markets are distinct from that of the native born. Further, immigration restrictions, especially with respect to the migration from the developing to the developed countries potentially influence the marital choices. For the first time via the 2003 New Immigrant Survey (NIS henceforth), we have nationally representative information on immigration status, enabling an analysis of the role of visa status on assortative mating.

We explore the pattern of marital sorting on educational attainment (Blossfeld 2009; Schwartz 2010; Torche 2010; Kalmijn 2013). In specific terms, we investigate the following research question: to what extent are the partnering choices of the current legal permanent residents related to the mode of entry into the U.S. after controlling for central immigration specific characteristics such as region of origin, duration of stay, education received in the U.S., English language proficiency?

Our analysis will help test whether the findings from the NIS Pilot Survey (Jasso et.al 2000) hold in the nationally representative sample. Findings using the pilot survey of NIS indicate that in marriages in which one of the spouses is a U.S. citizen, both husband and wife have similar educational level with the U.S. citizen being slightly better educated than the immigrant spouse. Also, recent research shows that procurement of the employment sponsored green card considerably enhances the wages (Mukhopadhyay and Oxborrow 2012) and hence potentially making the person more attractive in the marriage market. Such findings highlight the significance of the immigration policies. Further, the analysis helps understand the interaction between the seemingly competing norms of sorting oneself on the basis of similar ascribed attributes (race/ethnicity, nationality, religion) as well as achieved characteristics (educational attainment, employment, earnings). Finally, the study contributes to the understanding of the gendered dimension of the formation of marital partnerships. Immigrants hailing from traditional societies where marital decisions are based less on the individual and more on family-wide collective preferences in combination with low emphasis on women's education are likely to experience less egalitarian unions (Esveldt and Schoorl 1998; Kalmijn 1998). However it is also possible that the two partners are exchanging resources with a woman's better education being traded for the better quality of life. This is especially plausible in case of migration from developing to developed countries.

Data and Methods

Sample

We employ data from the 2003 wave of the New Immigrant Survey (NIS), a cohort of new legal immigrants to the U.S. over seven months from May to November of 2003. Our sample comprises adult

data, which includes immigrants who were 18 years or older at the time of admission and who entered in the U.S. on visas as a principle or accompanying spouse. Importantly, non-documented immigrants to the U.S are not included in the data, nor are adopted children or most self-petitioned immigrants. In total there are 8,573 total respondents in the data, which represents almost 70% of immigrants contacted (12,500) for the NIS. For our sample, we limit individuals who are married at the time of interview and had valid data on visa status and immigration status as the latter cannot accurately be imputed using missing data techniques. As a result, our sample has been limited to 5,021 currently-married respondents. To account for missing data we used multiple imputation in Stata 12.1 (mi functions) over 10 imputations. Imputation techniques are undertaken on two variables, all of which had less than 10% missing: duration of stay in the U.S. (9% missing) and marital duration (1% missing). The results we present in our paper used these imputed variables, but the results are substantively similar to those found using listwise deletion.

Further, we focus on prevailing marriages and not on newlyweds. Ideally, data on newlyweds would be utilized in our study to avoid various forms of bias and selectivity which could undermine our results (see Schwartz and Mare, 2005 for a full discussion). However, we are limited by data and sample size which prevents us from addressing the assortative mating patterns of newly married immigrants. Yet, a focus on prevailing marriages is not without its benefits. For example, Schwartz and Mare (2005) argue that a focus on individuals who are currently married helps understand current context, the scenarios in which children are raised, and similarities and differences with the population at-large. As a result, while we are subject to the selectivity issues we raised earlier, the advantages of using our current data allow us to paint a broader picture of assortative mating among immigrants, especially since so many come in with a sponsoring spouse with U.S. citizenship. Failure to account for this would provide a much more limited view of immigrant assortative mating than we present here.

Measures

Dependent Variable. Our dependent variable is a multinomial variable indicating if the respondent is in an educationally hypergamous (husband has more education), homogamous (husband and wife are equally educated), or hypogamous (wife more educated) marriage. From a variable of highest year of education completed we constructed categories of educational attainment which closely follow stages of attainment in the American educational system. These categories are : not high school educated (<12 years), high school degree (12 years), some college (13-15 years), college graduate (16+ years). Marriages are hypergamous if the husband is in a higher educational category than his wife, homogamous if they are in the same category, and hypogamous if the wife is in a higher category.

Key Independent Variables. Our central independent variable measures visa status, which may be thought of as "mode of entry" to the U.S. This is measured through a set of seven dichotomous variables for: spousal sponsorship, family sponsorship, employer sponsorship, diversity lottery entrant, refugee, legal sponsorship, and other status. We also consider other important migration variables, such as the respondent's region of citizenship (North America, Europe, Australia, New Zealand; Latin America (including the Caribbean); Sub-Saharan Africa; Middle East and North Africa; and Asia. A similar set of dichotomous variables is included for spouse's region of citizenship. Further, we construct a migration history and included a continuous variable for years of continuous stay in the U.S. and dichotomous variables for migration in and out of the U.S. (non-continuous stay in the U.S.), and if
the respondent is educated in the U.S.

Control Variables. We include several control variables which have been linked to educational assortative mating outcomes in prior studies (Blossfeld, 2009; Fu, 2010; Kalmijn, 1994; Mare, 1991; Qian, 1998; Schwartz and Graf, 2009; Schwartz and Mare, 2005; Shafer and Qian, 2010). These variables incorporate several sociodemographic characteristics such as gender, educational attainment, racial/ethnic identification, quality of English language skills, current region of residence in the U.S., duration of marriage, the respondent's socioeconomic status growing up, and wealth/assets (a dichotomous variable

for homeownership). Notably, we do not include a variable for income in our models. We do this because of the unique and troublesome nature of the income variable in NIS, especially with regard to wages and salary. This is likely due to the high number of immigrants who lack employment—especially those in non-employer sponsored visa categories.

Analytic Method

Our models are analyzed in multinomial logistic regression framework, a methodology commonly utilized in studies of educational assortative mating (e.g., Shafer, 2013; Shafer and Qian, 2010). Another common technique in studies of assortative mating is log-linear modeling. However, log-linear modeling is most appropriate when focused on the crossing of educational boundaries. We, instead, are interested in the predictors of educational assortative mating outcomes. For our purposes, therefore, models where predictors can be more easily integrated are more appropriate and hence our utilization of multinomial logistic regression models.

Results

Descriptive

Overall, 27% of respondents are sponsored by their spouse to enter the U.S, the largest category. This is followed by employer sponsorship, family visas, diversity, refugee, legal, and other visas, respectively. Figure 1 provides the percentage of respondents in hypergamous, homogamous, and hypogamous marriages by visa status. We also include the percentage of all individuals in each type of marriage as a reference. Overall, 56% of respondents are in homogamous marriages, 26% in hypergamous marriages, and 18% in hypogamous unions. Notably, individuals sponsored by a spouse and who entered on refugee or diversity visas are less likely to be in homogamous marriages. Hypogamy is much more common in marriages with a spouse sponsored visa and less likely for family and employer sponsored individuals. Hypergamy is more likely for diversity and refugee visa holders. Other groups are about average in their assortative mating patterns.

Multivariate

Table 1 reports our multinomial regression models for educational assortative mating. The results are averaged over 10 imputations. Model 1 includes our variables for visa status and shows several significant results. Individuals on family, employer, and legal visas are significantly more likely than spousal sponsored visa recipients to be homogamous marriages than hypergamous marriages. Meanwhile, diversity visa holders are less likely to do so. Hypogamy is less likely than hypergamy among family, employer, and diversity holders when compared to spousal visa holders. Comparisons between hypogamy and homogamy revealed that hypogamy is less common among all visa holders than spousal visa holders, with the exception of refugee visa holders.

In Model 2 we add other migration related variables. Our visa status variables still show a higher likelihood of homogamy than hypergamy for family and employer sponsored visa holders (compared to spouse visa holders), lower likelihoods of hypogamy than hypergamy for family, employer, and diversity visa holders, and lower likelihoods of hypogamy than homogamy for family, employer, diversity, and other status entrants. Among our other migration variables, we show that hypergamy and hypogamy are much more common among Latin American, African, and Asian immigrants than those from Western nations (North America, Europe, Australia, and New Zealand). We also find that individuals educated in the U.S. are much more likely to be married homogamously than those educated elsewhere.

Model 3 includes all variables. When we include our control variables, we find that many of the effects for visa and migration status are no longer significant. However, we do find that immigrants with employer visas are 2.07 times as likely to marry homogamously than hypergamously when compared to spousal visa recipients. Similarly, they are 65% less likely to marry hypogamously than homogamously. Diversity visa holders, when compared to spousal visa holders, had 34% lower odds of hypogamy than hypergamy. As in the prior model, we found that region of citizenship is strongly linked to the likelihood of homogamy and hypogamy, as is educational training in the U.S. Female immigrants are more likely to

marry homogamously, while the likelihood of homogamy decreased with higher educational attainment. English skills, region of U.S. residence, and marital duration are also

linked to educational assortative mating.

Overall, our analyses so far indicate that visa status is significantly associated with educational assortative mating outcomes. Individuals on employer-based visas are much more likely to marry homogamously than those with spousal visa. Likewise, we also found that diversity visa holders are much less likely to marry hypogamously than those with spousal visas. Thus, it appears that spousal visa holders are much more likely to have heterogamous marriages (hypogamy or hypergamy) than other entrants to the U.S. This is also recorded in our other models which showed substantial differences in educational assortative mating patterns by visa status. Evidently, there is something about how one enters the U.S. and that it affects whom one marries. These preliminary findings resonate with the ones that emerged from analyzing the NIS Pilot Survey data (Jasso et.al 2000). Additionally, the significance of mode of entry suggests the noteworthy role of immigration policies in influencing the characteristics of the present and future generation of families. We propose to explore the relationship by comparing across gender and the major groups.

References

Alba, R. and V. Nee. 2003. *Remaking the American Mainstream: Assimilation and Contemporary Migration*, Cambridge, Massachusetts: Harvard University Press.

Bossfeld, H.-P. 2009.'Educational Assortative Marriage in Comparative Perspective', *Annual Review of Sociology* 35: 315-530.

Celikaksoy, A., Nielsen, H., and Verner, M. 2003. 'Marriage Migration: Just Another Case of Positive Assortative Matching?', *Marriage and Intrahousehold Decisions* 4: 253-275.

Choi. K.H and Mare, R.D. 2012. 'International Migration and Educational Assortative Mating in Mexico and the United States', *Demography*, 49(2): 449-476.

Davis.K. 1941. Intermarriage in Caste Societies. *American Anthropologist* 42: 376-395.

Esveldt, I. and Schoorl, J.J. 1998. 'Changes in Marriage Formation of Turks and Morrocans in the Netherlands', *Bevolking en Gezin* 27:53-86.

Fu, V. K. 2010. Remarriage, Delayed Marriage, and Black/White Intermarriage, 1968-1995. *Population Research and Policy Review, 29*(5), 687-713.

Jasso, G., Massey, D.S., Rosenzweig, M.R., and Smith, J.P. 2000. 'Assortative Mating among Married New Legal Immigrants to the United States: Evidence from the New Immigrant Survey Pilot', *International Migration Review* 34: 443-459.

Jasso, G. ,Massey, D.S., Rosenzweig M.R. and Smith, J.P. 2006. 'The New Immigrant Survey 2003 Round 1 (NIS-2003-1) Public Release Data.' March 2006. Retrieved May 2009. Funded by NIH HD33843, NSF, USCIS, ASPE & Pew. http://nis.princeton.edu.

Kalmijn, M. 1991. 'Status homogamy in the United States', *American Journal of Sociology* 97: 496-523.

Kalmijn, M. 1998. 'Intermarriage and Homogamy: Causes, Patterns, Trends', *Annual Review of Sociology* 24: 395-421.

Kalmijn, M. 1994. 'Assortative Mating by Cultural and Economic Occupational Status'. *The American Journal of Sociology*, 100(2), 422-452.

Kalmijn, M. 2013. 'The Educational Gradient in Marriage: A Comparison of 25 European Countries', *Demography*, 50(4): 1499-1520.

Kalmijn, M. and van Tubergen, F. 2010. 'A Comparative Perspective on Intermarriage: Explaining Differences Among National-Origin Groups in the United States', *Demography* 47: 459-479.

Mare, R. D. 1991. 'Five Decades of Educational Assortative Mating'. *American Sociological Review, 56*(1), 15-32.

Merton, R.K. 1941. 'Intermarriage and the Social Structure: Fact and Theory', *Psychiatry* 4:361-374.

Mukhopadhyay, S. and Oxborrow, D. 2012. 'The Value of an Employment-Based Green Card', *Demography*, 49(1); 219-238.

Pagnini, D. L. and Morgan, S.P.1990. 'Intermarriage and Social Distance Among U.S. Immigrants at the Turn of the Century', *American Journal of Sociology* 96: 405-432.

Qian, Z. 1998. 'Changes in Assortative Mating: The Impact of Age and Education, 1970-1990', *Demography, 35*(3), 279-292.

Qian, Z. and Lichter, D.T. 2001. 'Measuring Marital Assimilation: Intermarriage Among Natives and Immigrants', *Social Science Research* 30:289-312.

Qian, Z. and Lichter, D.T. 2007. 'Social Boundaries and Marital Assimilation: Interpreting Trends in Racial and Ethnic Intermarriage', *American Sociological Review* 72:68-94.

Schwartz, C.R. 2010.'Pathways to Educational Homogamy in Martial and Cohabitating Unions', *Demography* 47: 735-753.

Schwartz, C. R., and Graf, N. L. 2009. Assortative matching among same-sex and different-sex couples in the United States, 1990–2000, *Demographic Research,* 21, 843.

Schwartz, C. R. and Mare. R.. 2005. 'Trends in Educational Assortative Mating From 1940 to 2003', *Demography* 42: 621-46.

Shafer, K., and Qian, Z. 2010. Marriage Timing and Educational Assortative Mating. *Journal of Comparative Family Studies,* 41(5), 661-691.

Shafer, K. 2013. Unique Matching Patterns in Remarriage: Educational Assortative Mating Among Divorced Men and Women. *Journal of Family Issues,* 34(11): 1500-1535.

Torche, F. 2010. 'Educational Assortative Mating and Economic Inequality: A Comparative Analysis of Three Latin American Countries', *Demography* 47: 481-502.

Figure 1. Educational Assortative Mating Outcomes by Visa Status and Percentage in Each Visa Category (n= 5,021)

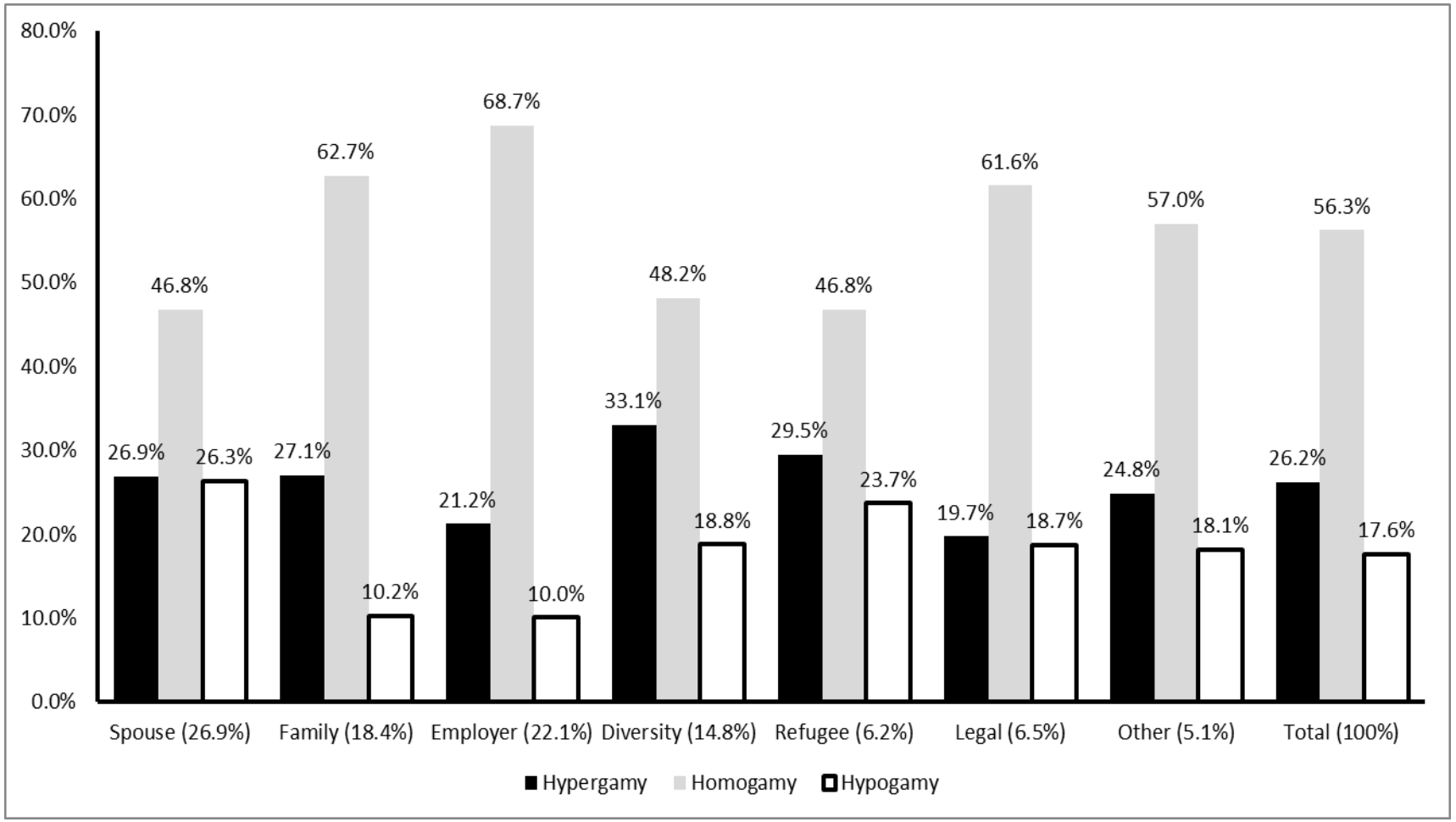

Table 1. Relative Risk Ratios for Multinomial Logistic Regression of Educational Assortative Mating Among New Immigrants (n=5,021)

	Model 1			Model 2			Model 3		
	Homogamy vs. Hypergamy	Hypogamy vs. Hypergamy	Hypogamy vs. Homogamy	Homogamy vs. Hypergamy	Hypogamy vs. Hypergamy	Hypogamy vs. Homogamy	Homogamy vs. Hypergamy	Hypogamy vs. Hypergamy	Hypogamy vs. Homogamy
Visa status[1]									
Family	1.331 **	0.386 ***	0.290 ***	1.246 *	0.466 ***	0.374 ***	0.965	0.665	0.688
Employer	1.859 ***	0.483 ***	0.260 ***	1.916 ***	0.628 **	0.328 ***	2.068 ***	0.723	0.350 ***
Diversity	0.837 *	0.580 ***	0.693 **	0.884	0.669 *	0.757 *	0.847	0.660 *	0.780
Refugee	0.913	0.821	0.900	0.850	0.917	1.079	0.730	0.935	1.280
Legal	1.793 ***	0.967	0.540 ***	1.213	0.865	0.713	1.101	0.981	0.891
Other status	1.320 *	0.746	0.565 **	1.224	0.839	0.685 *	1.078	0.792	0.735
R's Region of citizenship[2]									
Latin America				0.674 *	1.069	1.586 **	0.557 *	0.775	1.391
Sub-Saharan Africa				0.597 *	0.777	1.302	0.608	0.843	1.388
Middle East/ N. Africa				0.786	0.819	1.042	0.922	0.608	0.659
Asia				0.634 **	0.427 ***	0.674 *	0.431 **	0.344 **	0.797
Spouses' Region of citizenship[2]									
Latin America				1.863 ***	0.892	0.479 ***	1.708 **	0.982	0.575 **
Sub-Saharan Africa				0.890	0.436 *	0.490 *	0.925	0.366 *	0.395 *
Middle East/ N. Africa				0.708	0.545	0.770	0.528 *	0.543	1.029
Asia				1.155	1.256	1.088	1.115	1.155	1.035
Migration History									
Continuous stay in U.S. (years)				0.997	0.998	1.002	0.992	0.996	1.005
Migrated in and out of U.S.				0.901	0.870	0.966	0.912	0.890	0.976
Educated in the U.S.				1.246 *	0.769 *	0.617 ***	1.257 *	0.711 *	0.565 ***
Sociodemographics									
Female							1.191 *	1.142	0.958
R's education (years)							0.970 **	0.994	1.025 *
Spouse's education (years)							0.966 **	0.969 *	1.004
Racial/Ethnic Identification[3]									
Hispanic							1.072	1.062	0.990
Native identification							1.045	0.841	0.804
Asian							1.461	1.147	0.785
non-Hispanic Black							0.836	0.826	0.988
Good English skills							1.184 *	1.079	0.911
Region of U.S. residence[4]									
Southern U.S.							0.979	1.013	1.036
Central U.S.							1.082	1.489 *	1.376 *
Western U.S.							0.838	1.030	1.229
Duration of marriage							1.001	0.973 ***	0.972 ***
R's family of origin had low SES							0.899	1.228	1.366 **
Currently owns home							1.138	1.066	0.936

Source: New Immigrant Survey, 2003 wave Note: * p<.05, **p<.01, ***p<.001; 1= reference is visa via spouse, 2= reference is North America, Europe, Australia, and New Zealand, 3= reference is non-Hispanic White, 4= reference is gateway states