THE SALIENCE OF PAN-NATIONAL HISPANIC AND ASIAN IDENTITIES IN U.S. MARRIAGE MARKETS*

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In this paper I test whether "Hispanic" and "Asian" identities are salient in the U.S. marriage market. That is, I determine whether the different Asian and Hispanic national groups intermarry often enough to suggest that Asian and Hispanic pan-national identities are important. Analysis of census data from 1980 and 1990 suggests that both Hispanic and Asian pan-national identities are significant forces. Variations in the strength of pan-national Hispanic and Asian associations by region, education, and nativity are discussed.

The literature on intermarriage in the United States usually focuses on blacks and whites. As the Hispanic and Asian populations have grown, and as the bipolar racial perspective in the intermarriage literature is expanded into a multiethnic view, it is natural to ask how Hispanics and Asians fit into the structure of American race and ethnicity. One approach is to ask whether Hispanics and Asian Americans have created new pan-national melting pots for themselves, separate and distinct from the existing white and black melting pots.

History and theory provide contradictory evidence about the nature and strength of Asian and Hispanic panethnicity. Among those authors who argue that panethnicity is an important force rather than merely a useful abstraction or a linguistic convenience, the evidence has come almost exclusively from the realm of organizational cooperation (Mexican American political organizations cooperating with Puerto Rican political organizations); this, however, tells us little about the salience of panethnicity at the individual level. Authors who are skeptical about Asian or Hispanic panethnicity point to the undiminished importance of the separate national identities, the diversity of these national cultures, and the inherent difficulty of any project that claims to unify such diverse nationalities. Academics, journalists, and politicians use the panethnic categories (Hispanic and Asian) without considering whether evidence exists that would justify their use. In fact, there is very little evidence for (or against) panethnicity at the level of individual behavior; the intention of this paper is to fill that gap.

The current flow of Hispanic and Asian immigrants will reshape the ethnic composition of the United States over the next two generations (Smith and Edmonston 1997). By 2050, Hispanics will represent about 26% of the U.S. population (compared with 9% in 1990) and Asians will represent about 8% (compared with 3% in 1990). Both of the pan-national ethnic groups (Hispanic and Asian) are composed of a diverse set of national-origin groups. Some of these (Mexicans, Chinese, and Japanese) have been present in the United States for more than 100 years; yet the pan-national ethnic terms *Hispanic* and *Asian* have been in widespread use for less than 30 years.

A long tradition of empirical research on intermarriage uses outcomes of marriage choices to draw inferences about the strength of social ties between or within groups (Botev 1994; Davis 1941; Gordon 1964; Johnson 1980; Kennedy 1944, 1952; Lieberson and Waters 1988; Pagnini and Morgan 1990). I am interested specifically in pan-national Asian or Hispanic marriages (for example, marriages between Japanese Americans and Chinese Americans). If Hispanic or Asian panethnicity is important or salient at the individual level, one would expect to find more pan-national Asian or Hispanic couples than would be predicted by the size of the groups or by either group's distribution by other variables. If, on the other hand, there is no significant excess of pan-national couples, this implies that Asian (or Hispanic) panethnicity is not relevant in the marriage market. In this paper I use *pan-national* and *panethnic* interchangeably to describe the relatively new ethnic categories (Hispanic and Asian) that are themselves aggregates of many different national cultures.

Religious groups (Glenn 1982; Johnson 1980; Kalmijn 1991a; Kennedy 1944, 1952), national-origin groups (Botev 1994; Hout and Goldstein 1994; Lieberson and Waters 1988; Pagnini and Morgan 1990), educational classes (Kalmijn 1991b), and racial groups (Kalmijn 1993; Lieberson and Waters 1988; Pagnini and Morgan 1990; Schoen and Wooldredge 1989) are all endogamous to varying degrees; the strength of the group's endogamy (usually measured in odds ratios or log-odds ratios) is one measure of the strength of the group's social cohesion. Conversely, the extremely small relative odds of black-white intermarriage in the United States are one useful behavior-based measure for the social distance between blacks and whites in the United States.

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THEORETICAL ARGUMENTS FOR AND AGAINST PANETHNICITY

The literature displays considerable skepticism about the importance or salience of pan-national ethnic solidarity, especially at the personal level and especially for Asian Americans (see, for example, Omi and Winant 1994:23). Trottier (1981) claims that native Americans of different tribal ancestries have a basis for pan-tribal or pan-national solidarity and ethnicity, but that Asian Americans do not. As for Asian American pan-national ethnicity, Trottier claims that "its major proponents seem to be organizing the movement almost solely within Asian studies programs on university campuses" (1981:285).

Panethnicity, if it exists in the Asian and Hispanic cases, has two component parts: pan-national solidarity and panethnic identity. Pan-national solidarity describes the solidarity between individuals from the different national groups. This solidarity can arise from shared experiences (or the perception of shared experiences), shared language, common religion, or other sources of commonality. Panethnic identity describes the extent to which people identify themselves as "Hispanic" or "Asian" as opposed to, or secondary to, the national identities.

In 1980 and 1990 the U.S. Census forced respondents to choose national identities: the pan-national "Asian American" or "Hispanic" were not offered as legitimate choices. Ironically, one of the great sources of cooperation between the different national Asian political groups was the effort to make the Census Bureau abandon a pan-national "Asian or Pacific Islander" category in favor of specific national-origin categories (Japanese, Chinese, Filipino…) in the question on race in the census (Espiritu 1992).

Aside from the U.S. census, "Hispanics" for the most part do not use the pan-national "Hispanic" or "Latino" as a primary self-identity: they use variations of particular national identities such as Mexican, Mexican American, or Chicano. De la Garza et al. (1992) observe that the dominance of distinct national identities, as opposed to the pan-national terms, raises questions about the real salience of pan-national Hispanic identity. Cheng and Yang (1996:305) note the same importance of national over pan-national identity when they quote one respondent as saying "Am I an Asian American? No, I am Vietnamese....Actually I am Vietnamese-Chinese. I came from Vietnam, but my ancestors were Chinese. Well, now maybe you can call me an Asian American. However, I don't usually identify myself that way." Yet even if people avoid using panethnic identity as their primary identity, it still could be an important secondary force in their lives.

Two problems arise in survey research that asks respondents to select an identity from a list. First, it is difficult for the survey to capture the relative importance of the different kinds of identities. Second, identity has a strong situational component (Waters 1990); thus individuals may give different answers about (for example) how "Irish" they are, depending on whether they are at church, at home, or at work.

In comparison with attitudinal surveys, intermarriage data from census surveys have certain advantages. One's choice of spouse is a relatively permanent decision, which is less subject to subjective reinterpretation while one is responding to the survey. In addition, the sample size of the U.S. census allows for a more subtle analysis of the different primary and secondary kinds of identities.

The great majority of immigrants from Latin America speak Spanish, and the great majority also are Roman Catholics. This common language of origin and shared religion certainly could form the basis of pan-national Hispanic solidarity (Padilla 1985). If common language indeed were the basis of pan-national Hispanic solidarity, one might expect the strength of these solidary ties to decline with the second and third generations as English displaces Spanish as the primary language. With respect to language and religion, Asian Americans are much more heterogeneous. Although the Asian cultures share some cultural and linguistic roots, the modern languages of China, Japan, Korea, Vietnam, and the Philippines are mutually unintelligible, and the religious practices in those countries certainly vary more widely than the religious practices in Latin America, where a single religious organization (the Catholic Church) dominates. In addition, the Japanese military conquest and colonization of Korea, parts of China, and the Philippines in the first half of the twentieth century has no parallel in Latin America.

What might be the bases of pan-national Asian American solidarity? Espiritu (1992) argues that Asian Americans have had to form solidary alliances across the boundaries of national ancestry because U.S. society lumps Asians together and discriminates against them as a group. The single incident that typifies this dynamic most clearly was the 1982 murder of Chinese American Vincent Chin in Detroit, by two American auto workers who thought he was Japanese. Insofar as different Asian American national groups coalesced in reaction to this monstrous incident, the pan-national solidarity would constitute what Portes and his colleagues call "reactive ethnicity" (Portes and Rumbaut 1996; Portes and Stepick 1993).

Most of the actual pan-national Asian and Hispanic cooperation described by Espiritu (1992) and Padilla (1985) concerns organizations that deal with governmental issues or follow governmental initiatives, such as census enumerations, voting rights, or affirmative action. According to Padilla, Chicago's first important pan-national Hispanic organization (uniting Mexican and Puerto Rican activist groups) was the Spanish Coalition for Jobs, founded in 1971, which lobbied some of Chicago's leading corporations to employ more Hispanics. This kind of effort falls under the category of situational solidarity: that is, a solidary front is presented for an external audience. In the case of the Spanish Coalition for Jobs, Chicago's leading corporations made up this audience. Flores-Gonzalez (1997) notes that situational solidarity accounts for most of the recent literature and evidence for pan-national Hispanic solidarity; this observation leads us to ask whether pan-national Hispanic soli-

darity is purely a situational phenomenon, or whether it is also an important internal force in the Hispanic community.

The literature on Asian and Hispanic panethnicity points to four empirically testable hypotheses:

> *Hypotheses 1 and 2*: If Hispanic (Asian) panethnicity exists, it should be manifested by choices in the marriage market, and there should be more pan-national Hispanic (Asian) couples than can be explained by the size or distribution of the various Hispanic (Asian) national groups.
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> *Hypothesis 3*: Hispanic panethnicity should be stronger than Asian panethnicity because Hispanics have some sources of potential solidarity that Asian Americans lack (such as language and religion), and because the Asian nations have sources of tension that do not exist for the Hispanics (such as a recent history of war and colonialism).
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> *Hypothesis 4*: Hispanic panethnicity should decline from the first to the second generation because the reliance on Spanish as the primary language will decline.

THE INTERMARRIAGE LITERATURE

The work of Schoen and Thomas (1989) is one of the very few items in the literature that addresses Asian panethnicity with intermarriage data and rigorous methods. Only a few authors have conducted studies of Hispanic panethnicity in the marriage market, and these rely on simple descriptive statistics. Gurak and Fitzpatrick (1982), for example, analyzed intermarriage between different Hispanic groups in New York and found only a small social distance between the groups (primarily Puerto Ricans and Dominicans). This finding is consistent with Hispanic panethnicity, but Gurak and Fitzpatrick's methodology is somewhat dated. Mittlebach and Moore (1968) investigated the marriage choices of Mexican Americans when they do not marry other Mexican Americans, but their analysis was based on simple percentages. Murguía (1982) conducted an extensive survey of studies of Mexican American intermarriage, but almost all of these studies rely on the simple "percent exogamy" as their dependent variable; therefore they cannot distinguish between intermarriage with non-Hispanic whites and intermarriage with other Hispanics.

In recent years log-linear models have become the most common method of analyzing cross-tabulations of intermarriage data (Botev 1994; Hout and Goldstein 1994; Johnson 1980; Kalmijn 1991a, 1991b, 1993; Mare 1991; Pagnini and Morgan 1990; Qian 1997; Sandefur and McKinnell 1986), and this paper follows in the log-linear tradition. A different approach to intermarriage data advocated by Schoen (Qian and Preston 1993; Schoen 1986, 1988; Schoen and Thomas 1989; Schoen and Wooldredge 1989) has some advantages; I examine this approach in an appendix, which is available on request. Except for Schoen and Thomas (1989), these recent researchers either exclude Hispanics and Asians entirely, subsume them into the "white" or "nonwhite" categories, or present them as separate but monolithic groups (Qian 1997).

Among the issues represented in the intermarriage literature, the role of education in intermarriage is potentially the most relevant to this study. Education is usually considered as a proxy for achieved social status, and the finding of status homogamy is fairly robust (see Kalmijn 1991a, 1991b; Mare 1991). The low educational attainment of most Hispanics (Bean and Tienda 1987) therefore should increase the number of pan-national Hispanic intermarriages as a simple consequence of status homogamy, independent of ethnicity. Residential propinquity is an additional pathway by which low educational attainment might increase the rate of intermarriage between Hispanics. Hispanics with a high school education or less are probably more likely to find their mates in the neighborhood of their youth, and also are more likely to live in barrios with many other Hispanics. Thus if panethnic intermarriage were observed to be associated strongly with low educational attainments, one might suspect that residential propinquity rather than pan-national solidarity was the cause.

The alternative hypothesis of residential propinquity leads to a fifth hypothesis.

> *Hypothesis 5*: Education will decrease the strength of Hispanic and Asian panethnicity.

THE DATA

To examine the relationship between minority groups at the metropolitan level, one needs large sample sizes. Only the census PUMS (Public Use Microdata Samples), with 5% of all households in 1980 and 1990, are large enough and contain sufficient information on all respondents' race and ethnicity. (Before 1980, the public use files included 1% or less of all households.)

For the present purposes, the 1980 census is more suitable than the 1990 census because its survey design provides a reliable way to exclude foreign unions, with a combination of three questions: age at marriage, age in 1980, and year of immigration (persons who were married before they immigrated to the United States therefore can be excluded). These foreign unions must be excluded from the analysis because they reflect the social choices and available options of another society, whereas this study focuses exclusively on assimilation and ethnic formation in the United States. Therefore the most important analyses conducted here will rely exclusively on data from the 1980 census.

Census data measure the prevalence rather than the incidence of marriages. If intermarried couples have a higher hazard rate of divorce, then prevalence samples (such as the census) may underestimate the incidence of ethnic intermarriage. I replicated the key findings using only the most recent married couples in the 1980 census, and my findings indicate that selection bias due to marital dissolution is not a large problem (results available on request). Given the nature of the U.S. Census, however, the problem of marital dissolution bias cannot be discounted entirely. Insofar as intermarriage

may be regarded as an engine of social change, prevalence may be just as important as incidence because the social change potential of ethnic intermarriage should depend on the duration of the union as well as on its initial occurrence.

In contrast to studies of white-black intermarriage, which generally use national-level data, local-level data are needed for this study because of Asian Americans' and Hispanics' geographically dispersed and regionally segregated settlement patterns. (Cubans, for example, live mostly in Miami, Mexicans mostly in the Southwest, and Puerto Ricans mostly in New York.) In using the metropolitan area as the geographical unit of analysis, I do not claim that this essentially arbitrary space is a perfect surrogate for the complex social networks that constitute opportunity in the marriage market; I merely argue that local data come closer to approximating the geography of marriage markets than do national data. In Tables 2 to 5 I present findings from an array of metropolitan areas as well as models for the state of California as a whole.

The data consist of all coresident spouses in each specified geographical area who were married in the United States (immigrants married abroad are excluded). Hispanicity is determined by the "Hispanic origin" question; white and black populations include only non-Hispanic whites and non-Hispanic blacks. Asian ethnicity is determined from responses to the "race" question; the extremely small number of Asians from Latin America are classified as Asians rather than Hispanics. The ethno-racial categories are complete and exhaustive; thus every table contains an "All Others" ethnic category. In Table 1 this category includes Asians. In Table 2, where Asians are broken out separately, the "All Others" category includes only persons who are nonwhite, nonblack, non-Hispanic, and non-Asian (this group consists mostly of Native Americans).

TABLE 1. BASIC ODDS RATIOS FOR INTERACTIONS BETWEEN HUSBANDS' AND WIVES' ETHNIC GROUPS, LOS ANGELES COUNTY, 1990

	Wives					
Husbands	Non-Hisp. Black	Mexican	Other Hisp.	All Others	Non-Hisp. White	Total
Non-Hisp. Black	4,074	63	32	42	215	4,426
Mexican	25	3,947	143	95	1,009	5,219
Other Hisp.	16	132	239	18	304	709
All Others	19	78	18	1,022	360	1,497
Non-Hisp. White	103	1,156	373	492	28,453	30,577
Total	4,237	5,376	805	1,669	30,341	42,428

Relationships of Primary Interest

Wife's ethnic group / Husband's ethnic group	Other Hisp. / Mexican	Mexican / Other Hisp.
Odds ratio	1.55	1.591
Log (odds ratio)	0.442***	0.465***
Standard error of log (odds ratio)	0.093	0.098

Other Off-Diagonal (Non-Endogamous) Relationships

Wife's ethnic group / Husband's ethnic group	Black / White	White / Black	Mexican / Black	Black / Mexican	White / Mexican	Mexican / White
Odds ratio	0.006	0.013	0.089	0.038	0.064	0.071
Log (odds ratio)	–5.07***	–4.36***	–2.42***	–3.28***	–2.74***	–2.644***
Standard error of log (odds ratio)	0.101	0.071	0.128	0.201	0.037	0.036

Diagonal (Endogamous) Relationships

Wife's ethnic group / Husband's ethnic group	Black / Black	White / White	Mexican / Mexican	Other Hisp. / Other Hisp.
Odds ratio	2,687.00	70.69	77.69	36.97
Log (odds ratio)	7.90***	4.26***	4.35***	3.61***
Standard error of log (odds ratio)	0.096	0.034	0.042	0.09

***$p < .001$ (two-tailed test)

Where the data are sufficient to support covariates, I use covariates of education and nativity. (The covariate of age did not have a measurable effect on the results, and so is relegated to supplementary analyses that are available on request.) The education covariate divides couples into two groups: those with at least one spouse who has some college education, and those in which both parties have a high school education or less. The nativity covariate divides couples into two groups: U.S. natives married to U.S. natives, and all combinations of couples with at least one foreign-born spouse. The education and nativity covariates are crude, but finer detail yielded no additional insights into the subjects under study here.

Table 1 shows the cross-classification for couples in the Los Angeles metropolitan area by husband's and wife's ethnicity, from the 1990 Census PUMS. Of 5,376 Mexican American wives, 3,947 are married to Mexican American husbands, 63 are married to blacks, 132 are married to "other Hispanic" husbands, and so on. In Table 1 "other Hispanics" are all Hispanics who do not identify themselves as Mexican, Mexican American, or Chicano on the "Hispanic" question of the 1990 Census (e.g., Puerto Rican, Cuban, Peruvian). I divided Hispanics in Los Angeles into a Mexican-other Hispanic dichotomy because of the relatively small sizes of the non-Mexican Hispanic national groups there. The data include only couples that were married in the United States and are living in the same household. (The ethnicity of noncoresident spouses cannot be determined from the census because the census is a household survey.)

Of 42,428 couples, there are only 275 (143 + 132) in which one spouse is Mexican and the other is "other Hispanic." Because these cells are a primary focus of this paper, one may ask whether the numbers are too small to be of substantive interest. Most Asian and Hispanic immigrants from the post-1965 immigration wave were already married when they came to the United States, and most of their children were too young to be married by the 1980 and 1990 censuses. Thus the number of Hispanics and Asians married in the United States in 1990 is merely the leading edge of what will soon be a much more powerful demographic force. Furthermore, even the relatively small number of cases available in the census yields statistically significant results because (as I will demonstrate) the underlying forces are so strong.

ANALYSIS: BASIC ODDS RATIOS

Use of the odds ratio is the most logical way to consider whether the number of couples in any one cell in Table 1 is larger or smaller than would be expected by chance. Lieberson and Waters (1988) present odds ratios for the endogamy of many ethnic and national groups; the same simple statistic can be used to describe the prevalence of marriages between groups. For Mexican American husbands and "other Hispanic" wives, the odds ratio would be

$$\frac{\text{Number of Mexican husbands married to "other Hispanic" wives}}{\text{Number of Mexican husbands married to wives of all other groups}} \Big/ \frac{\text{Number of non-Mexican husbands married to "other Hispanic" wives}}{\text{Number of non-Mexican husbands married to wives of all other groups}}$$

For Mexican American husbands, the odds of marrying a woman who is Hispanic but not Mexican are 143 /(5,219 – 143) = 143 / 5,076 = 0.0282. For all other (non-Mexican) husbands, the odds of marrying an "other Hispanic" woman are (805 – 143) / (42,428 – 805 – 5,219 + 143) = 662 / 36,547 = 0.0181. The odds ratio is 0.0282 / 0.0181 = 1.55; that is, Mexican American husbands are more likely than other men to be married to "other Hispanic" women. In other words, given the number of Mexican husbands, "other Hispanic" wives, and the total number of wives and husbands, there are more Mexican-"other Hispanic" couples than one would expect to find under a hypothesis of random mixing. Log-odds ratios greater than zero (which correspond to odds ratios greater than 1) represent positive associations, whereas negative log-odds ratios (such as those for black-white marriages) indicate negative associations.

The natural logarithm of the odds ratio, ln(1.55) = 0.442, is asymptotically normal (Agresti 1990), and its standard error

$$= \sqrt{1/n1 + 1/n2 + 1/n3 + 1/n4}$$

$$= \sqrt{1/143 + 1/5,076 + 1/662 + 1/36,547} = 0.093.$$

From this, one can conclude that there are *significantly* more Mexican husband-"other Hispanic" wife couples (0.442 / 0.093 yields a *z*-score of 4.75) than the marginal distributions alone would lead us to expect. Table 1 shows that the log-odds ratio for Mexican American wives with "other Hispanic" husbands is similarly positive and significant. A positive and significant finding for the marital association between Mexicans and "other Hispanics" in Table 1 is consistent with Hispanic panethnicity.

Although the log-odds ratios for Mexican-"other Hispanic" intermarriage are positive and significant in Table 1, the Mexican-"other Hispanic" effect appears to be weak in comparison with the other log-odds ratios from the table. Black endogamy[1] is by far the most powerful relationship in the table, with a log-odds ratio of 7.9. This is consistent with other findings, such as those of White (1987), Lieberson and Waters (1988), and Massey and Denton (1993), who find black social and spatial isolation to be unique. The interaction between blacks and whites is negative: black wife-white husband couples are even less common (log-odds ratio of –5.07) than black husband-white wife couples (–4.36).

Even though there are many more Mexican husbands with non-Hispanic white spouses (1,156) than with "other Hispanic" spouses (132), the log-odds ratios from Table 1 show that the Mexican-"other Hispanic" association is positive, while the Mexican-white association is negative. There

1. The odds ratio for black endogamy is calculated as follows: (number of NH [non-Hispanic] black husbands married to NH black wives/number of NH black husbands married to all other wives) / (number of husbands other than NH black married to NH black wives / number of husbands other than NH black married to wives who are other than NH black), or [4,074 / (4,426 – 4,074)] / [(4,237 – 4,074) / (42,428 – 4,237 – 4,426 + 4,074)] = (4,074 / 352) / (163 / 37,839) = 2,687. The natural logarithm of 2,687 is 7.9.

may be almost 10 times as many Mexican men married to white women as married to other (non-Mexican) Hispanic women, but this is only because there are 30,577 white women in the sample and only 709 "other Hispanic" women, for a ratio of more than 40 to 1. Given the size of the white population and the Mexican population, there are fewer Mexican-white unions than one would expect. The odds ratio, in other words, controls for the size of both groups in question.

Table 1 provides some preliminary evidence for Hypothesis 1: that Hispanic panethnicity will be demonstrated by positive associations in the marriage market (in this case, the marriage market of Los Angeles). The evidence from Table 1, however, has limitations, mainly that each of the odds ratios is calculated separately. In collapsing the 5×5 table into 2×2 tables for the calculation of odds ratios, a great deal of information is lost.

Each of the log-odds ratios from Table 1 corresponds to the coefficient from a separate log-linear model. These log-linear models can be created easily: they control for the marginal distribution of husbands' and wives' ethnic group, and add a single interaction term to fit the single cell in question. On the basis of any statistical criterion of goodness of fit, all of the models with single interactions fit the data extremely poorly because the marriage outcome data are the result of several important simultaneous interactions between and among the ethnic groups.

FINDINGS FROM LOG-LINEAR MODELS

Los Angeles is the only metropolitan area in the United States with large enough and diverse enough Hispanic and Asian populations to allow for tests of all five of the hypotheses proposed here. Table 2 shows the results from a series of log-linear models, in which I estimate associations between groups in Los Angeles using data from the 1980 census. There are seven ethnic categories (Japanese Americans, "other Asians," Mexican Americans, "other Hispanics," non-Hispanic blacks, non-Hispanic whites, and a residual "all others" category), and two covariates (nativity and education) for a total of 196 ($7 \times 7 \times 2 \times 2 = 196$) cells. In simplified hierarchical terms, the first three models from Table 2 can be presented as follows:

$$(1)\ \text{Log}(U) = Const + Heth \times Ed \times Nat + Weth \times Ed \times Nat$$

$$(2)\ \text{Log}(U) = Const + Heth \times Ed \times Nat + Weth \times Ed \times Nat + Eendog$$

$$(3)\ \text{Log}(U) = Const + Heth \times Ed \times Nat + Weth \times Ed \times Nat + Eendog \times Ed \times Nat,$$

where only the highest-order terms are listed, and the lower-order terms are assumed. Here U is the predicted number of couples, *Heth* is husband's ethnic group, *Weth* is wife's ethnic group, *Ed* is the couple's level of education, *Nat* distinguishes couples that are both U.S.-born from all other couples, and *Eendog* is the ethnic endogamy of each of the seven groups. The appendix contains a more formal description of these models.

Model 1 in Table 2 accounts for each ethnic group's distribution by gender, education, and nativity, but makes no assumptions about ethnic preferences in the marriage market. The likelihood-ratio chi-square for Model 1 is 65,689 on 144 degrees of freedom: that is, Model 1 fits the data extremely poorly by the likelihood-ratio test and by the BIC criterion (Raftery 1986). This is not surprising because Model 1 makes the unlikely assumption that people's choices of mates do not reflect ethnic preferences. Model 2 adds seven terms to account for each group's ethnic endogamy. With the introduction of these seven terms, Model 2 reduces the goodness-of-fit chi-square drastically from 65,689 to 941.3. Model 2 achieves a reasonably good fit by the BIC test (BIC values of less than zero are preferred to the saturated model), although the much more stringent likelihood-ratio chi-square test would still reject Model 2.

Model 3 is what I call the "endogamy model." This model fits the marginals and the endogamy diagonal of each level of the table. The endogamy model is the fullest description of the data set that is possible without resorting to associations between different ethnic groups. It is a model of "quasi perfect mobility" (Hout 1983) because persons who do not marry within their ethnic group find mates randomly in the other groups. (In the study of occupational mobility, such randomness is known as "perfect mobility.") Because the endogamy model still does not fit the data well by the likelihood-ratio test (goodness-of-fit chi-square = 496.4 on 116 degrees of freedom), intergroup associations must be added to the model in order to create a good-fitting model. The approach outlined thus far is consistent with that of Botev (1994), Pagnini and Morgan (1990), Qian (1997), and Sandefur and McKinnell (1986).

I add the intergroup associations to the model in a stepwise manner. The stepwise process does not ensure that the best possible model is finally selected (Agresti 1990), but in complex multidimensional models such as the 196-cell cross-classification shown in Table 2, this process is one reasonable way to pick sensibly from thousands of different possible combinations of interactions. After all of the interactions have been added in a stepwise process, the final model should fit the data reasonably well, even by the stringent likelihood-ratio test (Model 18 has a goodness-of-fit chi-square of 118.6 on 101 degrees of freedom, which comfortably exceeds the 5% probability threshold).

The BIC criterion (Raftery 1986), in which models with BIC less than zero are preferred to the saturated model, is far easier to satisfy. In Table 2, 17 of the 18 models fit reasonably well by this criterion, but only the final three models fit reasonably well by the likelihood-ratio test (LRT).[2] The best-fitting model in Table 2, according to BIC, is Model 16; the best-fitting model according to LRT is Model

2. The BIC (calculated as $G^2 - df \log(N)$) prefers parsimonious to complex models by penalizing each additional term added to the model by a factor of $\log(N)$. Weakliem (1999) has made several critiques of the BIC, including the point that the entire sample size (N) may not be an appropriate measure of the information in the data relevant to the hypothesis in question. In the case of Table 2, the sample size is 57,152 but the samples of Hispanic and Asian individuals are much smaller.

TABLE 2. HISPANIC AND ASIAN PANETHNICITY IN LOS ANGELES, 1980: COEFFICIENTS FROM A SERIES OF LOG-LINEAR MODELS

	Model Number																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Model Goodness-of-Fit Chi-Square (G^2)	65,689	941.3	496.4	414.9	349.6	294.9	259.3	241.4	233.7	217.3	212.4	212	202.2	195.8	191	125.8	121.7	118.6
Model Goodness-of-Fit *df*	144	137	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101
LRT Model *p*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.063	0.089	0.11
BIC	64,112	–559	–774	–845	–899	–943	–967	–974	–971	–977	–971	–960	–959	–954	–948	–1,002	–996	–988
Marginals Only	Yes																	
Marginals Plus Basic Endogamy		Yes																
Endogamy Model			Yes															
Group 1: Sex-Symmetric Terms[a]																		
Japanese × other Asians				1.42***	1.47***	1.64***	1.71***	1.58***	1.73***	1.99***	2.02***	1.92***	1.87***	1.87***	1.86***	1.81***	1.81***	1.81***
Mexicans × other Hisp.					0.65***	0.88***	0.99***	1.37***	1.38***	1.15***	1.18***	1.24***	1.28***	1.28***	1.29***	1.96***	1.92***	1.80***
Blacks × whites						–0.85***	–0.94***	–1.19***	–1.34***	–1.67***	–1.77***	–1.80***	–1.86***	–1.85***	–1.88***	–1.66***	–1.67***	–1.66***
All others × whites							–1.20***	–1.44***	–1.59***	–1.52***	–1.67***	–1.72***	–1.75***	–2.24***	–2.23***	–2.12***	–1.59***	–1.61***
Other Asians × whites								–0.50***	–0.64***	–0.48***	–0.50***	–0.55***	–0.40†	–0.40†	–0.37†	–0.32†	–0.33†	–0.33†
Mexicans × whites									–0.29**	–0.61***	–0.62***	–0.64***	–0.64***	–0.64***	–0.64***	–0.55***	–0.55***	–0.56***
Blacks × Mexicans										–0.79***	–0.85***	–0.82***	–0.83***	–0.83***	–0.84***	–0.82***	–0.81***	–0.81***
All others × blacks											–0.89*	–0.90*	–0.93*	–1.03*	–1.04*	–1.00*	–1.04*	–1.04*
Japanese × whites												–0.13	–0.15	–0.15	0.05	0.03	0.03	0.05
Group 2: Sex-Specific Interactions[a]																		
Other Asian men × white women													–0.43**	–0.41**	–0.49**	–0.41**	–0.41**	–0.40**
All other men × white women														0.96†	0.96†	0.87†	0.77†	0.78*
Japanese men × white women															–0.55*	–0.39	–0.40	–0.40†
Group 3: Interactions With Nativity[a]																		
Mexican × other Hisp. × U.S.-born																–1.37***	–1.30***	–1.36***
All other × white × U.S.-born																	–0.81*	–0.80*
Group 4: Interactions With Education[a]																		
Mexican × other Hisp. × h.s. ed. or less																		0.31†

Note: $N = 57{,}152$. Selection criteria: Couples consisting of U.S.-born persons, or immigrants married in the United States. See Appendix Table A1 for full data set.

[a]Terms added to endogamy model in stepwise fashion. Within-groups terms are added in order of significance.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed tests)

18; these models are quite consistent in their implications. I have used the stepwise process in order to find final models that satisfy both the BIC and the more stringent LRT, and to show that the coefficients of interest are robust with respect to the inclusion of other terms.

Models 4 through 13 add gender-symmetric intergroup associations in order of significance. Once all the significant gender-symmetric terms are added, the gender symmetry restriction is relaxed, and gender-nonsymmetric terms are added. The Japanese-"other Asian" association is the most significant off-diagonal association, and therefore is the first such term added. When the Japanese-"other Asian" association is added for the first time (Model 4), it takes on a log-odds ratio of 1.42. As other terms are added to the model, the Japanese-"other Asian" association remains strongly positive and significant, finishing with a log-odds ratio of 1.81 in the final model. The Japanese-"other Asian" coefficient means that, among Japanese persons who do not marry other Japanese, the odds of marrying a (non-Japanese) Asian spouse are $e^{1.81} = 6.11$ times higher than the odds of marrying a non-Asian spouse, given the relative sizes of the groups. Of course the marriage market contains far more whites than other Asians; thus even though Japanese Americans strongly prefer other Asians in the marriage market, more Japanese Americans end up married to whites than to other Asians.

In the final model from Table 2, Hispanic panethnicity appears at first to be almost exactly as strong as Asian panethnicity: the association between Mexicans and "other Hispanics" is an odds ratio of 1.80, compared with 1.81 for the association between Japanese and "other Asians." The Hispanic panethnic coefficient can be interpreted in the same way as the Asian panethnic coefficient: for Mexican Americans who do not marry other Mexican Americans, the odds of marrying a (non-Mexican) Hispanic are about six times higher than the odds of marrying a non-Hispanic. The coefficients for both Asian and Hispanic panethnicity were the first two terms introduced into the model because of their strong significance, and they remain the strongest terms in the final model after a dozen other significant interactions have been added. The stepwise analysis makes clear that Hispanic panethnicity and Asian panethnicity are crucial forces in the marriage market, at least in Los Angeles in 1980.

There are important differences, however, in the effects of education and especially nativity on Hispanic and Asian panethnicity. Model 16 introduces the highly significant interaction between Hispanic panethnicity and nativity. For couples consisting of two U.S. natives, the association between Mexicans and "other Hispanics" is an odds ratio of only $e^{(1.80 - 1.36)} = 1.55$, in contrast to $e^{1.80} = 6.05$ for couples with at least one foreign-born spouse (coefficients from the final model). Hispanic panethnicity (in the marriage market) is much stronger among the foreign-born than among the U.S.-born; this finding is consistent with the hypothesis that Hispanic panethnicity should decline in the second generation because of that generation's reduced reliance on Spanish. Asian panethnic ties, on the other hand, are not affected by U.S. nativity.

The surprising finding, at least in terms of the original hypotheses, is that Asian panethnicity is so much stronger than Hispanic panethnicity among the U.S.-born. Originally I had hypothesized that the different Hispanic nationalities would have stronger panethnic ties in the marriage market because of their greater sources of solidarity (language and religion), but the reverse is true: Asian panethnicity is just as strong as Hispanic panethnicity among the foreign-born, and much stronger among those born in the United States.

According to Hypothesis 5, education should diminish the strength of Hispanic and Asian panethnicity. Table 2 shows only weak evidence that the low educational group has a greater tendency to Hispanic panethnicity, and we see no evidence for an effect of education on Asian panethnicity. Because education is a proxy for neighborhood effects, the lack of a powerful education effect on Hispanic panethnicity and the lack of any such effect on Asian panethnicity implies that Asian and Hispanic panethnicity are salient outside the barrios and Chinatowns as well as inside.

The key finding from Table 2 is the strength and statistical significance of both Asian and Hispanic panethnicity in the Los Angeles marriage market. Statistical significance alone, however, does not indicate whether Hispanic and Asian panethnicities are important or salient in the social world. In judging whether these panethnic associations are strong enough to be socially as well as statistically significant, we must find appropriate benchmarks whose social significance is already known. The most appropriate benchmark from Table 2 is the distance in the marriage market between whites and blacks. The intermarriage literature has demonstrated repeatedly (Heer 1980; Kalmijn 1993; Qian 1997) that the rarity of black-white intermarriage can be explained only by a fundamental social division. Beyond that literature, the black-white division has been shown to be fundamental in many other dimensions of social life (Massey and Denton 1993); thus there is little doubt about the significance of the social distance between blacks and whites.

In the final model in Table 2, the black-white social distance has a log-odds ratio coefficient of –1.66. A negative log-odds ratio means that the odds of marrying a black person are lower for whites than for other nonblacks, specifically $e^{-1.66} = 0.19$ times, or about one-fifth as high. The coefficients for Hispanic panethnicity (1.81) and Asian panethnicity (1.80) are greater than the absolute value of the coefficient for black-white distance in the marriage market (–1.66); therefore one may conclude that the panethnic attractions for Asians and Hispanics (specifically foreign-born Hispanics) are somewhat stronger than the distance in the marriage market between blacks and whites. If Hispanic and Asian panethnicity in fact are just as strong as the social distance between blacks and whites, or stronger, then the emergent forces of panethnicity will be very powerful indeed.

Table 3 presents an expanded set of potential benchmarks (from the final model of Table 2) against which Hispanic and Asian panethnicity can be compared. As noted above, Hispanic panethnicity in some cases is stronger than the distance between blacks and whites, and Asian panethnicity is always

TABLE 3. COMPARISON OF ENDOGAMOUS AND INTERGROUP ASSOCIATIONS FROM TABLE 2, FINAL MODEL

	U.S. Nativity	Education	Log-Odds Ratio	Odds Ratio
Intergroup Associations				
Hispanic panethnicity	Foreign	H.S. or less	2.11	8.25
Hispanic panethnicity	Native	H.S. or less	0.75	2.12
Asian panethnicity	All	All	1.81	6.11
Black-white interaction	All	All	–1.66	0.19
Endogamous Associations				
(1)				
Mexican endogamy	Foreign	H.S. or less	4.04	56.83
Japanese endogamy	Foreign	H.S. or less	3.63	37.71
Non-Hisp. black endogamy	Foreign	H.S. or less	6.27	528.48
Non-Hisp. white endogamy	Foreign	H.S. or less	4.75	115.58
(2)				
Mexican endogamy	Native	H.S. or less	2.24	9.39
Japanese endogamy	Native	H.S. or less	5.63	278.66
Non-Hisp. black endogamy	Native	H.S. or less	8.15	3,463.38
Non-Hisp. white endogamy	Native	H.S. or less	3.98	53.52
(3)				
Mexican endogamy	Native	College+	2.57	13.07
Japanese endogamy	Native	College+	5.10	164.02
Non-Hisp. black endogamy	Native	College+	6.53	688.15
Non-Hisp. white endogamy	Native	College+	3.23	25.18

stronger. Other relevant benchmarks include Mexicans' and Japanese Americans' national solidarity and identity, measured as ethnic endogamy. National-origin endogamy is a sensible benchmark not only because these forces are statistically significant and powerful, but also because we have many external reasons to believe that the cultures of national origin are reproduced in socially important ways by immigrant communities in the United States.

In both the Mexican and the Japanese cases, ethnic endogamy is stronger than the panethnic association; this implies that panethnicity coexists with the national identities and is less strong than those identities. For Japanese Americans who are born in the United States and who marry other U.S. natives, the model estimates that the odds of marrying another Japanese American are 279 times higher than the odds of marrying someone outside the Japanese American community, given the other controls in the model. For Japanese immigrants or Japanese Americans who marry an immigrant, the odds ratio of national-origin endogamy is 38. This figure is substantially lower, but still much stronger than the odds of panethnic Asian intermarriage (about six times higher than the odds of marrying a non-Asian). For Mexican Americans the story is similar: national endogamy (odds ratios of 57 for immigrants or 9 for U.S. native couples) is stronger than Hispanic panethnicity (odds ratios of 8 for immigrants and 2 for U.S. native couples). The implied social significance of Asian and Hispanic panethnicity depends on the kind of benchmark one chooses. Compared with any other intergroup associations (including the classic division between blacks and whites), the forces of panethnicity appear dominant. They are clearly secondary, however, to the forces of national-origin endogamy.

Thus far I have presented results only for Los Angeles. In addition to Los Angeles, the Mexican-"other Hispanic" association can be tested in Chicago, Dallas, Houston, San Antonio, and San Diego. Table 4 presents results for a model that includes all six cities with large populations of Mexicans, and the results are consistent with what was found in Los Angeles alone: panethnic Hispanic intermarriage is powerful and significant, and the force of Hispanic panethnicity is diminished considerably by the second generation. Among the six cities, Hispanic panethnicity is weakest in Dallas and San Diego; even there, however, it is positive and statistically significant.

Table 5 summarizes the findings from Tables 2 and 4, and provides the results from five additional models whose full descriptions are available on request. All models are fitted in the same way as Tables 2 and 4: the endogamy model is fitted first, and then off-diagonal terms are added in stepwise fashion. The coefficients in each case come from the "final model," which is the final product of the stepwise fitting process. Goodness-of-fit statistics are provided in the final column; all of the final models except panel 5 fit the data well ($p > .05$) by the conservative standard of the likelihood-ratio test.

Panels 3–5 of Table 5 present tests of Hispanic panethnicity in New York (where Puerto Ricans are the

TABLE 4. LAMBDA PARAMETERS AND SUMMARY STATISTICS FOR MULTICITY MEXICAN MODEL, 1980

	Model Number																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Model Goodness-of-Fit Chi-Square (G^2)	189,412	2,075	723	540	325.8	291	270	258	251.3	186.8	165	153.5	148	142.5	138	130.3	125.3	120.8
Model Goodness-of-Fit *df*	192	187	132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	117
LRT Model *p*	0	0	0	0	0	0	0	0	0	0.0003	0.008	0.033	0.055	0.089	0.125	0.227	0.307	0.388
BIC	187,087	–189	–875	–1,046	–1,248	–1,271	–1,280	–1,280	–1,274	–1,327	–1,336	–1,336	–1,329	–1,323	–1,315	–1,311	–1,304	–1,296
Marginal Effects Only	Yes																	
Marginal Effects Plus Global Endogamy (5 Terms)		Yes																
Endogamy Model			Yes															
Group 1: Sex-Symmetric Off-Diagonal Terms[a]																		
Mexicans × other Hisp.				0.79***	1.22***	1.27***	1.45***	1.46***	1.46***	1.90***	1.90***	1.91***	1.91***	1.92***	1.92***	1.98***	2.01***	2.03***
Blacks × whites					–1.29***	–1.55***	–1.58***	–1.93***	–2.07***	–1.90***	–1.90***	–2.18***	–2.27***	–2.40***	–2.49***	–2.53***	–2.52***	–2.68***
Blacks × Mexicans						–0.61***	–0.76***	–0.77***	–1.14***	–1.14***	–1.10***	–1.10***	–1.10***	–1.10***	–1.08***	–1.08***	–1.08***	–1.08***
Other Hisp. × whites							0.40***	0.40***	0.41***	0.35***	0.47***	0.49***	0.49***	0.49***	0.50***	0.48***	0.47***	0.48***
Group 2: Sex-Specific Interactions[a]																		
Black men × white women								0.50***	0.72***	0.71***	0.70***	0.67***	0.58***	0.58***	0.57***	0.54***	0.55***	0.54***
Black men × Mexican women									0.57*	0.55*	0.52*	0.52*	0.51*	0.51*	0.51*	0.51*	0.51*	0.51*
Group 3: Interactions With Nativity[a]																		
Mexican × other Hisp. × U.S.-born										–1.02***	–0.98***	–0.97***	–0.95***	–0.68***	–0.70**	–0.58**	–0.52**	–0.47*
Group 4: City-Specific Interactions[a]																		
Chicago × other Hisp. × white											–0.90***	–1.01***	–1.07***	–1.04***	–1.09***	–1.03***	–0.98***	–1.02***
Los Angeles × black × white												0.53***	0.68***	0.88***	0.98***	1.03***	1.01***	1.17***
San Diego × black husband × white wife													0.65*	0.67*	0.78**	1.07***	1.05***	1.20***
Los Angeles × Mexican × other Hisp. × U.S. native														–0.46*	–0.44*	–0.63**	–0.73***	–0.79***
San Antonio × black × white															0.83*	0.76*	0.68†	0.80*
San Diego × Mexican × other Hisp.																–0.63**	–0.71**	–0.73**
Dallas × Mexican × other Hisp.																	–0.72*	–1.00**
Dallas × black × white																		0.85*

Notes: $N = 181,414$. Selection criteria: Couples consisting of U.S.-born persons, or immigrants married in the United States. Ethnicity: (Mexican American, other Hispanic, non-Hispanic white, non-Hispanic black, all others: 5 categories for husband and wife). Covariates: Nativity (both U.S.-born vs. all other couples: 2 levels), city (Chicago, Dallas, Houston, Los Angeles, San Antonio, San Diego: 6 levels). Total cells: $5 \times 5 \times 2 \times 6 = 300$.

[a]Terms added to endogamy model in stepwise fashion. Within-groups terms are added in order of significance.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed tests)

TABLE 5. SUMMARY OF PANETHNIC ASSOCIATIONS IN VARIOUS LOCAL U.S. MARRIAGE MARKETS, TESTED WITH A VARIETY OF COVARIATES

Source	Geography	Census Year	Panethnic Association Tested (Log-Odds Ratios)		Black-White Benchmark	Covariates in Model	*N*	Final G^2, *df*, *p*, BIC
1. Table 2	Los Angeles	1980	Mexican × other Hisp.	1.81***	–1.66**	Education, nativity	57,152	G^2 = 118.6 on 101 *df*, *p* = .11, BIC = –987
			Japanese × other Asian	1.80***				
			Interactions with gender or covariates:					
			Mex. × other Hisp. × U.S. native	–1.36***				
			Mex. × other Hisp. × low education	0.31†				
2. Table 4	Chicago, Dallas, Houston, Los Angeles, San Antonio, San Diego	1980	Mexican × other Hisp.	2.03***	–2.68***	City, nativity	181,414	G^2 = 120.8 on 117 *df*, *p* = .388, BIC = –1,296
			Interactions w/ gender or covariates:					
			Mexican × other Hisp. × U.S. native	–0.47*				
			Mexican × other Hisp. × U.S. native × L.A.	–0.79***				
			Mexican × other Hisp. × San Diego	–0.73**				
			Mexican × other Hisp. × Dallas	–1.00**				
3. Author	New York	1980, 1990	Puerto Rican × other Hisp.	0.97***	–1.98***	Age, education, census year	76,914	G^2 = 86.1 on 81 *df*, *p* = .33, BIC = –825
			Interactions with gender or covariates:					
			Puerto Rican × other Hisp. × 1990	0.39†				
4. Author	Miami	1980, 1990	Cuban × other Hisp.	3.38***	–1.05*	Census year	13,515	G^2 = 19.13 on 17 *df*, *p* = .32, BIC = –143
5. Author	California	1980	Mexican × other Hisp.	2.36***	–1.02***	Nativity	210,587	G^2 = 76 on 39 *df*, *p* = .0004, BIC = –402
			Mexican × Puerto Rican	1.34***				
			Cuban × other Hisp.	3.85***				
			Cuban × Mexican	3.13***				
			Puerto Rican × other Hisp.	1.81***				
			Cuban × Puerto Rican	4.08***				
			Interactions with gender or covariates:					
			Mexican men × Puerto Rican women	0.68***				
			Mexican men × other Hisp. women	–0.18*				
			Mexican × other Hisp. × U.S. native	–1.02***				
			Cuban × Mexican × U.S. native	–1.07†				
6. Author	Honolulu	1980	Chinese × Japanese	2.33***	——[a]	Education, nativity	6,442	G^2 = 82.5 on 67 *df*, *p* = .096, BIC = –505
			Chinese × other Asian	0.31				
			Japanese × other Asian	0.91***				
			Japanese × Filipino	–0.03				
			Filipino × other Asian	0.07				
			Interactions with gender or covariates:					
			Filipino men × other Asian women	0.04†				
			Japanese × Filipino × U.S. native	1.20**				
			Chinese × oth. Asian × low ed.	0.065*				
7. Author	California	1980	Chinese × Japanese	2.08***	–1.06*** (U.S. native)	Nativity	210,587	G^2 = 50.8 on 41 *df*, *p* = .141, BIC = –451
			Japanese × other Asian	0.36**				
			Filipino × Japanese	–0.44				
			Interactions with gender or covariates:					
			Chinese men × Filipina women	1.08***				
			Chinese men × other Asian women	0.45				
			Filipino men × other Asian women	–0.77***				
			Chinese × Japanese × U.S. native	1.54***				
			Filipino × Japanese × U.S. native	0.99†				

[a]Honolulu does not have a sufficient number of blacks to allow measurement of this benchmark.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed tests)

dominant group), in Miami (where Cubans are dominant), and for the entire state of California (where the expanded geography allows for more detailed analysis of intermarriage between different Hispanic national groups). In panel 3, the Puerto Rican-"other Hispanic" association in New York has a log-odds ratio of 0.97, or an odds ratio of 2.64: that is, for Puerto Ricans in New York the odds of marrying a non-Puerto Rican Hispanic are 2.64 times higher than the odds of marrying a non-Hispanic. The panethnic Hispanic attraction in New York is about half as strong as the black-white division in that city (0.97, compared with –1.98). Panel 3 reveals a slight tendency for the panethnic association to grow stronger over time, but the model from panel 3 was unable to control for U.S. nativity (because of limitations of sample size and in how the census codes "immigration" from U.S. territories). Spouses' age has no effect on the panethnic associations in panel 3; because I obtained similar results in other models, age is not included in most of the models.

Panel 4 of Table 5 reports the coefficients from Miami's multiethnic marriage market. The Cuban-"other Hispanic" association has a powerful log-odds ratio of 3.38, or an odds ratio of 29.4: that is, for Cubans in Miami, the odds of marrying a non-Cuban Hispanic are 29.4 times higher than the odds of marrying a non-Hispanic, given the sizes of the groups. Although it may be tempting to view the strong Cuban-"other Hispanic" association in panel 4 as evidence of Miami's unique political and social climate (Portes and Stepick 1993), panel 5 shows that the unique strength of Hispanic panethnicity for Cuban Americans is also evident in California.

Cubans have extremely strong and positive associations with all of the four Hispanic groups shown in panel 5 (the California Hispanic model): Cubans, Puerto Ricans, Mexicans, and "other Hispanics." Of the six possible gender-symmetric panethnic associations in panel 5, all are positive and significant. Within the Hispanic community, the panethnic associations do not seem to reflect the salience of racial identities or social status in the United States: in the marriage market, Puerto Ricans (the Hispanic group with the darkest skin) are associated strongly with both Cubans (the "whitest" of the Hispanic groups) and Mexicans. Race, however, plays a part in Hispanic marital choices when Hispanics marry non-Hispanics: in California and Miami, Cubans have an affinity for non-Hispanic whites, and Puerto Ricans for non-Hispanic blacks (coefficients not shown).

Panels 6 and 7 of Table 6 report panethnic associations for models that analyze Asians' outcomes from the marriage markets of Honolulu and California. Despite the well-known differences in the Asian experience in Honolulu and California (Takaki 1989), the models are remarkably similar. The Chinese-Japanese association is the strongest panethnic Asian association in both markets. The association between Japanese and Filipino Americans is positive and significant, but only for U.S. native couples. Most of the possible Asian panethnic associations in Honolulu or California are positive and significant, but a few are not. In Honolulu the Chinese-"other Asian" and Filipino-"other Asian" associations are only weakly positive. In California, the association between Filipino men and "other Asian" women is negative and significant. Because of the strength of the Japanese-Filipino and Japanese-"other Asian" associations, these analyses of the nationally diverse Asian marriage markets in Honolulu and California do not replicate Schoen and Thomas's (1989) finding that the Hawaiian marriage market is racially divided between the lighter-skinned groups (Chinese, Japanese, whites) and the darker-skinned groups (Filipinos, Hawaiian natives).

In California as a whole and in Honolulu, as in Los Angeles, Asian panethnicity is stronger in the second generation than in the first. The passage of generations plays a different role in Asian than in Hispanic panethnicity. In the Asian American community, panethnicity increases with generations; perhaps for this reason, the two Asian American national-origin groups that have been longest in the United States (Chinese and Japanese) have the strongest panethnic ties in the marriage market. In the Hispanic community, however, the passage of generations erodes panethnicity; perhaps this finding explains why Cubans, the group with the highest percentage of foreign-born persons, are the most likely to marry "other Hispanics."

DISCUSSION

This research confirms the existence and salience of pan-national solidarity among Hispanics and Asians in various metropolitan marriage markets in the United States. In almost every case for which the census data support a test, I have found pan-national Asian or Hispanic associations to be positive and statistically significant. Asian American identity and Hispanic identity are more than abstractions or situational identities that political groups use when interacting with white society; these identities seem to be truly significant in the socially important process of mate selection.

Although the analyses have shown that Asian and Hispanic panethnicities are salient in the large groups in all of the large multiethnic marriage markets, I find substantial variation by area and by ethnic composition. It is not clear whether or how the findings from Los Angeles, Chicago, or Honolulu would apply to Topeka or Des Moines. Outside the large immigrant-receiving cities, the Hispanic and Asian populations of the United States are still quite small; thus the population of panethnic couples is too small to analyze at the local level, whereas national-level data would necessarily overlook the fundamental regional segregation of the different groups within the United States. Among the six cities with substantial Mexican American populations, Hispanic panethnicity was just as strong in the smallest city (San Antonio) as in the largest (Los Angeles). Therefore one can infer very little about the possible effects of community size.

In most cases, Hispanic and Asian panethnicities are just as strong for college-educated persons as for persons with no college education. This finding implies that neighborhood composition is probably not the main force behind Hispanic and Asian panethnicity. It seems reasonable to assume that college-educated persons are less likely to find their mates in the neighborhoods of their youth; thus if both

the college-educated and the high school dropouts show a tendency to marry panethnically, this indicates that panethnicity has far-reaching consequences for personal preferences and identities.

Padilla (1985) views the common language of Spanish as the principal basis for Hispanic pan-national cooperation. This reasonable assumption is supported by the results presented in this paper, which show that the affinity between Hispanic groups is stronger among the immigrants (for whom Spanish language is the common currency) than among the U.S.-born (for whom English is likely to be the primary language).

The literature on Asian panethnicity (Espiritu 1992) focuses on the common experience of discrimination in the United States, because other factors such as common language (beside English), common religion, or solidary ties between ancestral countries are largely absent. If common experience of discrimination (and particularly discrimination as *Asians* rather than as Chinese or Japanese) were the basis of Asian panethnicity, one would expect Asian panethnicity to be just as strong among the U.S.-born as among the immigrants, because such discrimination does not distinguish with regard to individual characteristics. My results indeed show that Asian marital panethnicity does not vary by U.S. nativity; this finding adds plausibility to the proposition that a common experience with anti-Asian discrimination could be the basis for Asian panethnicity.

One of the original hypotheses was that Hispanic panethnicity should be stronger than Asian panethnicity. The reason for this hypothesis was that Hispanics have sources of potential solidarity that Asian Americans lack, such as language and religion. The results, however, have been quite the opposite. For U.S.-born couples, the pan-national association in the marriage market is much stronger for Asians than for Hispanics in Los Angeles, where the two effects can be tested jointly. If Asian marital panethnicity is as high as it is because of reactive ethnicity, as Espiritu (1992) claims, two explanations are possible. Either Asians face more discrimination in the United States than do Hispanics, or the process of reactive ethnicity in response to discrimination has been stronger among Asian Americans than in the Hispanic community.

The differences in the effects of generational change on Asian and Hispanic panethnicity have important implications. They help to determine what role, if any, these panethnic forces will play in America's future ethnic landscape. The enduring strength of Asian American pan-national marital associations in the second generation means that Asian panethnicity should remain strong and viable into the next generation, regardless of any changes in patterns and levels of immigration. By 2050, when persons of Asian ancestry may constitute about 8% of the U.S. population, Asian panethnicity could be quite consequential for the fabric of American life. Kennedy's (1944, 1952) image of the triple melting pot was based on religious divisions, but instead the outcome may be a multiple melting pot based on race and national origin. Americans of European ancestry and those of African ancestry will rarely intermarry; Asian Americans could form a third and separate melting pot. Hispanics could have their own melting pot as well, but this will depend on immigration: Hispanic panethnicity is relatively weak among U.S.-born couples.

One way to assess the potential social importance of Hispanic and Asian marital panethnicity is to compare them to well-studied and long-standing division in U.S. marriage markets between blacks and whites. I have shown here that, under some conditions, Asian and Hispanic panethnicity are as strong as the division between blacks and whites.

APPENDIX. A FORMAL PRESENTATION OF THE FINAL MODEL FROM TABLE 2

Part 1: Marginal effects only. Number of degrees of freedom including constant term: $52 = (14 - 1) \times 4$. The terms below carry the following respective degrees of freedom: 1 + 6 + 6 + 1 + 1 + 6 + 6 + 6 + 6 + 1 + 6 + 6 = 52.

$$Log(U_{hwns}) = const + I(h) \times \lambda_h^H + I(w) \times \lambda_w^W + I(n) \times \lambda_n^N$$

$$+ I(s) \times \lambda_s^S + I(h) + I(n) \times \lambda_{hn}^{HN} + I(w) + I(n) \times \lambda_{wn}^{WN}$$

$$+ I(h) + I(s) \times \lambda_{hs}^{HS} + I(w) + I(s) \times \lambda_{ws}^{WS} + I(n) + I(s) \times \lambda_{ns}^{NS}$$

$$+ I(h) + I(n) + I(s) \times \lambda_{hns}^{HNS} + I(w) + I(n) + I(s) \times \lambda_{wns}^{WNS}.$$

Part 2: Add endogamy terms to complete endogamy model.

Additional model degrees of freedom: $28 = 7 \times 4 = 7 + 7 + 7 + 7$

$$+ I_e(h,w) \times \lambda_{hw}^{HW} + I_e(h,w) \times I(n) \times \lambda_{hwn}^{HWN}$$

$$+ I_e(h,w) \times I(s) \times \lambda_{hws}^{HWS} + I_e(h,w) \times I(n) \times I(s) \times \lambda_{hwns}^{HWNS}$$

Part 3: Interactions between husband's ethnicity and wife's ethnicity, one degree of freedom each:

$$+ I_2(h,w) \times \lambda_{hw}^{HW} + I_3(h,w) \times \lambda_{hw}^{HW} + I_4(h,w) \times \lambda_{hw}^{HW}$$

$$+ I_5(h,w) \times \lambda_{hw}^{HW} + I_6(h,w) \times \lambda_{hw}^{HW} + I_7(h,w) \times \lambda_{hw}^{HW}$$

$$+ I_8(h,w) \times \lambda_{hw}^{HW} + I_9(h,w) \times \lambda_{hw}^{HW} + I_{10}(h,w) \times \lambda_{hw}^{HW}$$

$$+ I_{11}(h,w) \times \lambda_{hw}^{HW} + I_{12}(h,w) \times \lambda_{hw}^{HW} + I_{13}(h,w) \times \lambda_{hw}^{HW}$$

$$+ I_{14}(h,w,n) \times \lambda_{hwn}^{HWN} + I_{15}(h,w,n) \times \lambda_{hwn}^{HWN} + I_{16}(h,w,n) \times \lambda_{hwn}^{HWN}$$

U_{hwns} are the predicted values. The dimensions are as follows:

H: Husband's ethnicity. h ={Japanese, NH black, Mexican, oth. Asian, oth. Hisp., NH white, all others}

W: Wife's ethnicity. w = {Japanese, NH black, Mexican, oth. Asian, oth. Hisp., NH white, all others}

N: Nativity. n = {Both U.S.-born, all other couples}

S: Education. s = {Both h.s. education or less, all other couples}

Total number of cells = $7 \times 7 \times 2 \times 2 = 196$.

The *I*s are indicator functions:

APPENDIX TABLE A1. DATA FROM TABLE 2

	Wives													
	Both Spouses High School Ed. or Less, At Least One Spouse Foreign-Born							At Least One Spouse With Some College, At Least One Spouse Foreign-Born						
Husbands	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Japanese	34	0	4	0	2	0	0	111	1	2	0	8	1	12
(2) Non-Hisp. black	2	43	8	0	4	3	4	3	80	4	0	11	8	19
(3) Mexican	2	2	3,263	6	13	148	98	5	2	734	4	15	80	78
(4) All others	0	0	4	12	1	1	2	0	0	6	18	1	2	12
(5) Other Asians	3	1	7	2	131	1	14	17	8	18	2	671	18	59
(6) Other Hispanics	0	2	122	1	4	431	31	2	5	76	0	9	304	95
(7) Non-Hisp. whites	9	2	89	2	29	45	714	50	13	112	7	117	167	1,835
	Both Spouses High School Ed. or Less, Both Spouses U.S. Native							At Least One Spouse With Some College, Both Spouses U.S. Native						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Japanese	253	0	2	0	4	0	21	377	3	4	1	14	6	52
(2) Non-Hisp. black	0	2,517	17	3	14	10	68	1	3,041	35	2	18	10	137
(3) Mexican	2	6	2,289	12	36	40	348	9	7	1,020	5	13	28	432
(4) All others	0	0	4	14	0	0	8	1	1	6	11	1	1	9
(5) Other Asians	7	8	33	1	90	8	106	19	10	20	5	130	8	182
(6) Other Hispanics	0	5	37	0	3	198	117	1	6	23	0	11	102	209
(7) Non-Hisp. whites	12	19	335	2	115	129	12,294	70	49	484	10	200	191	20,892

The first four indicator functions are a result of the way in which STATA generates dummy variables. The excluded category is arbitrary.

$I(h) = 0$ if h = Japanese, $I(h) = 1$ otherwise

$I(w) = 0$ if w = Japanese, $I(w) = 1$ otherwise

$I(n) = 0$ if n = Both U.S.-born, $I(n) = 1$ otherwise

$I(s) = 0$ if s = Both h.s. education or less, $I(s) = 1$ otherwise

$I_e(h,w)$ is the endogamy indicator: $I_e(h,w) = 1$ when $h = w$, $I_e(h,w) = 0$ otherwise

Indicator function number X describes the indicator function for the term introduced for the first time in model number X from Table 4.

Group 1 interactions, sex-symmetric interactions:

$I_2(h,w) = 1$ if (h,w) = (Japanese, other Asian) or (other Asian, Japanese); $I_2(h,w) = 0$ otherwise

etc.

…

Group 2 interactions, sex-specific interactions:

$I_{11}(h,w) = 1$ if (h,w) = (other Asian, white); $I_{11}(h,w) = 0$ otherwise.

etc.

…

Group 3 interactions, interactions with nativity:

$I_{14}(h,w,n) = 1$ if (h,w,n) = (Mexican, other Hispanic, both U.S.-born) or (other Hispanic, Mexican, both U.S.-born); $I_{14}(h,w,n) = 0$ otherwise.

etc.

…

Group 4 interactions, interactions with education:

$I_{16}(h,w,s) = 1$ if (h,w,s) = (Mexican, other Hispanic, both HS education or less) or (other Hispanic, Mexican, both HS education or less); $I_{16}(h,w,s) = 0$ otherwise.

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