How Many Melting Pots?

Intermarriage, Panethnicity, and the Black/Non-Black Divide in the United States*

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Abstract

This study uses the 1 in 6 Long Form Sample of the 1990 Decennial United States Census to describe intermarriage patterns for a detailed set of racial and ethnic groups and determine whether the notions of assimilation, panethnicity, and a Black/non-Black divide describe racial and ethnic differentiation in the United States. Asian groups exhibit panethnicity in their intermarriage choices, tending to intermarry with members of other Asian groups. Latino groups fit the both assimilation and panethnicity, with some Latino groups tending to intermarry with Whites and others showing an affinity for intermarriage with other Latinos. Intermarriage patterns also reveal a deep divide between Blacks and non-Blacks.

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Introduction

Marriage choices have long been used to assess the importance of social distinctions such as education, race, religion, and social class. These studies view marriage as a form of social interaction, using the extent to which groups engage in this form of interaction to reveal the importance of the distinctions between them. Marriage is a key form of social interaction because of its intimate nature and how it organizes individuals' lives. If members of two groups regularly intermarry, then the distinction between the two groups is likely to be unimportant for other forms of social interaction. On the other hand, if members of two groups seldom intermarry, it is likely that the distinction between the two groups is greatly important for many other forms of social interaction as well. Intermarriage also has implications for future generations as these families form the environments within which future generations will be raised.

This study uses racial and ethnic intermarriage patterns to assess arguments about race and ethnicity in the United States. If minorities tend to intermarry primarily with Whites, this would support the assimilation framework which assumes that minority groups will eventually integrate into mainstream society (e.g., Gordon, 1964). If intermarriage occurs largely under Asian and Latino umbrellas, this would support the notion of panethnicity, which has different Asian American and Latino groups consolidating under Asian American and Latino umbrellas, respectively (Espiritu, 1992; Lopez & Espiritu, 1990). Researchers have also argued that the

fundamental racial cleavage in the U.S. is between Blacks and non-Blacks (e.g., Yancey, 2003). Finding that other groups strongly avoid Blacks as marriage partners would support this view.

I describe marriage patterns at a high level of detail using a unique dataset, the 1 in 6 Long Form Sample of the 1990 U.S. Census. Many studies describe intermarriage patterns for large, aggregate groups such as whites, Blacks, Latinos and Asian Americans (e.g., Blackwell & Lichter, 2000; Qian, 1997), but these studies use a coarse classification of groups (e.g., Mexican and Cuban Americans differ greatly in their immigration histories but are combined into a Latino category). A few studies do examine intermarriage for detailed groups such as Japanese Americans, Puerto Ricans, and Mexican Americans (e.g., Gilbertson et al., 1996; Kitano et al., 1984; Liang & Ito, 1999), but these studies are narrow in geographic scope. Other studies (Qian et al., 2001; Qian & Cobas, 2004; Rosenfeld, 2001) focus on Latinos and Asians separately. This study is unique in its national scope and its level of detail with respect to the classification of groups.

Spouse selection and group boundaries

Current theories of spouse selection focus on three domains: (1) group size and distribution, (2) individual-level characteristics and preferences, and (3) the role of third parties (Kalmijn, 1998). Everything else equal, members of smaller groups will be more likely to intermarry because potential co-ethnic spouses are fewer and consequently more difficult to find. Local “marriage markets” are also important as racial and ethnic groups can be geographically concentrated and people often find spouses in their neighborhoods or schools (Kalmijn & Flap,

2001). After controlling for the effects of group size, individual-level and third-party influences on intermarriage reveal the contours of the social structure.

Individual-level approaches to spouse selection conceive of marital and non-marital unions as partnerships producing goods such as children, emotional support, status, and insurance (Becker, 1991; Kalmijn, 1998; Oppenheimer, 1997). People "shop" in the marriage market and seek to "purchase" the most desirable spouse they can attract with the resources they have to offer. Since marriage requires the cooperation of both parties, individuals must have sufficient and appropriate currency to gain the assent of the desired spouse. Kalmijn (1998) distinguishes between socioeconomic resources (income, physical attractiveness, etc) that people seek to maximize in their spouse and cultural resources (values, attitudes, etc) that people seek to match on with their spouse. For socioeconomic resources matching, is also the dominant pattern because well endowed people marry similarly well endowed spouses and the less resourced people are left with each other. This argument explains in part the tendency for husbands and wives to match on a variety of characteristics such as religion, education, and social class background.

Individual preferences are key but third parties also exert considerable influence on spouse selection in ways that are especially important for interracial marriage. First, parents may instill in their children strong racial and ethnic identities, leading to strong preferences for endogamy. Parents may also play more direct roles in children's marriage choices by arranging potential matches or expressing approval and disapproval of potential spouses. For example, there is substantial documentary evidence of violent reactions by parents to potential and actual Black/White intermarriages (McNamara et al., 1999). Historically, the state also has played a

role in regulating marriage choices through anti-miscegenation laws (Kennedy, 2003; Moran, 2001), and the threat of mob violence has likely restricted intermarriage as well. Individual preferences and the influence of third parties represent the extent of social differentiation along racial and ethnic lines. The assimilation and panethnicity perspectives seek to describe the pattern of differentiation.

Assimilation, panethnicity, and intermarriage

The dominant approach guiding research on racial and ethnic differentiation and immigration in the United States has been the assimilation framework (Alba & Nee, 1997; Gordon, 1964; Park, 1926, 1928; Park & Burgess, 1921). The issues driving this research are questions about how and when immigrant groups will adapt to U.S. society, where adaptation is gauged by social and economic integration into a common culture and opportunity structure. This framework holds that over time and for succeeding generations, group distinctions will naturally fade and newcomer groups will enter mainstream society. Gradually newcomers and their descendants will adopt the language, dress, and values of the receiving society and attain full acceptance. Intermarriage into the mainstream is in fact considered one of the key indicators of assimilation (Gordon, 1964). Evidence supporting this framework comes from the experiences of European immigrant groups arriving in the United States during the late 19th and early 20th centuries (Lieberson & Waters, 1988; Waters, 1990). For today's non-European immigrants, Alba and Nee's (1997) assessment concludes that the concept of assimilation remains the best way to describe their integration into U.S. society.

Whereas assimilation considers only the possibility that newcomers will integrate into mainstream society, panethnicity (Lopez & Espiritu, 1990) suggests that members of Asian American and Latino groups are developing durable identities as Asian Americans and Latinos, respectively. Largely descriptive, this research has focused on how members of distinct minority groups have united to become panethnic groups based on external pressures and shared group interests and experiences[1] (Espiritu, 1992; Kibria, 1998). State administrative racial categories for policies regarding marriage (Osumi, 1982), the Census (Peterson, 1987), and a wide variety of social service programs (Espiritu, 1992; Espiritu & Ong, 1994; Padilla, 1985) have been important in institutionalizing panethnic identities. Survey and ethnographic evidence support the importance of panethnic subjective identities among Asian Americans (Kibria, 1997) and Latinos (Portes & MacLeod, 1996). Because Latinos may be more likely to share a common language and Catholic religion, panethnicity may be stronger for Latinos than Asians (Rosenfeld, 2001).

Panethnicity can be seen as a gauge of the importance of the distinctions among different Asian and Latino groups. Although evidence shows that panethnic Asian and Latino identities are important, Asian and Latino groups are not necessarily homogeneous. However, panethnicity is sustained when distinctions among Latino groups do exist but are less important than distinctions between Latino and non-Latino groups. For intermarriage this implies that members of Asian and Latino groups have special affinities with each other that are not shared with other groups.

A few intermarriage studies have investigated panethnicity. Two find a tendency for members of different Latino groups to marry each other, especially for the immigrant generation

(Rosenfeld, 2001) and primarily for non-White Latinos (Qian & Cobas, 2004). Two studies also find evidence for panethnicity among Asian Americans (Qian et al., 2001; Rosenfeld, 2001).

One weakness of past research (Qian et al., 2001; Qian & Cobas, 2004) is the assumption that the marriage markets from which people choose their spouse have the nation's population composition. As Harris and Ono (2005) have argued, this assumption may lead to misleading findings because geographic concentration may be mistaken for a tendency to marry within one's own group. This study will make a weaker and more realistic assumption about the marriage markets from which people choose their spouse. Another study (Rosenfeld, 2001) addresses this shortcoming by examining intermarriage at the level of metropolitan areas. However, in most cases this study only distinguishes a single Asian American or Latino group and classifies the remaining Asian Americans and Latinos into composite "Other Asian" and "Other Latino" categories, respectively. This significantly reduces the level of detail available. As I explain below, this study uses a compromise strategy that preserves a high level of detail in the classification of groups and also accounts for the uneven geographic distribution of racial and ethnic groups.

The absence of any panethnic attachments at all occurs when, for example, the distinctions among different Latino groups are as important as the distinctions between a given Latino group and non-Latino groups. In this scenario, Latinos would be *less* likely to marry members of other Latino groups than to marry non-Latinos. The absence of any panethnic attachments also includes the scenario of the assimilation approach. If, as assimilation describes, the dominant tendency is to integrate into the mainstream, then there would be a stronger

tendency for Latinos and Asian Americans to marry Whites than to marry members of other Latino and Asian American groups, respectively.

In contrast to the assimilation approach, the panethnicity perspective emphasizes the persistence of a particular set of reconfigured ethnic boundaries. If, instead of intermarrying with Whites, Asians and Latinos tend to favor members of other Asian and Latino groups (respectively), this would be consistent with panethnicity. Panethnicity is silent on the long-term durability of these identities, however. Even if panethnicity is simply a detour on the way to eventual assimilation, it still provides an important elaboration of the path taken by group distinctions as they change over time. Thus, intermarriage patterns can reveal whether current tendencies toward panethnic integration or assimilatory mainstream integration are stronger.

The Black/non-Black Divide

Yancey (2003) argues that whereas Asians and Latinos are on the path toward assimilation, Blacks are singularly alienated from other Americans. Evidence for this position comes from a variety of sources. Blacks are consistently rated as the least desirable spouses for the children of Asians, Latinos, and Whites (Yancey, 2003). Bobo and Zubrinsky (Bobo & Zubrinsky, 1996; Zubrinsky & Bobo, 1996) find that Asian Americans, Latinos, and Whites have the greatest aversion to Black neighbors. Logan's (2001) dissimilarity indices show that Asians, Latinos, and Whites have the highest levels of residential segregation from Blacks. Blacks also have unique views on a variety of public policy issues (Yancey, 2003). Waters (1999:341-344) finds substantial barriers to mobility even for hopeful, optimistic Black immigrants.

Blackwell and Lichter (2000) use a "quasi-crossing parameter" log-linear model to describe the 1990 prevalence of interracial marriage and cohabitation for Asians, Blacks, Latinos, and Whites. Their findings support the notion of a deep Black/non-Black divide and are consistent with the notion that Asians, Whites, and Latinos have a racial hierarchy of preferences with Whites at the top followed in order by Asians, Latinos, and Blacks. This study will determine if these results can be replicated using a more detailed classification of groups. Evidence that other groups have a great aversion to Black spouses would support the notion of a deep Black/non-Black divide.

Data and methods

This study uses the Long Form Sample of the 1990 Decennial U.S. Census (U.S. Department of Commerce, 1996), which is a one in six sample of the U.S. population and three times as large as the usual 5 percent Public Use Microdata Sample (PUMS). To form married couples I match household heads with their spouses. I restrict the sample to couples where both spouses are native born in order to exclude marriages formed outside the U.S. and control for generation. I also restrict the sample to couples where either husband or wife is under age 30 to reduce the effect of differential marital dissolution. As no information on marriage timing was collected, this is a way to approximate incidence data, which permits inferences about marriage choice. In 1990, 64.8 percent of women and 56.1 percent of men marrying were under age 30. The median age at marriage for women was 26.7 years and for men it was 28.7 years (Clarke, 1995). The sample restrictions I have imposed are imperfect but are reasonable given data limitations and likely restrict the sample to include large numbers of recent marriages.

I have ten categories for husband's and wife's race: White, Black, Chinese (including Taiwanese), Filipino, Japanese, Other Asian Pacific Islander, Cuban, Mexican, Puerto Rican, and Other Latino. Respondents who selected any Latino background were classified as Latino. All other group identifiers include an implicit non-Latino that I omit for ease of writing. West Indians were not numerous enough to distinguish from other Blacks. I exclude marriages of Cubans with all Asian and Pacific Islander groups because their small numbers could not support an analysis. I also control for education by distinguishing between respondents with at least some college education or none at all.

Because racial and ethnic groups are unevenly distributed across the United States, I account for population composition at the division level, using the Census Bureau's classification of the nation into nine divisions (U.S. Department of Commerce, 1994). This assumes that people choose their spouse from the people living in their division. A more appropriate marriage market approximation might be metropolitan areas or Labor Market Areas (Tolbert & Sizer, 1996). However, such small marriage markets restrict the ability to use a detailed classification for groups. Thus, I use divisions as a compromise.

I use log-linear models to describe marriage patterns controlling for population composition. Marginal parameters for population composition are included in the model, allowing estimates of the interaction parameters of interest to be free of the effects of group size. I model a 10 x 10 x 2 x 2 x 9 cross-classification. The null model is:

$$\log m_{ijklm} = \lambda + \lambda_i^{HR} + \lambda_j^{WR} + \lambda_k^{HE} + \lambda_l^{WE} + \lambda_m^{D} + \lambda_{ik}^{HRHE} + \lambda_{im}^{HRD} + \lambda_{km}^{HED} + \lambda_{jl}^{WRWE} + \lambda_{jm}^{WRD} + \lambda_{lm}^{WED} + \lambda_{ikm}^{HRHED} + \lambda_{jlm}^{WRWED}. \quad (1)$$

The terms account for variation across divisions in husband's and wife's racial and educational population composition, controlling for the unique pattern of racial educational differences in each area. This model assumes that there is no association between husband's and wife's race or between husband's and wife's education. The baseline intermarriage model I estimate is the following quasi-symmetry model:

$$\log m_{ijklm} = \lambda^{*} + \lambda^{HEWE}_{kl} + \lambda^{WRHE}_{jk} + \lambda^{HRWE}_{il} - \tfrac{1}{2}\lambda^{HRWR}_{ij} - \tfrac{1}{2}\delta^{HRWRHE}_{ijk} - \tfrac{1}{2}\delta^{HRWRWE}_{ijl} - \tfrac{1}{2}\delta^{HRWRHEWE}_{ijkl} \qquad (2)$$

where λ^{*} represents all of the terms in the null model; $\lambda^{HRWR}_{ij} = \lambda^{HRWR}_{ji}$ when $i \neq j$; $\lambda^{HRWR}_{ij} = \delta^{HRWRHE}_{ijk} = \delta^{HRWRWE}_{ijl} = \delta^{HRWRHEWE}_{ijkl} = 0$ when $i = j$; and $\delta^{HRWRHE}_{ijk} = \delta^{HRWRHE}_{i'j'k}$, $\delta^{HRWRWE}_{ijl} = \delta^{HRWRWE}_{i'j'l}$, and $\delta^{HRWRHEWE}_{ijkl} = \delta^{HRWRHEWE}_{i'j'kl}$ when $i \neq j$ and $i' \neq j'$. Each of the final three terms is constant for the off-diagonal cells in the husband's race by wife's race table.

The λ^{HRWR}_{ij} effects constitute a model of quasi-symmetry for the interaction between husband's race and wife's race[2]. This model imposes the assumption that intermarriage tendencies are the same for men and women. Even with the large size of the 1 in 6 Long Form Sample, confidentiality restrictions preclude a comprehensive investigation of gender differences in intermarriage. (There is also evidence in Appendix A that the quasi-symmetry assumption describes the data adequately.) This quasi-symmetry model has the advantages of simplifying the terms for the interaction between husband's race and wife's race and providing easily interpreted parameter estimates. These estimated parameters describe the importance of racial and ethnic distinctions to marriage outcomes after controlling for population composition. Collapsing over husband's and wife's education and division, and constraining the terms on the

main diagonal to be zero, the parameterization produces the following relationship for the estimated parameters:

$$\lambda_{i\ j}^{HRWR} = log\ [(m_{ii}/m_{ij}) / (m_{ji}/m_{jj})] \qquad \text{for } i \neq j. \qquad (3)$$

Thus, the $\lambda_{i\ j}^{HRWR}$ parameters are the cross-product ratio formed from the cells at the intersection of rows *i* and *j* and columns *i* and *j*[3]. These parameters are the endogamy odds ratios (EORs) describing intermarriage between groups *i* and *j*. These odds ratios are similar to the ones used by Lieberson and Waters (1988).

EORs measure differences in the marriage behavior of pairs of groups. Taking Blacks and Whites as an example, the Black/White EOR reveals how much more likely Blacks are to marry Blacks instead of Whites than Whites are. If Blacks and Whites are equally likely to marry Blacks instead of Whites (an EOR of one), this means that the distinction between Blacks and Whites is unimportant to marriage choice. If the EOR is large, there is a strong tendency for Blacks and Whites to marry within their own groups because Blacks are much more likely to marry Blacks than Whites are and Whites are much more likely to marry Whites than Blacks are. A high EOR suggests that the distinction between the two groups is important to marriage outcomes and hence that the boundary between the two groups is strong.

The $\delta_{i\ j\ k}^{HRWRHE}$, $\delta_{i\ j\ l}^{HRWRWE}$, and $\delta_{i\ j\ k\ l}^{HRWRHEWE}$ parameters describe the effects of husband's and wife's education on the EORs. A uniform effect of husband's education is estimated for all types of intermarriages and a different uniform effect is estimated for wife's education. Another uniform effect is estimated for the interaction of husband's and wife's education. The parameters represent the change in the EOR when husbands or wives have at least some college

education compared to when husbands or wives have no college education. Thus, for groups *i* and *j*, husband's schooling level *k*, and wife's schooling level *l*,

$$log\ EOR_{ijkl} = \lambda_{i\ j}^{HRWR} + \delta_{i\ j\ k}^{HRWRHE} + \delta_{i\ j\ l}^{HRWRWE} + \delta_{i\ j\ k\ l}^{HRWRHEWE} \quad (4)$$

$\delta_{i\ j\ k}^{HRWRHE}$ describes how the EOR changes when the husband has at least a some college, $\delta_{i\ j\ l}^{HRWRWE}$ describes how the EOR changes when the wife has at least some college, and $\delta_{i\ j\ k\ l}^{HRWRHEWE}$ describes the EOR change when both the husband and wife have at least some college.

Results

Table 1 presents percentages from a cross-classification of husband's race by wife's race. For the sake of simplicity, I present data for the entire nation and collapse all the Asian groups into a single category and all of the Latino groups into a single category. The table I analyze uses the detailed classification of groups and also cross-classifies these marriages by husband's and wife's education and division of residence. Confidentiality restrictions preclude the release of a cross-classification at the full level of detail.

One key feature of the data is overwhelming endogamy for Blacks and Whites. At least 92 percent of White men, White women, Black women, and Black men are married to members of their own group. However, only about 58 percent of Latinos are married to someone of their own national origin group, and only about one quarter of Asian women and men are married to spouses belonging to their own national origin group. These proportions are actually over-estimates of endogamy for Latinos and Asians because of the classification I use. Hondurans married to Salvadorans would be classified as endogamous marriages because both are Other Latinos in my classification. Similarly, Cambodians married to Asian Indians would be

classified as endogamous marriages because both are Other Asians in my classification. Nevertheless, it is apparent that exogamy is important for both Latinos and Asians, and is in fact the dominant pattern for Asians.

Panethnic intermarriages occur in significant volume for Asians. Between 11 and 12 percent of Asian men and women marry members of other Asian groups. However, panethnicity appears to be a much smaller phenomenon for Latinos. Only 3.5 percent of Latinas and Latinos are married to members of other Latino groups. Previous research supporting panethnicity for Latinos suggests that this proportion should be higher. However, these data suggest that panethnicity for Latinos is not a significant phenomenon. The Black/non-Black distinction also appears strong, with less than 3 percent of White, Asian, and Latino men and women marrying Blacks.

Because these percentages are sensitive to population composition, they do not provide reliable measures of marriage preferences. Estimated EORs from log-linear models control for population composition and I discuss them in the following section.

Baseline model

Table 2 lists the fit statistics for the log-linear models I estimated. Model 1 includes marginal terms describing the population composition of each division by race and education and quasi-symmetry parameters describing racial assortative marriage. This model fits poorly because there is substantial assortative marriage by education. Model 2 adds a single term for educational assortative marriage and the fit of the model improves significantly. The BIC is now negative at -29,105.90, indicating that this model is more plausible than the saturated model.

Model 3 improves the model by allowing the pattern of educational assortative marriage to depend on husband's race and wife's race and also includes lower-order cross-sex interaction terms for the association between husband's race and wife's education, and wife's race and husband's education. The BIC declines even further to -29,497.23. Model 4 (Equation 2) is the baseline model and adds the $\delta_{i\ j\ k}^{HRWRHE}$, $\delta_{i\ j\ l}^{HRWRWE}$, and $\delta_{i\ j\ k\ l}^{HRWRHEWE}$ terms that relate interracial marriage to husband's and wife's education. These terms describe how the likelihood of intermarriage varies with husband's education and wife's education and improve the model even further as reflected in the more negative BIC of -30,972.89. Appendix A describes alternative model specifications that I rejected in favor of the baseline Model 4.

Assimilation and panethnicity with a restricted model

Model 4 estimates 41 unique parameters for the EORs describing intermarriage tendencies between pairs of groups. To evaluate the hypothesis of panethnicity using this model would require examining many odds. In addition to examining Chinese' odds of marrying Filipinos instead of Whites, one would need to examine Chinese' odds of marrying Filipinos instead of Blacks, Filipinos instead of Mexicans, etc. Furthermore, one would need to examine Chinese' odds of marrying Japanese instead of Whites, Blacks, Mexicans, Puerto Ricans, Cubans, and Other Latinos. This same process would have to be repeated for the other Asian groups as well as each of the Latino groups. With even a small number of groups, this approach would quickly become impractical.

A more manageable test of the panethnicity hypothesis can be carried out by imposing homogeneity constraints on the estimated parameters from the baseline Model 4. I assess the

hypothesis of panethnicity using estimates from Model 5 which imposes constraints that all Asian (Latino) groups are identical to each other in their tendency to intermarry with other groups. For example, Cubans, Puerto Ricans, Mexicans, and Other Latinos are constrained to have the same tendency to marry Whites. These constraints harm model fit (BIC increases from -30,972.89 in the baseline Model 4 to -28,637.60 in the homogeneity Model 5) but simplify the model significantly and facilitate determining whether intermarriage patterns support panethnicity. The less restrictive constraints in the better fitting preferred Model 6 (discussed below) yield the same substantive results (See Appendix B for details).

Table 3 lists Model 5's estimated log EORs. Larger log EORs represent a stronger tendency to marry within one's own group, or a greater aversion between pairs of groups. The smallest log EOR is 4.26 for marriages between a pair of different Asian groups. This suggests support for panethnicity because it implies that Asians are less averse to marriages with other Asian groups than with non-Asian groups. The log EOR for a pair of Latino groups is also relatively low at 5.47, also suggesting that Latinos tend to be less averse to marriages with other Latino groups than with non-Latino groups.

To more formally assess the panethnicity hypothesis, Table 4 lists odds calculated from the estimated EORs. These odds are estimated with controls for population composition and education, and describe the extent to which Asians (Latinos) favor other Asian (Latino) groups as spouses compared to non-Asians (non-Latinos). The odds are calculated by taking the exponential of half the difference between the log EORs. For instance, the odds that an Asian marries a member of another Asian group instead of a White spouse is $exp[\ (6.17 - 4.26)/2\ ] = 2.60$, where 6.17 is the White/Asian log EOR and 4.26 is the Asian/Asian log EOR.

Table 4's top panel lists odds for Asians and these consistently support panethnicity. An odds greater than one sustains panethnicity and is evidence that Asians favor members of other Asian groups over non-Asians. Controlling for population composition, Asians marry members of other Asian groups 2.60 as often as they marry Whites, 18.97 times as often as they marry Blacks, and 4.16 times as often as they marry Latinos. This suggests that distinctions between Asians and non-Asians are stronger than distinctions among Asian groups.

Support for Latino panethnicity is weaker. Latinos do marry members of other Latino groups 4.72 times as often as they marry Blacks and 2.27 times as often as they marry Asians. However, Latinos actually favor Whites over members of other Latino groups. Latinos marry members of other Latino groups only 79 percent as often as they marry Whites. Thus, both assimilation and panethnicity describe Latinos' marriage choices. Latinos exhibit panethnicity when confronted with Asian and Black potential spouses, but Latinos actually favor White spouses over spouses belonging to other Latino groups. This is surprising given the shared language and religion of some Latinos. Latinos who identify themselves racially as White may be especially likely to marry Whites.

The Black/non-Black divide

In order to assess the magnitude of the Black/non-Black divide I use a less restrictive model than the homogeneity Model 5. I estimate the preferred Model 6 which imposes a more selective set of constraints on the EORs of the baseline Model 4. By inspecting the estimated Model 4 coefficients and carrying our exploratory analyses, I settled on the 31 restrictions described in Appendix Table 1. Instead of estimating 41 unique EORs for the baseline Model 4,

Model 6 summarizes intermarriage tendencies for the 41 group combinations with 10 unique parameters. According to the BIC, the preferred Model 6 with a BIC of -31,364.34 is much more plausible than the baseline Model 4 with its BIC of -30,972.89.

Table 5 lists Model 6's estimated EORs, their logs, and the standard errors of the logs. I list the log EORs to facilitate the calculation of odds other than those presented here and I list the standard errors to describe the uncertainty in the estimates. The EORs are the substantively meaningful descriptions of intermarriage patterns and describe couples where both spouses have a high school diploma or less. Education differences are discussed below.

The Appendix Table 1 constraints include a subset of the full homogeneity constraints imposed in Model 5. For instance, Cubans and Other Latinos are constrained to have the same tendency to marry Blacks. The same constraint is imposed for Chinese and Japanese. However, the full set of homogeneity constraints used in Model 5 were not imposed because they were found not to hold, as Chinese and Japanese differ significantly from Filipinos and Other Asians in their tendency to marry Blacks. This explains the higher plausibility of the preferred Model 6 compared to the homogeneity Model 5 where, among other restrictions, all four Asian groups are constrained to have the same tendency to marry Blacks.

Table 5 lists the odds ratios from Model 6 and these provide strong evidence of a deep Black/non-Black divide. In general, the EORs involving Blacks are in the thousands and tens of thousands whereas the EORs involving a pair of non-Black groups are in the hundreds. The Black/White EOR is 15,383, meaning that Blacks are 15,383 times more likely than Whites to marry a Black spouse instead of a White spouse. The next largest EOR for Whites is the Chinese/White EOR of 1,357 which is less than one-tenth of the Black/White EOR.

Asian groups consistently have the largest EORs with Blacks. The Black/Other Asian EOR is 15,383 and the next largest EOR involving Other Asians is the Other Asian/Mexican EOR with a value of 2,378. The Black/Chinese EOR is 80,822 and the next largest EOR involving Chinese is the EOR for Chinese with both Mexicans and Other Latinos with a value of 8,656. The Black/Filipino EOR is also much larger than the other EORs for Filipinos. The same is true for Japanese. This is evidence that the Asian/Black distinction is highly important to marriage choices.

Latino groups also tend to have large EORs with Blacks. The highest is the Black/Cuban and the Black/Other Latino EOR with a value of 15,383. For these two groups, their largest EORs involve Blacks. However, the same is not true for Mexicans and Puerto Ricans. For these two groups, the EOR with Blacks is at least as large as one or more EORs with Asian groups. The Chinese/Mexican EOR is equal to the Black/Mexican EOR at 8,656. The Black/Puerto Rican EOR is 1,357, smaller than the Chinese/Puerto Rican and Japanese/Puerto Rican EORs of 2,378. Mexicans and Puerto Ricans thus have EORs with some Asian groups that are at least as high as their EORs with Blacks. Overall, the distinctions between Blacks and Puerto Ricans and between Blacks and Mexicans are at least as important as the distinctions between these two

Latino groups and some Asian groups. It is also noteworthy that the Filipino/Latino EORs of 307 are quite low and demonstrate a special affinity between Filipinos and Latinos, perhaps due to the history of the Philippines as a former Spanish colony.

Overall there is strong evidence that Asian groups distance themselves from Blacks. Latino groups also distance themselves from Blacks, but some Latino groups also distance themselves from a few Asian groups to the same or an ever greater degree. The aversion of Puerto Ricans and Mexicans to Chinese and Japanese is similar in scale to the two Latino groups' aversion to Blacks. Overall, however, these results provide evidence for a significant Black/non-Black divide.

The preferred Model 6 odds ratios also shed light on panethnicity. The highlighted cells contain the EORs for pairs of Asian and pairs of Latino groups. As expected they tend to be lower than EORs pairing Latino with non-Latino groups and Asian with non-Asian groups. These more detailed EORs shed particular light on panethnicity and assimilation for Latinos. As I detail in Appendix B, the affinity between Latinos and Whites appears to be stronger for Mexicans (EOR = 113) and Other Latinos (EOR = 170) and weaker for Cubans (EOR = 517) and Puerto Ricans (EOR = 517). Thus, the strongest tendency toward assimilation exists for Mexicans and Other Latinos whereas Cubans and Puerto Ricans have stronger tendencies toward panethnicity.

Education and intermarriage

Table 6 describes the effect of education on marriage outcomes. The coefficients reveal how intermarriage varies with husband's and wife's education. For couples where the husband

has at least some college and the wife does not, the EOR is 40 percent of the EOR listed in Table 5. For couples where the wife has at least some college and the husband does not, the EOR is 59 percent of the EOR listed in Table 5. For couples where both husband and wife have at least some college education, the EOR is 36 percent of the figure listed in Table 5. As expected, increased education increases intermarriage. This is consistent with earlier findings (e.g., Lieberson & Waters, 1988).

When only husbands have at least some college the Black/White EOR falls to 6,215, less than half of its level when neither husband nor wife has any college education. When only wives have at least some college the Black/White EOR falls to 9,138. When both husband and wives have at some college, the Black/White EOR falls to 5,541. The lowest EOR in Table 5 is 32 for Other Asian/Filipino and Chinese/Japanese. When both husband and wife have at least some college, this EOR declines to 11.5. Comparatively speaking, this is a very small odds ratio.

Discussion

This study has used family formation patterns to assess arguments about race and ethnicity in the U.S. Racial intermarriage patterns show a fundamental cleavage between Blacks and non-Blacks, although there is also evidence of cleavages among non-Black groups, notably between some Latino and some Asian groups. Nevertheless Blacks' isolation in the marriage market parallels their residential isolation (Logan, 2001). These findings support Yancey's (2003) Black isolation thesis, although increases over time in Black/White intermarriage (Kalmijn, 1993; Qian, 1997) and other forms of social change, however slight they may be, continue.

For the different Asian groups, there is also evidence of a tendency to intermarry with each other. This confirms earlier work (Qian et al., 2001; Rosenfeld, 2001). However, evidence for panethnicity among Latino groups was weaker, and Whites were a favored intermarriage partner. These findings modify earlier studies' conclusions that panethnicity is important for Latinos (Qian & Cobas, 2004; Rosenfeld, 2001). I do find evidence of its importance, but its importance is threatened by assimilation and intermarriages with Whites. Table 1 illustrates this well as only 3.5 percent of Latinas' and Latinos' marriages are panethnic whereas 36 percent of Latinas and Latinos marry Whites. This study also identifies an affinity between Latinos and Filipinos, perhaps due to shared histories of Spanish colonization.

Several issues are worthy of further investigation. First, this study has imposed the assumption of gender symmetry in intermarriage patterns. The EORs this study uses to measure intermarriage tendencies are not sensitive to gender asymmetry in intermarriage. It is well known, however, that intermarriage patterns are gender asymmetric (e.g., Jacobs & Labov, 2002). Even with evidence that the assumption of symmetry fits the data adequately (see Appendix A), the pattern of gender asymmetry in intermarriage is worthy of description and explanation.

Gender asymmetry has been discussed most for Black/White intermarriage and the standard explanation emphasizes gender roles, arguing that men's socioeconomic resources are more important than women's and that Black men are able to acquire socioeconomic resources to overcome their racial disadvantage in attracting White wives. High socioeconomic status Black women are unable to attract White husbands because women's socioeconomic resources are less important for their marriage prospects (Davis, 1941; Merton, 1941). However, Gullickson

(2006) shows that historical trends in the Black/White intermarriage gender disparity are inconsistent with this explanation, as the disparity actually increased in the last half of the twentieth century just as traditional gender roles were weakening. Further research needs to be done to improve our understanding of this gender disparity for Black/White intermarriage and other groups as well.

This study has also focused only on married couples, even though the population of unmarried people can also be informative about marriage preferences. For example, Black women outnumber Black men in the sample by 2,585, and Asian women outnumber Asian men in the sample by 304. It is well known that selection into marriage is non-random and could affect the paper's findings, although the precise nature of the bias is difficult to determine. A careful consideration of this issue is beyond the scope of this paper.

Also, this study has not accounted for the ethnicity of non-Hispanic Whites. Although Lieberson and Waters (1988) concluded that distinctions among White ethnic groups are minor compared to distinctions among Whites, Blacks, Asians, and Latinos, they did nonetheless observe differences among White ethnic groups. Their work has been interpreted as trumpeting the success of assimilation for European immigrants and a by-product has been diminished interest in ethnicity for Whites. However, Lieberson and Water's analysis of 1980 U.S. Census data does show substantial ethnic assortative marriage for Whites. The extent of this pattern for 1990 and later years is of interest, in part because it can be used to gauge the importance of distinctions between Whites and Asians, and between Whites and Latinos, as intermarriage increases.

Overall these findings suggest that Latinos, especially Mexicans and Other Latinos, fit the pattern of traditional assimilation and intermarriage with Whites. Their marriage choices provide modest support to the notion that Latino groups are constructing durable identities as Latinos. On the other hand, Asians' marriage choices provide stronger evidence of panethnicity, although preferences remain greatest for one's own national origin group. Finally, the Black/non-Black distinction remains an enormous barrier. If the melting pot metaphor is apt for these intermarriage patterns, then it must be a divided melting pot not well stirred.

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Table 1: Percentages for cross-tabulation of husband's race by wife's race

	Wives				Husbands			
	White	Black	Asian[a]	Latino[b]	White	Black	Asian[a]	Latino[b]
% married to								
White	97.5%	2.1%	52.9%	35.8%	97.8%	6.0%	48.1%	35.9%
Black	0.5%	97.0%	2.7%	2.3%	0.2%	92.4%	1.2%	1.3%
Asian	0.2%	0.1%	26.1%	0.8%	0.2%	0.2%	28.1%	0.6%
Latino	1.8%	0.9%	7.1%	57.7%	1.8%	1.5%	10.5%	58.6%
Panethnic			11.2%	3.5%			12.1%	3.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
N	975,791	73,630	4,307	49,650	973,290	76,215	4,003	48,870

Source: 1990 Census Long Form Sample

[a]The Asian-Asian cells contain the percentage of Asians marrying into their own specific group when Asians are classified as Chinese, Filipino, Japanese, and Other Asian.

[b]The Latino-Latino cells contain the percentages of Latinos marrying into their own specific group when Latinos are classified as Mexican, Puerto Rican, Cuban, and Other Latino.

Using these groups, the panethnic percentages are for Latinos marrying other Latinos not belonging to their own specific group and for Asians marrying other Asians not belonging to their own specific group.

Percentages are for household heads and spouses, both native-born, at least one under age 30, at least one living in current division in 1985

Table 2: Goodness-of-fit χ^2 and BIC statistics for marriage models

Model	Residual df	G^2	BIC
Model 1: HRHED + WRWED + quasi-symmetry	2820	229963.74	190729.13
Model 2: Model 1 + HEWE	2819	10114.80	-29105.90
Model 3: Model 2 + HRHEWE + WRHEWE	2783	9222.60	-29497.23
Baseline Model Model 4: Model 3 + IMHEWE	2780	7705.20	-30972.89
Homogeneity Model Model 5: Model 4 + homogeneity constraints	2813	10499.61	-28637.60
Preferred Model Model 6: Model 4 + Appendix Table 1 restrictions	2811	8860.38	-31364.34

HR, WR = husband's, wife's race; HE, WE = husband's, wife's education; D = Division;
IM = intermarriage (single parameter for all cells where HR $\neq$ WR)

Table 3: Homogeneity Model 5 log endogamy odds ratios

	White	Black	Asian groups	Latino groups
White				
Black	9.62 (0.03)			
Asian groups	6.17 (0.05)	10.14 (0.16)	4.26 (0.11)	
Latino groups	5.01 (0.02)	8.57 (0.05)	7.11 (0.08)	5.47 (0.05)

Standard errors are in parentheses. All estimates are significantly different from zero with $p < 0.001$.
Estimates are presented for couples where no spouse has any college education.
The Asian-Asian and Latino-Latino log odds ratios are for panethnic marriages between members of two different Asian and Latino groups, respectively

Table 4: Panethnicity odds from Homogeneity Model 5

	Odds
Odds that Asians marry	
Asians vs. Whites	2.60
Asians vs. Blacks	18.97
Asians vs. Latinos	4.16
Odds that Latinos marry	
Latinos vs. Whites	0.79
Latinos vs. Blacks	4.72
Latinos vs. Asians	2.27

All odds are significantly different from 1 with $p < 0.001$.

Table 5: Preferred Model 6 endogamy odds ratios

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) White									
(2) Black	15,383 9.64 (0.03)								
(3) Other Asian	517 6.25 (0.03)	15,383 9.64 (0.03)							
(4) Chinese	1,357 7.21 (0.07)	80,822 11.3 (0.28)	307 5.73 (0.09)						
(5) Filipino	307 5.73 (0.09)	15,383 9.64 (0.03)	32 3.46 (0.14)	307 5.73 (0.09)					
(6) Japanese	517 6.25 (0.03)	80,822 11.3 (0.28)	113 4.73 (0.02)	32 3.46 (0.14)	113 4.73 (0.02)				
(7) Mexican	113 4.73 (0.02)	8,656 9.07 (0.07)	2,378 7.77 (0.12)	8,656 9.07 (0.07)	307 5.73 (0.09)	2,378 7.77 (0.12)			
(8) Puerto Rican	517 6.25 (0.03)	1,357 7.21 (0.07)	307 5.73 (0.09)	2,378 7.77 (0.12)	307 5.73 (0.09)	2,378 7.77 (0.12)	170 5.14 (0.03)		
(9) Cuban	517 6.25 (0.03)	15,383 9.64 (0.03)					1,357 7.21 (0.07)	113 4.73 (0.02)	
(10) Other Latino	170 5.14 (0.03)	15,383 9.64 (0.03)	307 5.73 (0.09)	8,656 9.07 (0.07)	307 5.73 (0.09)	2,378 7.77 (0.12)	517 6.25 (0.03)	170 5.14 (0.03)	170 5.14 (0.03)

Figures are odds ratios and log odds ratios with standard errors in parentheses. All estimated log odds ratios are significantly different from zero with $p < 0.001$. Estimates are presented for couples where neither spouse has any college education. Apply Table 6 multipliers for other education combinations.

Table 6: Effect of education on interracial marriage

Effect vs. no college	Change in log EOR		EOR Multiplier
	coef	std err	
Education effect on endogamy odds ratio			
Husband with at least some college	-0.907***	0.035	0.404
Wife with at least some college	-0.521***	0.035	0.594
Husband and wife both with at least some college	0.406***	0.049	1.501

***p < 0.001

Appendix Table 1: Restrictions for Preferred Model 6

Constraint type	Restrictions on EORs
White-Asian homogeneity	W/OA = W/J
White-Latino homogeneity	W/PR = W/Cu
Black-Asian homogeneity	B/OA = B/F, B/Ch = B/J
Black-Latino homogeneity	B/Cu = B/OL
Asian-Asian homogeneity	OA/Ch = Ch/F, OA/F = Ch/J, OA/J = F/J
Asian-Latino homogeneity	OA/M = J/M = Ch/PR = J/PR = J/OL, F/M = OA/PR = F/PR = F/OL = OA/OL, Ch/M = Ch/OL
Latino-Latino homogeneity	M/PR = PR/OL = Cu/OL
Additional constraints	W/B = B/OA = B/Cu, W/OA = W/PR, OA/Ch = F/M B/M = Ch/M W/M = OA/J = PR/Cu W/F = Ch/F W/OL = M/PR W/Ch = B/PR = M/Cu M/OL = W/OA

W = White, B = Black, OA = Other Asian, Ch = Chinese, F = Filipino, J = Japanese, M = Mexican, PR = Puerto Rican, Cu = Cuban, OL = Other Latino

Appendix A

Specifying a theoretically driven, parsimonious log-linear model without over-fitting the data is difficult. In this appendix I discuss models I rejected in favor of the Preferred Model 6 from Table 2.

Models A1 and A2 in Appendix Table A1 correspond to Models 1 and 2 from Table 2 and add a term for educational assortative marriage to the Null Model (Equation 1) with the quasi-symmetry parameters for racial assortative marriage. Model A3 adds cross-sex interaction terms for the associations between husband's race and wife's education, and between wife's race and husband's education. Model A4 is the best fitting model for the effect of education on intermarriage based on Model A3. Compared to Model A3, Model A5 (Model 3 in Table 2) uses a more complex model of educational assortative marriage that allows the association between husband's and wife's education to depend on husband's and wife's race. Model A6 (Equation 2, Model 4 in Table 2) is the best fitting model for the effect of education on intermarriage based on Model A5. Since Model A6 has a more negative BIC statistic than Model A4, I select Model A6 as the baseline model. Models A7-A9 investigate interactions of educational assortative marriage terms with division. I prefer Model A5 because none of these models yielded a smaller BIC than Model A5. Model A7 (compared to Model A2) is evidence that educational assortative marriage may vary across divisions. I did not include this term in the models discussed in this paper, although this possibility is worthy of investigation.

Model A10 relaxes the symmetry constraint of Model A5 for the interaction of husband's race with wife's race. I accept the symmetry constraint because Model A10 has a larger BIC statistic than Model A5.

Model A11 adds to Model A5 a single parameter for husband's education that constrains the effect of husband's education to be constant for all types of intermarriages. The BIC for this model is an improvement over the BIC for Model A5. Model A12 adds a single parameter for wife's education to Model A5. Again, the BIC is an improvement. Model A13 adds a single parameter each for husband's and wife's education. The BIC improves over both Models A11 and A12. Model A6 is next in this sequence and includes the four-way interaction of husband's education, wife's education, husband's race, and wife's race, where the off-diagonal cells of the husband's race by wife's race table are constrained to be equal for each schooling combination. This is the baseline model.

Models A14-A32 parameterize the effect of husband's and wife's education on intermarriage in five different ways. Because none of these alternative parameterizations are consistently superior to Models A6 and A11-A13, I prefer the single-parameter coding for the effect of husband's and wife's education. Models A14-A16 completely relax the symmetry constraint and use a standard dummy variable parameterization for the effects. Models A17-A20 allow the effects of husband's and wife's schooling to vary for each of the 41 quasi-symmetry parameters. Models A21-A24 estimate distinct effects of husband's and wife's schooling for Whites, Blacks, Asians, and Latinos. Models A25-A28 estimate distinct effects of husband's and wife's schooling for White/Black, White/Asian, White/Latino, Black/Asian, Black/Latino, Asian/Asian, Asian/Latino, and Latino/Latino intermarriages. Models A29-A32 estimate distinct effects of husband's and wife's schooling for each of the ten groups distinguished in the data.

Appendix Table A1: Goodness-of-fit χ^2 and BIC statistics for additional marriage models

Model	Residual df	G^2	BIC
Model A1: HRHED + WRWED + quasi-symmetry	2820	229963.74	190729.13
Model A2: Model A1 + HEWE	2819	10114.80	-29105.90
Model A3: Model A2 + HRWE + WRHE	2801	9430.25	-29540.01
Model A4: Model A3 + IMHE + IMWE	2799	7996.76	-30945.67
Model A5: Model A3 + HRHEWE + WRHEWE	2783	9222.60	-29497.23
Model A6: Model A5 + IMHEWE	2780	7705.20	-30972.89
Model A7: Model A3 + HEWED	2811	9648.43	-29460.95
Model A8: Model A7 + HRWED + WRHED	2649	8538.35	-28317.14
Model A9: Model A8 + HRHEWED + WRHEWED	2493	8024.81	-26660.25
Model A10: HRWR + HRHED + WRWED + HRHEWE + WRHEWE	2751	9007.35	-29267.26
Model A11: Model A5 + IMHE	2782	7931.22	-30774.69
Model A12: Model A5 + IMWE	2782	8534.48	-30171.43
Model A13:Model A5 + IMHE + IMWE	2781	7774.52	-30917.48
Model A14: Model A10 + HRWRHE	2678	7433.54	-29825.42
Model A15: Model A10 + HRWRWE	2678	8012.82	-29246.14
Model A16: Model A10 + HRWRHE + HRWRWE	2677	7073.37	-29169.94
Model A17[a]: Model A5 + HRWRHE	2742	7699.36	-30450.04
Model A18[a]: Model A5 + HRWRWE	2742	8271.14	-29878.25
Model A19[a]:Model A5 + HRWRHE + HRWRWE	2701	7381.12	-30197.84
Model A20[a]:Model A5 + HRWRHEWE	2660	7254.33	-29754.19
Model A21[b]: Model A5 + HRWRHE	2779	7892.44	-30771.73
Model A22[b]: Model A5 + HRWRWE	2779	8489.60	-30174.58
Model A23[b]:Model A5 + HRWRHE + HRWRWE	2775	7708.10	-30900.42
Model A24[b]:Model A5 + HRWRHEWE	2771	7640.03	-30912.84
Model A25[c]: Model A5 + HRWRHE	2775	7932.51	-30676.01
Model A26[c]: Model A5 + HRWRWE	2775	8488.93	-30119.59
Model A27[c]:Model A5 + HRWRHE + HRWRWE	2767	7728.01	-30769.21
Model A28[c]:Model A5 + HRWRHEWE	2759	7654.53	-30731.38
Model A29[d]: Model A5 + HRWRHE	2773	7781.25	-30799.45
Model A30[d]: Model A5 + HRWRWE	2773	8345.39	-30235.30
Model A31[d]:Model A5 + HRWRHE + HRWRWE	2763	7516.78	-30924.79
Model A32[d] :Model A5 + HRWRHEWE	2753	7434.02	-30868.42

HR, WR = husband's, wife's race; HE, WE = husband's, wife's education; D = Division;
IM = intermarriage (single parameter for all cells where HR ≠ WR)

[a]The terms for the interaction of HRWR with HE and WE are estimated using a distinct parameter for each of the 41 quasi-symmetry parameters. The effects of husband's education and wife's education vary for each type of intermarriage.
[b]The terms for the interaction of HRWR with HE and WE are estimated using four parameters each. Each parameter corresponds to either Whites, Blacks, Asians, or Latinos. Each of these groups is allowed to have distinct effects of husband's education and wife's education on intermarriage.
[c]The terms for the interaction of HRWR with HE and WE interactions are estimated using eight parameters each. Each parameter corresponds to either White/Black, White/Asian, White/Latino, Black/Asian, Black/Latino, Asian/Asian, Asian/Latino, or Latino/Latino intermarriages.
[d]The terms for the interaction of HRWR with HE and WE are estimated using ten parameters each. Each parameter corresponds to one of the groups included in this study.

Appendix B: *Assimilation and panethnicity with the Preferred Model 6*

The odds from Table 4 provide an overall summary test of panethnicity. However, the odds are derived from the Homogeneity Model 5 that does not fit the data as well as the Preferred Model 6. To provide evidence that the findings from Model 5 are also supported by Model 6, I list in Appendix Table B1 a set of illustrative odds from Model 6 parameters.

For Asian panethnicity, there are 60 odds to examine, combining 12 ordered pairs of Asian groups with 5 non-Asian groups (Whites, Blacks, Mexicans, Puerto Ricans, and Other Latinos). Of these 60 odds, 54 support and 6 contradict the panethnicity hypothesis. Two of the contrary odds listed in Appendix Table B1 reveal that Other Asians favor Chinese spouses as much as they favor Puerto Rican and Other Latino spouses (Odds = 1). The other four contrary odds reveal that Filipinos favor Chinese spouses as much as they favor White, Mexican, Puerto Rican, and Other Latino spouses (Odds = 1). The contrary odds ratios all indicate that a non-Asian group is favored as much as an Asian group. However, non-Asian groups are never preferred *over* other Asian groups as spouses. Three of the contrary odds also involve Filipinos and a Latino group which is less surprising because the Philippines was once a Spanish colony.

Thus, evidence against panethnicity is not terribly strong and is overshadowed by 54 odds supporting panethnicity. Appendix Table B1 lists four such odds: Other Asians and Filipinos marry Japanese spouses 1.65 times as often as they marry Puerto Rican spouses, Chinese marry Other Asian spouses 15.96 times as often as they marry Black spouses, and Japanese marry Other Asian spouses 2.14 times as often as they marry White spouses.

For Latino panethnicity, there are also 60 odds to examine, combining 12 ordered pairs of Latino groups with 6 non-Latino groups, excluding 12 odds that Cubans prefer one of the three

other Latino groups to one of the four Asian groups. Of these 60 odds, 49 support and 11 contradict the panethnicity hypothesis. The bottom panel of Appendix Table B1 lists odds relevant to Latino panethnicity. Mexicans are *less* likely to marry Puerto Ricans (Odds = 0.81), Cubans (Odds = 0.29), and Other Latinos (Odds = 0.47) than they are to marry Whites and are less likely to marry Cubans (Odds = 0.48) and Other Latinos (Odds = 0.77) than to marry Filipinos. Other Latinos favor Whites (Odds = 1/0.57), Other Asians (Odds = 1/0.77), and Filipinos over Mexicans (Odds = 1/0.77) and are as likely to marry Puerto Ricans (Odds = 1) and Cubans (Odds = 1) as they are to marry Whites. Finally, Cubans are less likely to marry Mexicans than they are to marry Whites (Odds = 0.62). Some of these odds are in fact quite extreme, with Mexicans marrying Cubans only 29 percent as often as they marry Whites and 48 percent as often as they marry Filipinos.

However, the majority of the odds do support panethnicity, with, for example, Puerto Ricans marrying Mexicans 2.82 times as often as they marry Blacks and Cubans marrying Puerto Ricans 11.67 times as often as they marry Blacks. The bottom of Appendix Table B1 provides a subset of the odds supporting Latino panethnicity. These odds are consistent with the moderate support for panethnicity found in Table 4.

However, it is noteworthy that of the 11 odds contradicting panethnicity, six involved Whites as potential marriage partners. These six contradictory odds ratios constitute all of the panethnicity odds ratios for Mexicans and Other Latinos involving Whites. Thus, panethnicity is weakest for Mexicans and Other Latinos and their marriage patterns are dominated by the pattern expected by the assimilation perspective. This is also consistent with the evidence from Table 4

that Latinos are on the path of marital assimilation, although the Appendix Table B1 odds reveal that this is true mainly for Mexicans and Other Latinos

Appendix Table B1: Selected panethnicity odds ratios from Preferred Model 6

Group	Odds of marrying	Odds
Other Asians	Chinese vs. Puerto Ricans	1.00
	Chinese vs. Other Latinos	1.00
Filipinos	Chinese vs. Whites	1.00
	Chinese vs. Mexicans	1.00
	Chinese vs. Puerto Ricans	1.00
	Chinese vs. Other Latinos	1.00
	Japanese vs. Puerto Ricans	1.65
Other Asians	Japanese vs. Puerto Ricans	1.65
Chinese	Other Asians vs. Blacks	15.96
Japanese	Other Asians vs. Whites	2.14
Mexicans	Puerto Ricans vs. Whites	0.81
	Cubans vs. Filipinos	0.48
	Cubans vs. Whites	0.29
	Other Latinos vs. Whites	0.47
	Other Latinos vs. Filipinos	0.77
Other Latinos	Mexicans vs. Whites	0.57
	Mexicans vs. Other Asians	0.77
	Mexicans vs. Filipinos	0.77
	Puerto Ricans vs. Whites	1.00
	Cubans vs. Whites	1.00
Cubans	Mexicans vs. Whites	0.62
	Puerto Rican vs. Black	11.67
Mexicans	Cubans vs. Blacks	2.53
	Puerto Ricans vs. Japanese	3.74
Puerto Ricans	Mexicans vs. Blacks	2.82
	Cubans vs. Chinese	4.59

All differences from 1 are statistically significant with $p < 0.01$.

Notes

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1. Although the presumed basis of these broader identities is different, the notion of panethnicity parallels Kennedy's (1944) "triple melting pot" thesis. Kennedy observed that instead of mixing in a single melting pot, ethnic boundaries among European ancestry groups weakened inside Catholic, Jewish, and Protestant melting pots.

2. The model I use for racial assortative marriage is the same as the model used by Kalmijn (1991) for educational assortative marriage.

3. The cells at the intersection of rows *i* and *j* and columns *i* and *j* include cells (*i*,*i*) and (*j*,*j*). These cells form the numerator of the cross-product ratio. In my log-linear model, parameters for these cells are constrained to be zero. Thus, they can be ignored when calculating the log odds ratio. The parameters for the two cells in the denominator are constrained to be equal and both have a multiplier of -1/2. Thus, the estimated parameter is simply the odds ratio formed by the cells at the intersection of rows *i* and *j* and columns *i* and *j*.