

# GENDERED SELECTIVITY

## U.S. Mexican Immigrants and Mexican Nonmigrants, 1960–2000\*

Cynthia Feliciano  
*University of California, Irvine*

*Abstract: Previous research suggests that Mexican female migrants face more barriers than their male counterparts. However, few studies examine how the educational characteristics of female migrants differ from those of male migrants and how selectivity may have changed in the context of evolving gender dynamics in both countries. This study uses U.S. and Mexican census data from 1960 to 2000 to compare the educational attainments of recent Mexican immigrants to Mexican nonmigrants. Both male and female immigrants are positively selected—that is, more educated than nonmigrants in Mexico—and that selectivity increased from 1960 to 2000. Women are more highly selected than men throughout the past four decades, but earlier female migrants tended to have more education than more recent female migrants, who tend to come from the middle of the educational distribution.*

### INTRODUCTION

Stereotypical descriptions of the growing migration stream from Mexico to the United States have depicted Mexican immigrants as poor, uneducated men, but the reality is that the Mexican immigration process is dynamic and constantly changing, composed of men and women, single persons and families. Immigration scholars, however, do not agree on how the characteristics of Mexican migrant flows have changed over time. Some studies depict this stream as declining in educational skills or selectivity (Borjas 1996), while others contend that Mexican immigrants are becoming more educated (Marcelli and Cornelius 2001). Few studies examine gender differences in educational selectivity among Mexican immigrants or how selectivity might be changing in the context of constantly evolving gender dynamics in both Mexico and the United States.

Previous research has indicated that women face different barriers to U.S. migration than do men and rely on different social networks and sources of support (Granberry and Marcelli forthcoming; Hondagneu-Sotelo 1994; Kanaiaupuni 2000). Thus, it follows that the characteristics of female migrants may differ from those of their male counterparts. Further, women who migrate may differ from women who remain in Mexico

\* The author thanks participants at the University of California, Irvine, Immigration Brown Bag Series and the anonymous reviewers for helpful comments on previous versions of this work.

in ways that are distinct from the selectivity of male migrants. This article examines the changing profile of male and female Mexican migrants to the United States from 1960 to 2000 in terms of their selectivity; I examine how Mexican immigrants compare to their nonmigrant counterparts in terms of educational attainment. In doing so, I examine variability by gender while attempting to reconcile some of the disparate empirical findings in the literature on changing Mexican immigrant characteristics. I find that the educational selectivity of Mexican immigration is gendered. Women are more selective than men, and although overall both men and women tend to be more positively selected over time, women were more likely to be drawn from the top of the educational distribution in the past than they are today.

## BACKGROUND

### *The Selectivity of Mexican Immigrants*

Although nearly all scholars agree that migrants are not selected randomly from their home countries' populations, they disagree considerably about how immigrants compare with those left behind. Some argue that all immigrants, whether legal or illegal, represent a positively selected group from the home country because they are more ambitious and willing to work; these individuals are therefore likely to have higher levels of education than their counterparts who stayed behind (Treiman and Lee 1996). Chiswick (1978) used the idea that migrants are highly self-selected to explain why immigrants do so well in the labor force, particularly compared to natives. Some studies have shown that the very poor and unemployed seldom migrate, legally or illegally (Bray 1984; Massey 1987a; Portes 1979). Because resources are needed to migrate illegally—to pay the costs of hiring smugglers or obtaining fake documents—undocumented migrants may in some cases be more positively selected than authorized immigrants, who can be sponsored by relatives in the United States (Bray 1984). In a study of undocumented Mexican migrants using Mexican Migration Project (MMP) data, Orrenius and Zavodny (2005) found that stricter border enforcement leads to more positive selectivity among immigrants and that, overall, most undocumented Mexican migrants come from the middle of the educational distribution.

However, Borjas (1987, 1991) argues that immigrants from home countries with an income distribution that is more unequal than that of the United States will not be positively selected and will instead come from the lower end of the distribution of educational attainment and income in that country. Thus, Borjas (1987, 1991) argues that skilled Mexicans do not migrate to the United States because their skills are more rewarded in Mexico's system of greater income inequality. Unskilled Mexicans are

most likely to migrate because they are more disadvantaged in Mexico's system. In contrast, Chiswick (2000, 67) argues that a more unequal source country "does not necessarily imply negative selectivity but rather only less favorable positive selectivity."

Prior research has generally found results inconsistent with the negative selection hypothesis. For example, using data from multiple receiving countries, Liebig and Sousz-Poza (2004) find that international migration is generally positively selected and that higher income inequality in the sending country leads to less positive selection, but not negative selection, contrary to Borjas's theory. In my prior study of migrants to the United States from thirty-two countries, I found that all groups were positively selected with respect to education, with the exception of Puerto Ricans, a unique group because Puerto Rico is a U.S. territory (Feliciano 2005). Recent research based on 1990 and 2000 Mexican and U.S. census data also finds that Mexican immigrants are positively selected on the basis of education (Chiquiar and Hanson 2005). These studies, for the most part, however, do not take into account possible differences in selectivity by gender. Selectivity may vary by gender in ways not explored by these scholars.

Further, the selectivity of Mexican immigrants has likely changed over time as the population of Mexican migrants has expanded exponentially. Some argue that Mexican immigrants who migrate today are less skilled than those who came decades earlier (Borjas 1996). Massey (1987b, 1999) argues that migrants tend to be positively selected initially but that those from countries with a continuing history of migration, such as Mexico, become less positively selected over time through the processes of cumulative causation. Social capital is a major force perpetuating migration and the most important factor contributing to the cumulative causation process through which migration increases over time from one country (Massey 1998). For example, having an older sibling who migrated to the United States triples the likelihood of migration among Mexicans (Paltoni et al. 2001). With each new act of migration, networks expand, such that more nonmigrants come to know someone who has migrated to the United States (Massey and Espinosa 1997). Over time, as migration driven by social networks continues, migration becomes less costly, and people who are not relatively well educated or skilled can begin to migrate (Massey 1987b, 1999; Massey et al. 1993). Consistent with this theory, some studies have found that Mexican immigrants have become less selective in terms of education since 1970 (Bustamante et al. 1998; Durand et al. 2001). However, Marcelli and Cornelius (2001, 116) come to the exact opposite conclusion with their data, finding that the Mexican immigrant flow "has become more selective with respect to education."

Further, Massey recognizes that processes of cumulative causation cannot continue indefinitely (Massey 1998, 48), suggesting that while selectivity

may decrease because of cumulative causation, it may increase again if migration declines. Indeed, Heer (2002) found that the effects of cumulative causation are offset by changes in relative economic opportunity. The question of whether changes in selectivity vary for men or women has largely been neglected, despite the fact that changes in gender dynamics in both Mexico and the United States over the past several decades may have led to different incentives for men and women to migrate. This article attempts to address this gap in the literature by examining changes over time in the selectivity of both male and female Mexican immigrants.

### *Gender and Migration*

Since the 1980s, scholars began to recognize the gendered nature of the migration process. Much of the classic immigration literature focused on male temporary labor migrants, ignoring the existence of female migrants, who were often assumed to be only "associational" migrants, following their husbands or other male relatives (Hondagneu-Sotelo 1994, 2003; Kanaiaupuni 2000; Pessar 1986; Piore 1979). More recent research, however, has emphasized how men and women have different resources, opportunities, social networks, and barriers, which make the migration process fundamentally different for men and women (Curran and Rivero-Fuentes 2003; Hondagneu-Sotelo 1994; Menjivar 2000).

In the Mexican case, migration has always been gendered. Guest worker programs, including, most importantly, the *bracero* program from 1942 to 1964, were explicitly gendered, recruiting only male workers (Gonzalez 2006; Gonzalez and Fernandez 2003). Much of the empirical evidence continues to show that men dominate migration (Bustamante et al. 1998). Still, it is often assumed that Mexican men migrate for employment purposes, whereas Mexican women migrate for family reunification purposes. For example, Cerrutti and Massey (2001, 197–198) argue that their findings uphold the "conventional wisdom that the majority of Mexican women generally begin migrating for family reasons."

However, other studies suggest that women have more agency in the migration process than the notion that they are associational migrants implies. This literature stresses that the costs and benefits of migration often differ for men and women. For example, women may have greater incentives to permanently settle in the United States than men (Hondagneu-Sotelo 1994). Further, given how deeply gendered the culture of Mexican migration has been historically, it follows that men and women may migrate for different reasons. For example, Hondagneu-Sotelo (1994) found that many male Mexican migrants maintained that their main motivation for migrating was not simply to pursue economic opportunities but also to experience an adventure. She found that migration was a way in which Mexican men could display their masculinity and independence

(Hondagneu-Sotelo 1994). Similarly, Kanaiaupuni (2000) argues that migration is male dominated because of cultural norms in Mexico, in which migration is tied to masculinity. Using MMP data, Kanaiaupuni (2000) finds that the intersections of gender and migration propensities are most evident in terms of family and education. This research, along with prior studies that use MMP data, shows that education decreases the likelihood of migration for men but increases the likelihood of migration for women (Donato 1993; Kanaiaupuni 2000). Also using MMP data, Curran and Rivero-Fuentes (2003) find that migrant networks are gendered and that the effect of female migrant networks is greater for women than for men. They argue that because gender role expectations and gender socialization inform decisions to migrate, the barriers to migration are much greater for women (Curran and Rivero-Fuentes 2003).

These findings are consistent with the idea that because men and women may have different motivations for migrating and women may face different barriers to migration, male and female migrants have different characteristics. However, existing studies have not directly examined changes over time that may result from transformations in gender dynamics. During the period when migration from Mexico to the United States increased rapidly, dramatic changes in gender norms were apparent in both Mexico and the United States. Parker and Pederzeni (2000), in their study of gender and education in Mexico over the past fifty years, found that gender gaps in education have decreased, returns to schooling have increased for girls, and women's labor force participation in Mexico has increased. These changes may have affected patterns of gendered selectivity among Mexican migrants to the United States.

#### DATA AND METHODS

The data for this study come from the Integrated Public Use Microdata Series–International (IPUMS) samples of Mexican Census data from 1960, 1970, 1990, 2000 (1980 is not available) and the U.S. Census from the same years. Each is a nationally representative, 1 percent population sample.<sup>1</sup> The IPUMS samples are ideal for analyses of trends over time and comparisons between countries, because the variables have been recoded to allow for consistency across time and place. I combined the Mexican and U.S. census samples from 1960 to 2000 to create a data set for each year consisting of a large sample of Mexicans in Mexico and of Mexican

1. For the United States, 1 percent samples were downloaded directly from the IPUMS Web site. A 1 percent sample in Mexico was available for 1970 and 1990. For 1960 and 2000 (1.5 percent and 20 percent samples were available from IPUMS), I randomly sampled the appropriate number of cases, so that my final sample was 1 percent of the original populations.

immigrants in the United States.<sup>2</sup> Although the data I use is the most representative available for this complete time period, it is not without limitations. Most important, I cannot distinguish between legal migrants and undocumented migrants with these data. Further, the census data also most likely underrepresent undocumented immigrants (Bean et al. 2001; Marcelli and Ong 2002; Warren 2003), although the underrepresentation is probably less severe in the more recent censuses (Bean and Van Hook 1998).

I focus primarily on people aged eighteen to sixty-four,<sup>3</sup> who are old enough to have completed most of their schooling and are of working age, and I employ descriptive statistics and regression analyses to compare male and female immigrants from Mexico to their Mexican non-migrant counterparts.<sup>4</sup> I focus mainly on recent migrants (those who arrived within the previous five years of each decennial census) to examine changes in the flows of migrants rather than changes in the characteristics of migrants who are still in the United States at any point in time.<sup>5</sup>

It is important to account for differences in the way that the Mexican and U.S. censuses collect educational data, which partly stem from differences in the two educational systems. To account for country differences in educational systems and reporting, the IPUMS data collapse some of the educational categories of each country in order to create educational categories that are comparable across countries in terms of level of schooling or degrees completed rather than years of schooling (because the number of years of schooling to complete a comparable degree often varies by country). Thus, IPUMS distinguishes between those with less than primary schooling, primary schooling completed, secondary schooling completed, and postsecondary schooling completed. However, IPUMS also retains

2. Although the Mexican Census does collect information on household members who have migrated to the United States, those cases are not included in the microdata used in this study.

3. I also calculated the results using those people aged twenty-five to sixty-four only, because these individuals are old enough to have completed college degrees. The results did not differ substantively. I include people aged eighteen to twenty-four in these analyses because a large proportion of recent Mexican male migrants were in this age range, and I did not want to exclude an important portion of the adult migrant population that comes to the United States primarily for work.

4. I excluded those who had ever lived abroad in 1960 and 1970 and those who were living abroad five years earlier in 1990 and 2000 (changes in the survey question do not allow for exact consistency). These individuals were likely return migrants.

5. This reduces the bias created by selective return migration. Donato (1993) finds that Mexican migrants who permanently settle in the United States are better educated than sojourners. Thus, if return migrants are less educated than those who stay in the United States, examination of all immigrants who are living in the United States at any particular time (rather than only recent migrants) will conceal the true character of those Mexican immigrants who come to the United States and will overestimate their positive educational selectivity.

some information that can be used to make more detailed comparisons across countries if those countries retain that information. Because both the Mexican Census and the U.S. Census ask relatively detailed questions on educational attainment, I was able to further distinguish among those who completed up to lower secondary schooling (middle school or junior high) and some postsecondary schooling. Unfortunately, however, from 1990 to 2000, the U.S. Census grouped several elementary school grades together, making it impossible to distinguish those who completed primary schooling from those with less than primary schooling. In order to retain as much detail as possible, but still include only educational categories that are comparable across countries, I therefore had to combine primary schooling or less into one category and was left with a set of five categories that are comparable between the United States and Mexico across all four decades: primary school only or less, lower secondary school (middle school/junior high), some or all upper secondary completed (high school), some postsecondary completed, and college degree or higher.<sup>6</sup>

I compare recent migrants' education to that of Mexican nonmigrants across all five educational categories using Lieberman's (1976, 1980) net difference (ND) index. Rather than make crude comparisons of mean or median educational attainment or comparisons based on any particular point on the distribution, the ND enabled me to compare the entire educational distributions of immigrants and nonmigrants, after standardizing the distributions to account for age (Lieberman 1976, 1980). The ND is calculated on the basis of the percentage of immigrants with the same level of attainment as nonmigrants, the percentage of immigrants with more education than nonmigrants, and the percentage of immigrants with less education than nonmigrants.<sup>7</sup> For example, an ND of .35 indicates that an immigrant's educational attainment will exceed that of a nonmigrant from the same country 35 percent more often than a nonmigrant's education will exceed that of an immigrant from that country (Lieberman 1980). If all immigrants exceed all nonmigrants, the index will be one. If the number of immigrants exceeding nonmigrants in educational attainment equals the number of nonmigrants exceeding immigrants in education,

6. In Mexico, the census categories of lower secondary-general or lower secondary-technical are included in the lower secondary school category; the United States does not have a technical category, and instead includes those in middle school/junior high (seventh to ninth grade) in the lower secondary school category. Those in Mexico with a technical degree beyond secondary school or some postsecondary schooling but no degree are included in the some postsecondary category; in the United States, this category also includes those with an associate degree. The college degree or higher category includes those in Mexico with any university degree and those in the United States with a bachelor's degree, master's degree, or professional degree.

7. Specifically, if  $X$  is the percentage distribution of immigrants along educational attainment categories and  $Y$  is the percentage distribution of nonmigrants, then  $ND_{xy} = \text{pr}(X > Y) - \text{pr}(Y > X)$  (Lieberman 1976, 280).

the ND value will be zero. Thus, the higher the ND is, the more educated the immigrants are relative to the nonmigrant population in their home country. If immigrants are more often less educated than nonmigrants (i.e., if there is negative selectivity), the ND value will be negative. I calculated the net difference index for both male and female immigrants for each decade.

I also examine differences between migrants and nonmigrants in terms of three major educational levels: those who have completed (1) only primary schooling, (2) only secondary schooling, or (3) at least some post-secondary schooling. Some of the contradictory findings in the literature regarding the educational attainment of Mexican immigrants may stem from the use of different measures of educational attainment. Thus, it is important to compare overall educational distributions using the ND and to examine different points along the educational distribution.

## RESULTS

### *Trends in the Proportion of Recent U.S. Migrants among All Mexicans*

Figure 1 shows, by gender and year, the proportion of Mexicans<sup>8</sup> in the United States and Mexico who are recent migrants (reside in the United States and migrated within the past five years), prior U.S. migrants (reside in the United States and migrated more than five years earlier), and return migrants (reside in Mexico but have previous experience living in the United States).<sup>9</sup> Figure 1 depicts the well-known trend of rising migration from Mexico to the United States from 1960 to 2000. We see that the proportion of Mexican migrants in the United States increased most dramatically since the 1970s, consistent with other analyses showing how factors such as the Immigration Reform and Control Act of 1986's (IRCA) promotion of migration for family reunification purposes, the economic crises in Mexico in the 1980s, increased integration of the Mexican and U.S. economies, and the increased demand for service workers in the United States led to a remarkable surge in Mexican migration (Bean and Stevens 2003; Massey et al. 2002).

Comparing men and women, we see that smaller proportions of women than men were recent U.S. migrants across all years, consistent with understandings of the male-dominated nature of Mexican migration flows (Canales 2003; Cerrutti and Massey 2004). Just as the proportion of

8. The term *Mexican* refers to a person born in Mexico and excludes those who migrated to the United States as children or who were born in the United States of Mexican immigrant parents.

9. Readers should be cautioned that this is a very rough measure of return migrants, especially in 1990 and 2000, because the Mexican Census only asked whether respondents were living in another country five years earlier, not at any other point in their lives.



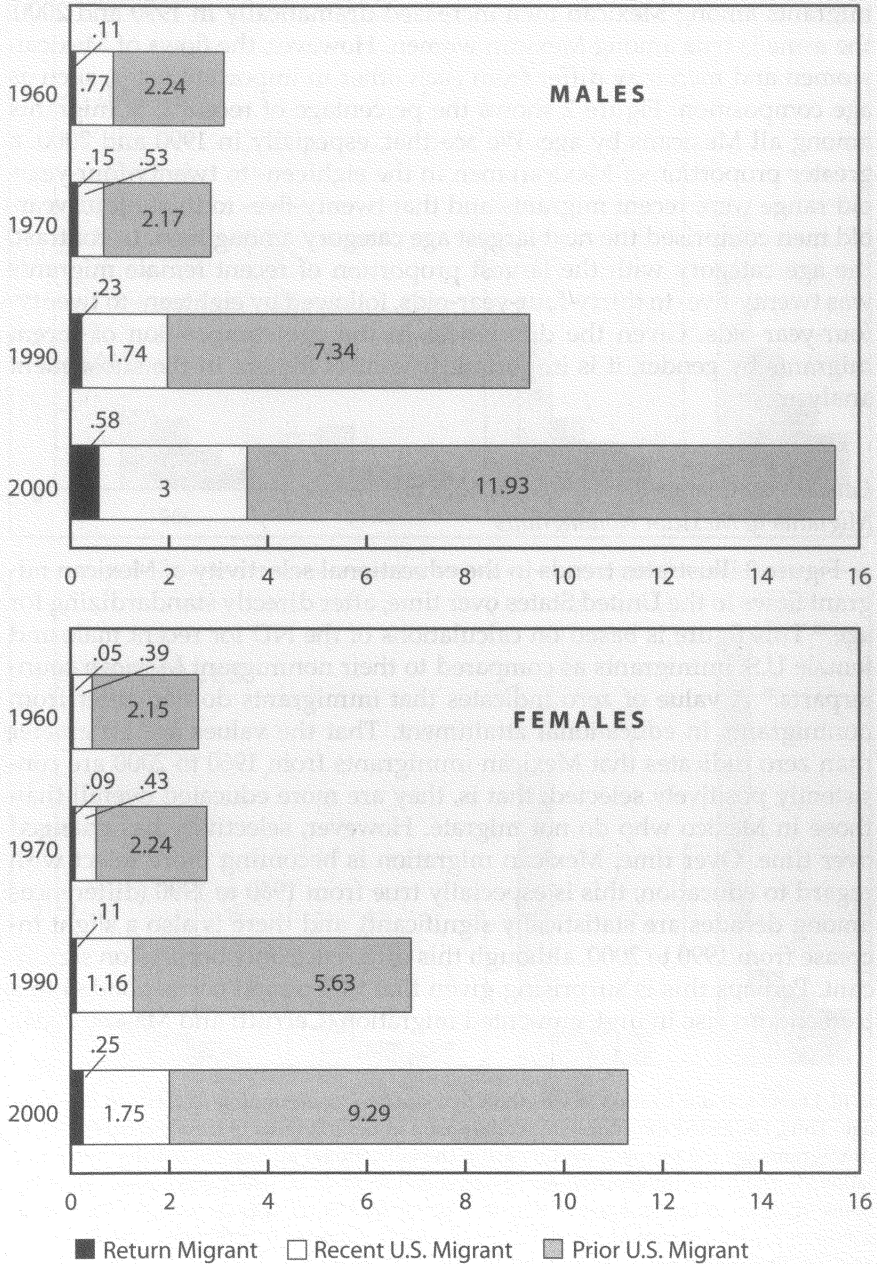


Figure 1 Percentage of Migrants among Mexicans in the United States and Mexico, Ages 18–24, 1960–2000

Source: IPUMS.

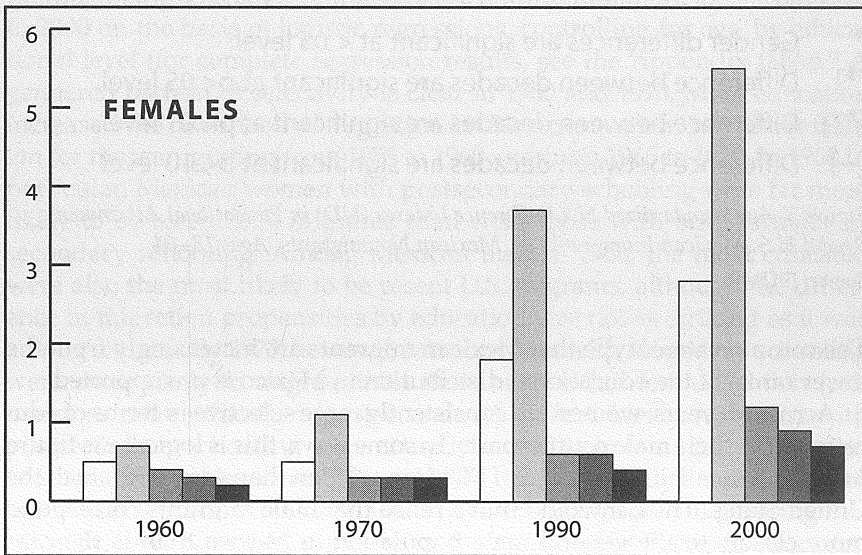
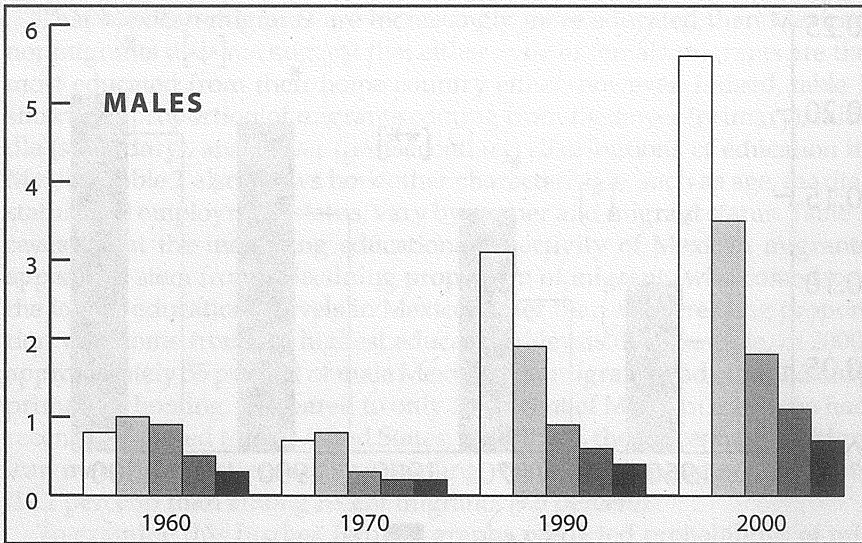
migrants among Mexican men increased dramatically in 1990 and 2000, the same is true among Mexican women. However, the flows of Mexican women and men may differ from each other in important ways, such as age composition. Figure 2 shows the percentage of recent U.S. migrants among all Mexicans by age. We see that, especially in 1990 and 2000, a greater proportion of Mexican men in the eighteen- to twenty-four-year-old range were recent migrants and that twenty-five- to thirty-four-year-old men comprised the next largest age category among men. In contrast, the age category with the largest proportion of recent female migrants was twenty-five- to thirty-four-year-olds, followed by eighteen- to twenty-four-year-olds. Given the differences in the age composition of recent migrants by gender, it is important to control for age in the subsequent analyses.

#### *Educational Comparisons of Recent Male and Female Migrants to Mexican Nonmigrants*

Figure 3 illustrates trends in the educational selectivity of Mexican migrant flows to the United States over time, after directly standardizing for age.<sup>10</sup> This figure is based on calculations of the ND for recent male and female U.S. immigrants as compared to their nonmigrant Mexican counterparts.<sup>11</sup> A value of zero indicates that immigrants do not differ from nonmigrants in educational attainment. That the values are all greater than zero indicates that Mexican immigrants from 1960 to 2000 are consistently positively selected; that is, they are more educated overall than those in Mexico who do not migrate. However, selectivity has changed over time. Over time, Mexican migration is becoming more select with regard to education; this is especially true from 1960 to 1990 (differences among decades are statistically significant), and there is also a slight increase from 1990 to 2000, although this difference only borders on significant. Perhaps this is surprising given that this period corresponded to a tremendous rise in undocumented migration (Cerrutti and Massey 2004).

10. Direct standardization is a method to control for confounding factors—in this case, age. Thus, I adjusted the educational attainment of nonmigrants to the age distribution of immigrants for the purpose of comparing the educational attainments of the two populations without the influence of age. The general formula is, using percentage of college educated as an example: Age-standardized percentage of college educated among nonmigrants =  $\sum_i M_i^* C_i^j$ , where  $M$  = percentage of college educated among nonmigrants by age and  $C$  = the proportion of immigrants in each age category.

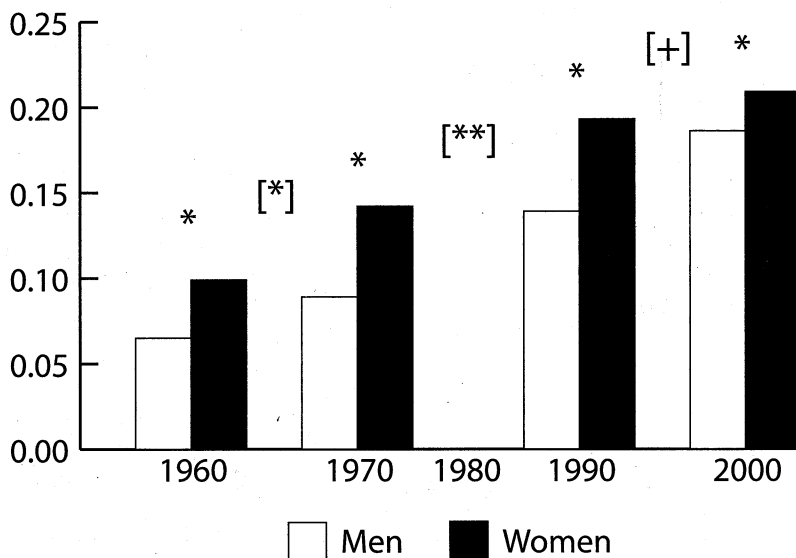
11. Because return migrants are a small proportion of those in the Mexican Census (but see footnote 9), the substantive findings do not change if I compare recent U.S. immigrants to all Mexicans residing in Mexico. Because my main concern was with how people who migrate compare with those who do not migrate, I excluded return migrants from the analysis.



□ 18-24    ■ 25-34    ■ 35-44    ■ 45-54    ■ 55-64

Figure 2 Percentage of Recent U.S. Migrants among all Mexicans in the United States and Mexico, by Age and Gender

Source: IPUMS.



\* Gender differences are significant at  $<.05$  level.

[\*] Difference between decades are significant at  $p<.05$  level.

[\*\*] Difference between decades are significant at  $p<.01$  level.

[+ ] Difference between decades are significant at  $p<.10$  level

*Figure 3 Age Standardized Net Difference Indexes (ND) in Educational Attainment: Recent U.S. Mexican Immigrants vs. Mexican Nonmigrants, Ages 18–64*

Source: IPUMS.

The common stereotype that Mexican migrants are increasingly from the lower ranks of the educational distribution in Mexico is unsupported.

Across all years, women are consistently more selective in terms of education than their male counterparts. In some ways, this is logical. As figure 1 shows, a smaller proportion of Mexican women than men migrate to the United States. Thus, it would make sense that male migrants correspond more closely to the general male population in Mexico than is the case for women. Because migration is far less common among women, those women that do migrate probably differ in important ways from their non-migrant counterparts. This interpretation is consistent with prior research, which shows that it takes more resources for Mexican women to migrate than men (Curran and Rivero-Fuentes 2003). Women who are more educated are likely to have more resources. Further, if female migrants are challenging cultural norms, and not merely following husbands and male relatives, it is likely that they may have also challenged cultural norms by attaining more education than is typical for Mexican women.

That Mexican migrants are increasingly more educated than Mexican nonmigrants does not suggest that either male or female migrants are the most educated from their home country either, however. Indeed, table 1 shows the proportion of migrants coming from the lower (primary), middle (secondary), and upper (postsecondary) distributions of education in Mexico. Table 1 also shows how other characteristics, such as age, marital status, and employment status, vary by gender and migrant status. Table 1 reveals that the increasing educational selectivity of Mexican migrants appears to stem from a declining proportion of migrants who come from the lowest educational levels in Mexico rather than an increasing proportion who come from the highest educational levels. For example, in 2000, approximately 55 percent of male Mexican nonmigrants had attained only primary schooling, compared to only 15 percent of Mexican men who had recently migrated to the United States; in contrast, the percentages of Mexican men with postsecondary schooling was higher among nonmigrants (12.1 percent) than among recent migrants (9.5 percent).

To examine this further, figure 4 graphs predicted probabilities of migrating (being a recent migrant versus a nonmigrant in Mexico) from 1960 to 2000 on the basis of logistic regressions, controlling for age, by educational level (for complete regression results, see the Appendix table).<sup>12</sup> A gendered pattern of selectivity is clear in 1960 and 1970. More education increased the likelihood of migration for Mexican women in a linear fashion for those migrating from 1955 to 1960 and from 1965 to 1970. In 1960 in particular, Mexican women with postsecondary schooling were far more likely to be recent U.S. migrants than were those with only primary or secondary schooling. Among Mexican men in 1960, the most educated were also the most likely to be recent U.S. migrants, although the difference in migration propensities by education was not as striking as it was among women. By 1970, however, Mexican men with secondary schooling were more likely to migrate than those with either less education (primary) or more education (postsecondary). In fact, Mexican women with postsecondary schooling were actually more likely to migrate than men at all educational levels in 1960 and 1970. Of course, only a small percentage of Mexican women had attained postsecondary schooling during this time. By 1990, however, a change in the relationship between education and propensities to migrate had occurred for Mexican women, which put their patterns more in line with those of men. In 1990 and 2000, overall probabilities of migration had increased for Mexican men and women. Along with this increase in the propensities to migrate, female migrants were more likely to be drawn from the middle of the Mexican educational

12. I also calculated these results comparing recent U.S. migrants to all Mexicans residing in Mexico. Results (shown in the appendix) do not differ substantively from those shown here.

Table 1 Characteristics of Mexicans in the United States and Mexico by Migrant Status and Gender, Ages 18–64

	<i>Mexican nonmigrants</i>		<i>Recent U.S. migrants</i>		<i>Prior U.S. migrants</i>		<i>Return migrants</i>	
	Males	Females	Males	Females	Males	Females	Males	Females
<b>1960</b>								
Age	34.40	33.86	31.90	31.47	45.15	44.57	41.71	42.02
Primary	94.29	95.42	84.64	77.89	81.22	80.71	77.33	85.37
Secondary	4.02	4.04	10.58	16.50	14.24	16.27	13.33	14.63
Postsecondary	1.69	0.53	4.78	5.61	4.53	3.02	9.33	0.00
Never married	30.32	22.77	40.44	24.09	11.42	7.57	17.50	24.39
Married	66.87	69.75	57.00	63.04	81.11	72.37	81.25	63.41
Previously married	2.81	7.49	2.56	12.87	7.47	20.06	1.25	12.20
Employed	89.43	13.97	98.63	49.83	97.17	46.09	97.50	29.27
N	73,532	76,625	586	303	1,699	1,690	80	41
<b>1970</b>								
Age	34.35	33.98	29.87	31.11	40.82	40.40	12.49	14.12
Primary	88.89	92.94	70.50	70.82	63.96	68.20	71.71	69.47
Secondary	7.01	5.71	20.86	21.14	27.14	25.90	14.47	25.26
Postsecondary	4.09	1.34	8.63	8.03	8.90	5.90	13.82	5.26
Never married	28.62	20.75	33.63	19.66	13.90	12.99	23.38	15.63
Married	68.77	70.35	62.95	72.52	80.40	71.13	72.73	70.83
Previously Married	2.61	8.90	3.42	7.82	5.70	15.88	3.90	13.54
Employed	85.51	18.02	81.65	29.60	81.54	30.94	84.00	22.92
N	102,163	106,232	556	473	2,281	2,456	154	96

**1990**

Age	34.08	33.95	27.19	28.55	34.08	35.65	33.16	33.94
Primary	60.87	66.78	20.64	22.49	23.53	22.54	67.36	58.97
Secondary	26.87	25.37	66.92	64.08	63.43	63.39	23.43	32.05
Postsecondary	12.26	7.85	12.43	13.43	13.04	14.07	9.21	8.97
Never married	29.17	23.94	54.30	31.12	28.86	19.77	28.27	17.24
Married	68.73	68.36	42.30	60.02	64.87	66.41	70.04	74.57
Previously married	2.01	7.71	3.40	8.86	6.27	13.81	1.69	8.19
Employed	80.48	23.48	79.28	34.28	80.72	46.73	68.43	17.60
N	189,008	205,890	3,619	2,561	15,297	12,443	478	234

**2000**

Age	35.30	35.00	28.24	29.75	35.64	36.59	33.16	33.07
Primary	54.97	58.90	15.13	14.85	16.08	16.00	61.46	55.98
Secondary	32.94	31.81	75.37	72.62	70.67	68.71	33.18	35.58
Postsecondary	12.10	9.29	9.50	12.54	13.25	15.29	5.36	8.44
Never married	27.08	22.06	51.05	28.49	26.53	18.38	26.55	14.21
Married	69.78	68.05	44.32	63.00	66.07	68.01	69.44	72.98
Previously married	3.14	9.90	4.63	8.51	7.39	13.62	4.01	12.81
Employed	82.29	33.26	72.50	32.78	67.67	40.56	69.47	27.02
N	232,519	256,666	8,243	5,065	32,825	26,881	1,599	720

Source: IPUMS.

---

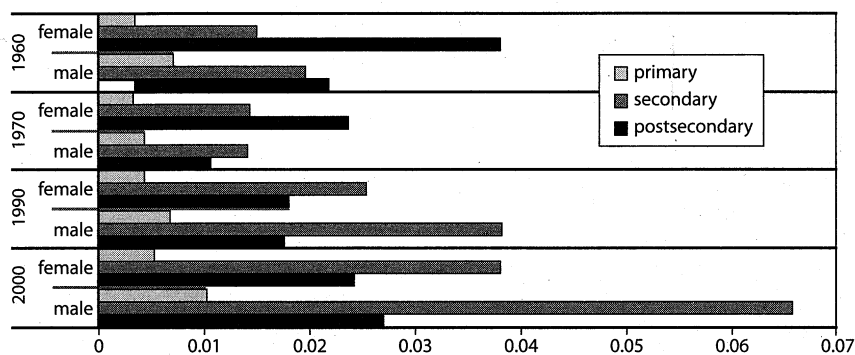


Figure 4 Predicted Probabilities of Being a Recent Mexican Immigrant (vs. Mexican Nonmigrant) by Education, Ages 18–64

Source: IPUMS.

distribution rather than the top of the educational distribution, which characterized earlier female migrants. Still, it is important to point out that across all the years from 1960 to 2000, both male and female migrants were more likely to be drawn from both the middle and the top of the Mexican educational distribution than the bottom. Thus, the data do not substantiate stereotypes about the least educated coming to the United States.

#### DISCUSSION AND CONCLUSION

The findings of this study reveal that Mexican immigrants are positively selected with respect to education, that selectivity has generally increased over the past four decades, and that this selectivity is gendered, with female migrants tending to be more highly selected by education than their male counterparts. These findings are consistent with the accepted wisdom that immigrants are not random samples of their home country's population. Clearly, there is a selection process occurring, as Mexican immigrants differ substantially from their nonmigrant counterparts throughout the period in question. However, contrary to theories suggesting that Mexican immigrants are negatively selected (Borjas 1987, 1991), I find that, throughout the period from 1960 to 2000, both male and female immigrants are positively selected on the basis of a measure comparing the distributions of migrants to nonmigrants across five educational categories. Overall, educational selectivity has increased, especially from 1960 to 1990. These findings suggest that Mexican immigrants today are less likely to be drawn from the lower end of the educational distribution of Mexico than they were forty years ago. Instead, Mexican immigrants are more likely to come from the middle of the educational distribution in Mexico.

These findings are somewhat inconsistent with the theory of cumulative causation, which states that, over time, as social networks expand,



the costs of migration are reduced, thereby making it easier for anyone to migrate (Massey 1998). According to this theory, I would expect that migrants would increasingly appear more similar to nonmigrants with respect to education, but I found the opposite to be the case. These results may have to do with the changing nature of migration from Mexico. Although historically migrants from rural Mexico have dominated migration from Mexico, a growing number in more recent years come from urban areas (Durand et al. 2001; Fussell 2004; Marcelli and Cornelius 2001; Roberts et al. 1999). Unfortunately, U.S. Census data do not allow for distinctions between rural- and urban-origin Mexican immigrants. Thus, it may be possible that selectivity is declining among migrants from rural areas, where social capital mechanisms operate most strongly in reducing the costs of migration, while at the same time, urban-origin migrants who are more educated are beginning to migrate in greater numbers (Fussell and Massey 2004). Indeed, recent research suggests that the mechanisms of cumulative causation that may lead to declining selectivity among rural Mexican migrants do not operate similarly among urban migrants (Fussell 2004; Fussell and Massey 2004). Recent research also suggests that changes in the relative economic opportunities offered by different destinations in the United States counter the effects of cumulative causation (Heer 2002), which may cause the selectivity of migrants to differ from what the theory would predict.

Some of the most intriguing findings in this article, however, come from exploring gender differences in immigrant selectivity, something that has previously been neglected in the literature. I find that female migrants are more highly selected than male migrants across the past four decades. This finding would seem to stem from the fact that women in Mexico are less educated than men. However, if selectivity were random or if the selection process for women were the same as that for men, then female immigrants would also be less educated than male immigrants, which they are not. This finding is consistent with findings based on MMP data, which show that education increases the likelihood that a woman migrates to the United States but has the reverse effect for men (Kanaiaupuni 2000). Given that men continue to dominate migrant flows from Mexico, it may be that there are greater costs involved in migration for women than for men, and only a select few are able to navigate those costs (Curran and Rivero-Fuentes 2003). Prior research suggests that Mexico's traditional patriarchal culture instills in families the notion that migration is a masculine activity (Hondagneu-Sotelo 1994; Kanaiaupuni 2000). Women who migrate may therefore be deviating substantially from traditional gender norms. Those women who are risk takers, and most likely to deviate from their traditional roles, may also be those who are most likely to be more educated, because, in Mexico, women continue to lag behind men in terms of educational attainment (although the gender

gap has narrowed in recent decades). Risks to personal safety, especially for undocumented migrants, may also be greater for women than men; on the basis of their study of migrant deaths at the border, Marroni and Meneses (2006) argue that undocumented women are the most vulnerable of all border crossers. Women who are more likely to take risks may also be the same women who are more likely to have pursued education in Mexico, a context in which women are not expected, nor often given the opportunities, to pursue education to the same extent as men.

The selectivity of Mexican female migrants has changed somewhat over the past several decades, however. While in the 1950s and 1960s Mexican female migrants were most likely to be drawn from the top of the educational distribution in Mexico, in the 1980s and 1990s female migrants were most likely to come from the middle of the educational distribution. Although it is beyond the scope of this article to investigate explanations for the change in selectivity of female Mexican migrants, the descriptive findings of table 1 suggest one explanation. Table 1 shows that recent female U.S. migrants were far more likely than female nonmigrants in Mexico to be employed. This suggests that part of the reason that the more educated earlier migrant women migrated to the United States may have been to pursue labor force opportunities that were lacking in Mexico. As employment opportunities increased for Mexican women in Mexico, more educated women became less likely to migrate. Correspondingly, the gap in employment rates of Mexican women in the United States and Mexico narrowed across the decades. For example, by 2000, recent female U.S. migrants were no more likely than their nonmigrant female counterparts to be employed. However, given the low employment rates of migrant women compared to those of men, it is clear that not every female migrant comes to the United States for employment purposes. Future research should explore labor force opportunities, changing gender roles, and other possible reasons why Mexican women who migrate tend to be more selective than their male counterparts. Future research should also consider the gendered structure of opportunities in both sending and receiving societies to understand how and why migration occurs, and thus, ultimately, why certain men and women from Mexico choose to migrate to the United States while others do not.

*Appendix Table Odds Ratios from Logistic Regressions of Being a Recent U.S. Migrant from Mexico vs. Mexican in Mexico by Year, Ages 18–64*

	Excluding Mexicans with U.S. experience (return migrants)	Including Mexicans with U.S. experience
<b>1960 (N = 150,496)</b>		<b>1960 (N = 150,612)</b>
Age	0.985***	0.985***
Education (primary)		
Secondary	2.787***	2.780***
Postsecondary	3.140***	3.125***
Female	0.448***	0.448***
Secondary × Female	1.698*	1.700*
Postsecondary × Female	3.944***	3.965***
<b>1970 (N = 209,639)</b>		<b>1970 (N = 209,886)</b>
Age	0.979***	0.979***
Education (primary)		
Secondary	3.337***	3.331***
Postsecondary	2.524***	2.515***
Female	0.774**	0.774**
Secondary × Female	1.319 <sup>+</sup>	1.317 <sup>+</sup>
Postsecondary × Female	2.917***	2.919***
<b>1990 (N = 401,078)</b>		<b>1990 (N = 401,790)</b>
Age	0.974***	0.9736***
Education (primary)		
Secondary	5.915***	5.919***
Postsecondary	2.678***	2.681***
Female	0.642***	0.644***
Secondary × Female	1.020	1.019
Postsecondary × Female	1.582***	1.580***
<b>2000 (N = 483,795)</b>		<b>2000 (N = 486,073)</b>
Age	0.972***	0.972***
Education (primary)		
Secondary	6.769***	6.779***
Postsecondary	2.660***	2.674***
Female	0.513***	0.516***
Secondary × Female	1.093 <sup>+</sup>	1.090 <sup>+</sup>
Postsecondary × Female	1.745***	1.736***

Source: IPUMS.

\*\*\*  $p < .00$ ; \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>+</sup> $p < .10$

## REFERENCES

- Bean, Frank D., and Gillian Stevens  
2003 *America's Newcomers and the Dynamics of Diversity*. New York: Russell Sage Foundation.
- Bean, Frank D., Rodolfo Corona, Rodolfo Tuiran, Karen A. Woodrow-Lafield, and Jennifer Van Hook  
2001 "Circular, Invisible, and Ambiguous Migrants: Components of Difference in Estimates of the Number of Unauthorized Mexican Migrants in the United States." *Demography* 38 (3): 411–422.
- Bean, Frank D., and Jennifer Van Hook  
1998 "Estimating Underenumeration among Unauthorized Mexican Migrants to the United States: Applications of Mortality Analyses." In *Migration between the United States and Mexico, Binational Study, Thematic Chapters, 2*: 551–571. Mexico City and Washington, DC: Mexican Ministry of Foreign Affairs and U.S. Commission on Immigration Reform.
- Borjas, George J.  
1987 "Self-Selection and the Earnings of Immigrants." *The American Economic Review* 77 (4): 531–553.  
1991 "Immigration and Self-Selection." In *Immigration, Trade, and the Labor Market*, edited by John M. Abowd, 29–76. Chicago: University of Chicago Press.  
1996 "The Earnings of Mexican Immigrants in the United States." *Journal of Development Economics* 51 (1): 69–98.
- Bray, David  
1984 "Economic Development: The Middle Class and International Migration in the Dominican Republic." *International Migration Review* 18 (2): 217–236.
- Bustamante, Jorge A., Guillermina Jasso, J. Edward Taylor, and Paz Trigueros Legarreta  
1998 "Characteristics of Migrants: Mexicans in the United States." In *Migration between Mexico and the United States: Binational Study*, edited by Mexico-United States Binational Migration Study, 91–162. Mexico City and Washington, DC: Mexican Ministry of Foreign Affairs and U.S. Commission on Immigration Reform.
- Canales, Alejandro I.  
2003 "Mexican Labour Migration to the United States in the Age of Globalisation." *Journal of Ethnic and Migration Studies* 29 (4): 741–761.
- Cerrutti, Marcela, and Douglas S. Massey  
2004 "Trends in Mexican Migration to the United States, 1965–1995." In *Crossing the Border: Research from the Mexican Migration Project*, edited by Jorge Durand and Douglas S. Massey, 17–44. New York: Russell Sage Foundation.
- Chiquiar, Daniel, and Gordon H. Hanson  
2005 "International Migration, Self-Selection, and the Distribution of Wages: Evidence from Mexico and the United States." *Journal of Political Economy* 113 (2): 239–281.
- Chiswick, Barry R.  
1978 "The Effect of Americanization on the Earnings of Foreign-Born Men." *Journal of Political Economy* 86 (5): 897–921.  
2000 "Are Immigrants Favorably Self-Selected?" In *Migration Theory: Talking across Disciplines*, edited by Caroline B. Brettell and James F. Hollifield, 61–76. New York: Routledge.
- Curran, Sara R., and Estela Rivero-Fuentes  
2003 "Engendering Migrant Networks: The Case of Mexican Migration." *Demography* 40 (2): 289–307.
- Donato, Katharine M.  
1993 "Current Trends and Patterns of Female Migration: Evidence from Mexico." *International Migration Review* 27 (4): 748–771.
- Durand, Jorge, Douglas S. Massey, and Rene M. Zenteno  
2001 "Mexican Immigration to the United States: Continuities and Changes." *Latin American Research Review* 36 (1): 107–127.

- Feliciano, Cynthia  
 2005 "Educational Selectivity in U.S. Immigration: How Do Immigrants Compare to Those Left Behind?" *Demography* 42 (1): 131–152.
- Fussell, Elizabeth  
 2004 "Sources of Mexico's Migration Stream: Rural, Urban, and Border Migrants to the United States." *Social Forces* 82 (3): 937–967.
- Fussell, Elizabeth, and Douglas S. Massey  
 2004 "The Limits to Cumulative Causation: International Migration from Mexican Urban Areas." *Demography* 41 (1): 151–171.
- Gonzalez, Gilbert G.  
 2006 *Guest Workers or Colonized Labor? Mexican Labor Migration to the United States*. Boulder, CO: Paradigm Publishers.
- Gonzalez, Gilbert G., and Raul A. Fernandez  
 2003 *A Century of Chicano History: Empire, Nations, and Migration*. New York: Routledge.
- Granberry, Phillip, and Enrico A. Marcelli  
 Forthcoming "In the Hood and on the Job': Social Capital among Legal and Unauthorized Mexican Immigrants." *Sociological Perspectives*.
- Heer, David M.  
 2002 "When Cumulative Causation Conflicts with Relative Economic Opportunity: Recent Change in the Hispanic Population of the United States." *Migraciones Internacionales* 1 (3): 32–53.
- Hondagneu-Sotelo, Pierrette  
 1994 *Gendered Transitions: Mexican Experiences of Immigration*. Berkeley: University of California Press.  
 2003 "Gender and Immigration: A Retrospective and Introduction." In *Gender and U.S. Immigration: Contemporary Trends*, edited by Pierrette Hondagneu-Sotelo, 3–19. Berkeley: University of California Press.
- Kanaiaupuni, Shawn M.  
 2000 "Reframing the Migration Question: An Analysis of Men, Women, and Gender in Mexico." *Social Forces* 78 (4): 1311–1347.
- Lieberson, Stanley  
 1976 "Rank-Sum Comparisons between Groups." *Sociological Methodology* 7: 276–291.  
 1980 *A Piece of the Pie: Blacks and White Immigrants since 1880*. Berkeley: University of California Press.
- Liebig, Thomas, and Alfonso Sousa-Poza  
 2004 "Migration, Self-Selection and Income Inequality: An International Analysis." *Kyklos* 57 (1): 125–146.
- Marcelli, Enrico A., and Wayne A. Cornelius  
 2001 "The Changing Profile of Mexican Migrants to the United States: New Evidence from California and Mexico." *Latin American Research Review* 36 (3): 105–131.
- Marcelli, Enrico A., and Paul M. Ong  
 2002 "Estimating the Sources of the 2000 Census Undercount among Foreign-Born Mexicans in Los Angeles County." In *Annual Meetings of the Population Association of America*. Atlanta: Population Association of America.
- Marroni, María da Gloria, and Guillermo Alonzo Meneses  
 2006 "El fin del sueño americano: Mujeres migrantes muertas en la frontera de México-Estados Unidos." *Migraciones Internacionales* 3 (3): 5–30.
- Massey, Douglas S.  
 1987a "Do Undocumented Immigrants Earn Lower Wages Than Legal Immigrants?" *International Migration Review* 21 (Summer): 236–274.  
 1987b "Understanding Mexican Migration to the United States." *American Journal of Sociology* 92 (6): 1372–1403.  
 1993 "Theories of International Migration: A Review and Appraisal." *Population and Development Review* 19 (3): 431–466.  
 1998 "Contemporary Theories of International Migration." In *Worlds in Motion: Understanding International Migration at the End of the Millennium*, edited by Douglas S.

- Massey, Joaquin Arango, Graeme Hugo, Ali Kouaouci, Adela Pellegrino, and J. Edward Taylor, 17–59. Oxford, UK: Clarendon Press.
- 1999 "Why Does Immigration Occur? A Theoretical Synthesis." In *Handbook of International Migration*, edited by Charles Hirschman, Philip Kasinitz, and Josh DeWind, 34–52. New York: Russell Sage Foundation.
- Massey, Douglas, Jorge Durand, and Nolan J. Malone  
2002 *Beyond Smoke and Mirrors: Mexican Immigration in an Era of Economic Integration*. New York: Russell Sage Foundation.
- Massey, Douglas S. and Kristen E. Espinosa  
1997 "What's Driving Mexico-U.S. Migration? A Theoretical, Empirical, and Policy Analysis." *American Journal of Sociology* 102 (4): 939–999.
- Menjívar, Cecilia  
2000 *Fragmented Ties: Salvadoran Immigrant Networks in America*. Berkeley: University of California Press.
- Minnesota Population Center  
2006 *Integrated Public Use Microdata Series—International: Version 2.0*. Minneapolis: University of Minnesota.
- Orrenius, Pia M., and Madeline Zavodny  
2005 "Self-Selection among Undocumented Immigrants from Mexico." *Journal of Development Economics* 78 (1): 215–240.
- Palloni, Alberto, Douglas S. Massey, Miguel Ceballos, Kristin Espinosa, and Michael Spittel  
2001 "Social Capital and International Migration: A Test Using Information on Family Networks." *American Journal of Sociology* 106 (5): 1262–1298.
- Parker, Susan W., and Carla Pederzini  
2000 *Gender Differences in Education in Mexico*. Washington, DC: World Bank.
- Pessar, Patricia  
1986 "The Role of Gender in Dominican Settlement in the United States." In *Women and Change in Latin America*, edited by June Nash and Helen Safa, 173–194. South Hadley, MA: Bergin & Garvey Publishers Inc.
- Piore, Michael J.  
1979 *Birds of Passage: Migrant Labor and Industrial Societies*. Cambridge: Cambridge University Press.
- Portes, Alejandro  
1979 "Illegal Immigrants and the International System: Lessons from Recent Legal Mexican Immigrants to the United States." *Social Problems* 26 (April): 425–438.
- Roberts, Bryan R., Reanne Frank, and Fernando Lozano-Ascencio  
1999 "Transnational Migrant Communities and Mexican Migration to the US." *Ethnic & Racial Studies* 22 (2): 238–266.
- Treiman, Donald J., and Hye-kyung Lee  
1996 "Income Differences among 31 Ethnic Groups in Los Angeles." in *Social Differentiation and Social Inequality: Essays in Honor of John Pock*, edited by James N. Baron, David B. Grusky, and Donald J. Treiman, 37–82. Boulder, CO: Westview Press.
- Warren, Robert  
2003 "Estimates of the Unauthorized Immigrant Population Residing in the United States: 1990–2000." Washington, DC: Office of Policy and Planning, U.S. Immigration and Naturalization Service.