Educational Selectivity in U.S. Immigration: How Do Immigrants Compare to Those Left behind?

Author(s): Cynthia Feliciano

Source: *Demography*, Feb., 2005, Vol. 42, No. 1 (Feb., 2005), pp. 131-152

Published by: Springer on behalf of the Population Association of America

Stable URL: https://www.jstor.org/stable/1515180

EDUCATIONAL SELECTIVITY IN U.S. IMMIGRATION: HOW DO IMMIGRANTS COMPARE TO THOSE LEFT BEHIND?*

CYNTHIA FELICIANO

Current immigration research has revealed little about how immigrants compare to those who do not migrate. Although most scholars agree that migrants are not random samples of their home countries' populations, the direction and degree of educational selectivity is not fully understood. This study of 32 U.S. immigrant groups found that although nearly all immigrants are more educated than those who remain in their home countries, immigrants vary substantially in their degree of selectivity, depending upon the origin country and the timing of migration. Uncovering patterns of immigrant selectivity reveals the fallacy in attributing immigrants' characteristics to national groups as a whole and may help explain socioeconomic differences among immigrant groups in the United States.

Current research on immigration has not adequately addressed a basic question: how do immigrants' characteristics compare to those of persons who remain in the sending society (Gans 2000)? The seemingly simple fact that migrants are not random samples of their home countries' populations has long been uncontested (Borjas 1987, 1999; Lee 1966; Ravenstein 1885). Beyond this fact, however, little is known about immigrant selectivity or the patterns and determinants of the selection process.

In particular, immigrants' educational selectivity—how educated immigrants are relative to those who remain in the country of origin—is important for two main reasons. First, the characteristics of those who leave a country may dramatically affect the remaining population. In developing countries, "brain drain," the out-migration of highly educated professionals, deprives them of major resources, especially leadership and skills, which may hinder future progress and development (Glaser 1978; Grubel and Scott 1977; Vas-Zoltan 1976).

Second, educational selectivity may affect how well immigrants and their children adapt in the United States. The characteristics of immigrants (e.g., the education, wealth, and skills they bring with them) clearly affect their economic integration in the United States (Portes and Rumbaut 1996). However, few studies have considered the effects of immigrants' premigration characteristics, such as where they were situated in the educational distribution of their origin country.

Understanding the educational selection of immigrants may shed light on why some immigrants and their descendents are more successful in the United States than are others. It may help to explain why ethnic differences persist for a long time (Borjas 1999). Hirschman and Falcon (1985) found that the low educational attainments among some groups of immigrants are generally not overcome by successive generations. They concluded that parental schooling is the most important factor explaining educational

differences across groups, but that parents' education matters for social or cultural reasons, not merely for economic ones (Hirschman and Falcon 1985). Because educational opportunities differ substantially by country, immigrants who do not have high educational credentials by American standards may be selective relative to the general populations in their home countries (Lieberson 1980:214). Therefore, immigrant parents' relative premigration education may influence their children's educational outcomes as much as their formal level of schooling. In addition, differences in educational selectivity may be associated with disparities in resources among immigrant groups, affecting various socioeconomic outcomes for both immigrants and their children (Treiman et al. 1986). In short, understanding the relative position of immigrants in their country of origin is necessary to test theories of assimilation that predict upward or downward mobility in the United States among the second generation.

BACKGROUND

Theories of Immigrant Selectivity

Immigrants are selected on various characteristics in addition to education, such as occupation, skills, age, ambition, and gender. The selection process for all these characteristics occurs on several complex and interrelated levels. First, immigrants self-select, since only some people want to migrate or have the resources to do so. Second, some countries, such as China, the former Soviet Union, and the Dominican Republic, have historically had restrictive exit policies that allowed only select individuals to emigrate (Foner 2000). Third, political and economic conditions in the sending country influence the nature of migration flows (Massey 1999; Menjivar 1993; Rumbaut 1997). Fourth, the demand for certain types of workers affects the selectivity of economic migrants from different countries (Massey 1999). Fifth, the historical relationship between the United States and sending countries guides immigrant selection (Rumbaut 1995, 1997). Finally, immigrants, at least legal ones, are selected by U.S. immigration policy (Green 1999; Lobo and Salvo 1998a, 1998b; Rumbaut 1999). Although a full investigation of such causes of immigrant selection is beyond the scope of this article, the *outcome* of these selection processes itself has been understudied. Thus, the primary aim of this article is to shed light on one outcome of the selection process: how immigrants who come to the United States compare educationally to those who remain in their origin countries.

Scholars have disagreed considerably about how immigrants compare to those who are left behind. The early view, expressed as far back as the 1700s by Benjamin Franklin (1753, quoted in Abbott 1969:415–16), who maintained that the Germans were "the most stupid of their own nation," was that immigrants were the poorest of the poor and came to the United States to escape desperate poverty and unemployment (see also Portes and Rumbaut 1996). This view, which is still espoused in the popular press by those who denounce immigration, has even been expressed in some contemporary scholarly writings (Briggs 1975; Lamm and Imhoff 1985; Teitelbaum 1980).

This view has largely been replaced by newer debates. Some researchers now 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 or have higher levels of education than their counterparts who stayed behind (Portes and Rumbaut 1996; Treiman et al. 1986). Chiswick (1978) used the idea that immigrants are highly self-selected to explain why immigrants do so well in the labor force, particularly compared with natives. Portes and Rumbaut (1996) argued that migrants are the most ambitious and motivated persons of their home countries, those who experience a disjuncture between their aspirations and their means of fulfilling them in their home countries. Relative, not absolute, deprivation is what motivates individuals to migrate (Stark and Bloom 1985). Thus, poor and uneducated persons, who are often socially isolated and not aware of the possibilities

of migration, are often less likely to migrate than are those who have been exposed to U.S. lifestyles or who have some education and live in cities (Portes and Rumbaut 1996). Indeed, some studies have shown that the very poor and unemployed seldom migrate, legally or illegally (Bean, Browning, and Frisbie 1985; Bray 1984; Massey 1987a; Portes 1979). Contrary to popular perception, then, even undocumented immigrants may be positively selected. Since 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). This scholarship suggests that immigrants will be more educated than the general population who remain in their homelands.

However, in a theoretical discussion of both internal and international migration, Lee (1966) contended that only some migrant streams are positively selected, while others are negatively selected. He argued that the causes of migration are crucial: if migrants leave because of "plus factors" (or pull factors) in the destination, they will be positively selected. If they are responding to "minus factors" (or push factors) in the sending society, they will be negatively selected (Lee 1966). Obstacles are also an important factor: immigrants who face the greatest barriers in migrating will be the most positively selected (Lee 1966; Schultz 1984).

Borjas (1987, 1991) also argued that only some immigrants are positively self-selected. Expanding upon Roy's (1951) model of the impact of self-selection in occupational choice on income distributions, Borjas (1987, 1991) specified the conditions under which immigrants will be positively or negatively selected. He theorized that immigrants to the United States are positively selected only when sending countries have relatively egalitarian income distributions. If the home country's income distribution is more unequal than in the United States, immigrants will be negatively selected and will come from the lower end of that country's socioeconomic distribution. Thus, Borjas (1987, 1991) argued that skilled Mexicans do not migrate to the United States, since their skills are highly rewarded under Mexico's more unequal system. Unskilled Mexicans are the most likely to migrate because they are the most relatively disadvantaged in Mexico. Although some studies have suggested that undocumented migrants from Mexico are negatively selected on the basis of education (Borjas 1992, 1996; Massey and España 1987; Taylor 1986, 1987), Chiswick (2000:67) stated that a more-unequal source country "does not necessarily imply negative selectivity but rather only less favorable positive selectivity."

Because data on the place of origin are readily available for internal migration within the United States, most studies that have tested theories of migration have been of domestic migrants. This literature, mostly on southern blacks' migration to the North, has shown that migrants tend to be more educated than those who stay in the place of origin (Lieberson 1980; Shryock and Nam 1965; Suval and Hamilton 1965; Tolnay 1998). Long-distance migrants are especially likely to be highly selected by education (Long 1973). Several studies of the selectivity of Puerto Ricans have compared the characteristics of U.S. migrants to those who remain on the island (Landale 1994; Landale, Oropesa, and Gorman 2000; Melendez 1994; Ortiz 1986; Ramos 1992). For example, Landale et al. (2000) found that children of recent Puerto Rican migrants have lower infant mortality risks than children of nonmigrants, suggesting that migrants are positively selected on characteristics related to infants' health. Studies of education have found that Puerto Rican migrants to the U.S. mainland have about the same education as or less education than their counterparts who remain on the island (Ortiz 1986; Ramos 1992). However, since Puerto Rican and other internal migrants are U.S. citizens, it is impossible to know whether such findings are generalizable to other groups.

This literature suggests that the degree to which immigrants differ by education from nonmigrants in their homelands varies by source country. Even if immigrants are all positively selected, there may be substantial variability in the *level* of selectivity by

origin country, such that immigrants from some countries are more positively selected than others. Furthermore, these theories suggest that some measurable factors are related to the degree of selection. Migrants from more-educated populations may be less positively selected, since the possibility that they have more schooling than the average person in their home country is not high. Given the greater costs associated with migrating long distances, migrants from countries that are farther from the United States should be more highly selected. According to Lee (1966), migrants who respond to push factors will be less selective; economists have also assumed that selectivity applies only to economic migrants (Chiswick 2000). Thus, political refugees who respond to push factors may not be as highly selected as others. Finally, according to Borjas (1987), migrants from countries with greater income inequality are negatively selected or, at least, less positively selected than those from more egalitarian countries.

Selectivity is also related to scholarly debates about whether the new immigration is less skilled than the old. Borjas (1999) argued that today's immigrants from developing countries in Asia and Latin America are less skilled than were immigrants who came from advanced industrial societies in Europe decades earlier. Chiswick (1986), on the other hand, noted how U.S. policies have selected certain groups of immigrants from different countries. Simply because immigrants come from less-developed countries does not mean that they themselves are drawn from the less-educated or less-skilled segments of those societies (Rumbaut 1997). Chiswick (1986) suggested that U.S. policy favoring skills has resulted in an increase in highly selected immigrants from Asia but that this policy is offset by U.S. policy favoring kinship, which has resulted in an influx of less-skilled and less-selective immigrants as well. Although selectivity and skills are not necessarily the same, they are highly correlated. Consequently, examining whether the changing national origins of immigrants are associated with a decline in educational selectivity will shed light on whether new immigrants are less skilled than were older immigrants.

Massey (1987b, 1999) contended that although migrants tend to be positively selected initially, they become less highly selected over time as successive waves migrate from a particular country. Social capital is a major force in perpetuating migration; for example, having an older sibling who migrated to the United States triples the likelihood of migration among Mexicans (Palloni 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 that is driven by social networks continues, migration becomes less costly, and persons who are not relatively well educated or skilled begin to migrate (Massey 1987b, 1999; Massey et al. 1993). Tolnay's (1998) finding that the educational selectivity of southern black migrants to the North has declined over the past 100 years is consistent with this idea. In the case of international migration, U.S. immigration policies that are based on family reunification further increase the possibility that individuals are able to draw upon social networks to migrate. Prior research, based on data from the Mexican Migration Project, found that Mexican migrants have declined in educational selectivity over time (Durand, Massey, and Zenteno 2001). Although the Mexican case is unique and not necessarily generalizable, it is one of the few long-term immigrant streams for which data are available to answer this question. Using Mexican and U.S. census data, I examined whether successive waves of immigrants from Mexico were less educated relative to Mexican nonmigrants than were those who immigrated earlier.

Conceptual and Measurement Issues

As I mentioned earlier, immigrant selection occurs along a number of different characteristics, some of which are measurable, such as education, and others of which are not as easily measured, such as ambition, motivation, and work ethic. Such unmeasured attributes are related to conditions in the sending country and may also affect immigrants' adaptation

in the United States. For example, immigrants from countries with low standards of living may be willing to work longer hours for less pay than may U.S. natives (Lieberson 1980), which can create a "split labor market," as Bonacich (1976) argued. Such attributes may be evident compared with those of U.S. natives but do not necessarily imply selectivity on measured characteristics, such as education. In the study presented here, I conceptualized selectivity as differences between immigrants and the home-country populations from which they are drawn and measured it in terms of one characteristic: education. While educational selectivity may be related to selectivity along other dimensions, such as work ethic or ambition, examining such attributes was beyond the scope of my study.

The operationalization of the concept of selectivity necessarily involves measurements relative to the population at the place of origin. However, empirical research has not adequately tested different theories on immigrant selectivity because, owing to the difficulty of obtaining data from multiple countries, most comparative studies of international migration have not included data on those who do not migrate but instead have used proxies for selectivity. For example, on the basis of theories of the factors predicting immigrant selectivity, many researchers have used readily available measures as proxies for selectivity, which even they have admitted are ad hoc, such as the gross domestic product, income inequality, and distance (Borjas 1987; Cobb-Clark 1993; Jasso and Rosenzweig 1986). Other researchers have used immigrants' premigration occupational status or absolute level of educational attainment as a proxy for immigrant selectivity (see, e.g., Lobo and Salvo 1998b; Rumbaut 1997). Using the formal level of educational attainment as a proxy for selectivity, for example, is problematic because it assumes that a high school degree in one context (say, a country where only 10% of the population earns one) has the same meaning as a high school degree earned in another context (say, where 80% of the population earns one). Thus, including information about those who remain in the homeland is critical to understanding immigrant selection.

RESEARCH QUESTIONS AND ANALYTIC STRATEGY

I directly examined the educational selectivity of multiple immigrant groups by comparing immigrants' educational profiles to those of persons in their home countries, using data on *both* the sending and receiving sides of the migration process. In doing so, I addressed several questions: (1) How do immigrants' educational attainments compare to those of nonmigrants in their home countries, and how does this educational selectivity vary by country of origin? To answer this question, I calculated a measure of selectivity for multiple immigrant groups, based on comparisons of their educational distributions to those of comparably aged persons in their home countries. (2) How do home-country characteristics, reasons for migration, and distance from the United States affect immigrant selectivity? Building upon the findings from the first question, I used the selectivity measure as an outcome and analyzed whether these country-level factors significantly predict educational selectivity. (3) Are immigrants from regions with more-recent migrant streams (Asia and Latin America) more educated or less educated than were those from European countries who migrated in the past? Here, I compared the selectivity of recent migrants from Asia and Latin America to that of older immigrant groups from Europe. (4) Does the selectivity of successive waves of migrants from the same country change over time? This analysis focused on one national-origin group (Mexicans) and compared different migrant streams from that country at different points in time.

DATA AND METHODS
Data

To compare the educational attainment of migrants and nonmigrants from the same country, age group, and period, I needed data on immigrants in the United States that contained

their educational attainment, age, year of immigration, and country of origin. I also needed data on the populations of the major immigrant-sending countries to the United States, including their educational attainment, by age, from about the same period when most immigrants migrated. To assess whether the changing national-origin mix is related to changes in immigrant selectivity, I needed data on older immigrant groups from Europe who migrated in previous decades and their nonmigrant counterparts, as well as more-recent immigrant groups from Asia, Latin America, and the Caribbean. I also needed data on immigrants and nonmigrants over time from one country with a long migration history to the United States, such as Mexico.

First, I gathered published data on the sending countries' average levels of educational attainment. I searched for data from the top 38 migrant-sending countries to the United States and ended up with acceptable data (for the appropriate years for that country, by age) from 31 countries and Puerto Rico.[1] The appendix shows the data that were collected from these countries. Most of the country-of-origin data were available from UNESCO (1975–1997), which compiles census data from the various countries and presents the data in comparable ways. The UNESCO data account for the different educational systems in different countries because the data are compiled in six educational categories that are comparable across nations. For Puerto Rico, I used data published by the U.S. Census Bureau (1973). I selected the year of the data by choosing the closest year (for which data were available) to the average year of immigration of the U.S. immigrants from that country (calculated from the 1990 census).[2]

To summarize educational attainment on the receiving side of migration, I created extracts of census data on U.S. immigrants from each of the 32 countries from the Integrated Public Use Micro Samples (IPUMS; Ruggles, Sobek et al. 1997). The appendix also summarizes the data on immigrants that I used to calculate each immigrant group's educational attainment. Three main principles guided my selection of immigrants for each country's sample. First, since I wanted measures of educational attainment that would reflect those of the "average" immigrant from that country, I included only immigrants who migrated within five years (before or after) of the average year that a particular immigrant group migrated to the United States. I collected data from the IPUMS for the closest year available following the average years of immigration for that particular national-origin group, which meant that in most cases, I used IPUMS data from two decades. For example, if the average year of immigration for immigrants from a certain country was 1980–1981, I selected immigrants from that country who migrated from 1975 to 1980 using IPUMS data from 1980, and I selected immigrants from that country who migrated from 1980 to 1986 using IPUMS data from 1990.[3] Second, I limited the sample of immigrants to only those who migrated as adults. Thus, I analyzed data from those

---

1. I could not find acceptable, comparable data from Germany, England, Taiwan, Laos, Scotland, or Cambodia.

2. Although ideally, I would have used data from the year closest to the average year of migration of immigrants from that country, such data were not always available. In some cases, therefore, I had to analyze data on home-country populations that were several years removed from the data on U.S. immigrants from that country. However, I do not believe that doing so biased my results because I compared immigrants only with their home-country counterparts of the same age cohort. Since educational attainment is fairly stable among adults (that is, by early adulthood, most individuals have attained the highest level of schooling they are ever likely to attain), selectivity among immigrants can be fairly accurately assessed even if the years of the data do not correspond, since the ages of the compared groups *do* correspond. For example, an adult who responded in 1980 that he or she had completed a college degree most likely would have had the same stated educational attainment in 1990, when he or she was 10 years older.

3. I used this method because I did not want to overestimate the positive selectivity of immigrants. Positive selectivity may be overestimated by using the entire distribution of immigrants for two reasons. It is well known that migration occurs in waves and that first waves of migrants are generally thought to be more skilled and more educated than later waves (Massey 1988). What is perhaps more important is that return migration is also

who were at least 22 years old when they migrated, so that I could be reasonably sure that most of their education occurred in their home countries, rather than in the United States. Third, I selected immigrants within the same age range as the home-country populations in the published UNESCO data (see the appendix).

I then created a small data set for each immigrant group at the individual-level unit of analysis. I recoded these data on immigrants to match the educational attainment variables that were available in the UNESCO publications (1975–1997) for the countries of origin. Thus, I created an educational attainment variable for the immigrants that matched the six educational categories in the UNESCO data on the sending countries: "no schooling/illiterate," "first level incomplete," "first level completed," "second level 1st cycle," "second level, 2nd cycle," and "postsecondary schooling or higher."

For the analyses of changes in immigrant selection among migrants from Mexico, I supplemented the published UNESCO data in 1980 with data from the IPUMS-International's samples of Mexican census data from 1960, 1970, 1990, and 2000 (Sobek et al. 2002; IPUMS data for 1980 are not available) and the U.S. census from 1960 to 2000. Each is a nationally representative, 1% population sample.[4] The IPUMS-International's samples are ideal for analyses of trends over time and comparisons among countries because the variables have been recoded to allow for consistency across time and place. I combined the Mexican and U.S. census samples for 1960–2000 to create a data set for each year that consisted of a large sample of Mexicans in Mexico and Mexican immigrants in the United States.

To summarize, I collected data on educational attainment on the sending and receiving sides of the migration process for each national-origin group. I collected data on immigrants and nonmigrants from one period, whenever the migration was most frequent; in some cases, this period was the 1960s and in others, the 1990s. I also used data on Mexicans and Mexican immigrants from 1960 to 2000, so I could assess changes over time among immigrants from a single country.

Measuring Educational Selectivity

Before I compared immigrants' educational attainment to that of homeland nonmigrants, I accounted for the different age distributions of the two populations—the sending and receiving country-of-origin groups—by using direct age standardization.[5] This standardization is important because immigrants are selected by age as well as education and because age and educational attainment are related. In most cases, immigrants tend to be younger than those who remain in the home country. Since most populations are becoming

---

a common part of the migration process for many immigrants, especially those who are not successful in the United States; as many as one third of immigrants to the United States eventually return to their home countries (Massey 1987b). Donato (1993) found that those who permanently settle in the United States are more educated than those who return to their home countries. Thus, limiting my analysis to immigrants who migrated close to the average year of migration for that particular national-origin group means that my selectivity measures are conservative; that is, I underestimated the degree of positive selectivity from most countries.

4. For the United States, 1% samples were downloaded directly from the web site for IPUMS-International (Sobek et al. 2002). A 1% sample in Mexico was available for 1970 and 1990. For 1960 and 2000 (for which 1.5% and 20% samples were available from IPUMS), I randomly sampled the appropriate number of cases, so that my final sample was 1% of the original populations.

5. Direct standardization is a method for "controlling" for confounding factors—in this case, age. Thus, I adjusted the educational attainment of nonmigrants to the age distribution of immigrants to compare the educational attainments of the two populations without the contaminating influence of age. The general formula is, using percentage who are college educated as an example, age-standardized % college educated among nonmigrants = $\Sigma_i M_i^n C_i^i$, where M is the percentage college educated among nonmigrants by age and C is the proportion of immigrants in each age category. Thus, the immigrants' age distribution is used as the standard to calculate an adjusted percentage of nonmigrants who are college educated.

more educated over time, younger adults are generally more educated than older persons from the same country. Therefore, failure to account for the different age distributions would have overestimated the degree of positive selectivity, simply because immigrants tend to be younger than nonmigrants. Thus, I recalculated the educational distributions of the home-country populations on the basis of the age structure of the corresponding immigrant groups.

Once I had consolidated the appropriate age-standardized educational attainment distributions, I defined and calculated the selectivity measure—a comparative measure of immigrants' and nonmigrants' educational attainment—to be used in the analysis. The measurement of selectivity ideally involves comparisons of the entire educational distributions of immigrants and nonmigrants, rather than crude comparisons of mean or median educational attainment or comparisons that are based on any particular point on the distribution. I thus followed Lieberson (1976, 1980) in using the net difference index (NDI), which is based on the immigrants and the nonmigrants' distributions along all points of the educational range, as the measure of educational selectivity.[6] The NDI is calculated on the basis of the percentage of immigrants with the same level of educational attainment as nonmigrants, the percentage of immigrants with more education than nonmigrants, and the percentage of immigrants with less education than nonmigrants.[7] For example, an NDI of .35 indicates that an immigrant's educational attainment will exceed that of a nonmigrant from the same country 35% more often than a nonmigrant's education will exceed that of an immigrant from that country (Lieberson 1980). If all immigrants exceed all nonmigrants, the NDI will be 1. If the number of immigrants exceeding nonmigrants in educational attainment equals the number of nonmigrants exceeding immigrants in education, the value of NDI will be 0. Thus, the higher the NDI value, the more educated the immigrants are relative to the nonmigrant population in their home country. If immigrants are more often *less* educated than nonmigrants (that is, there is negative selection), the value of the NDI will be negative. I calculated the NDI for all adult immigrants from each country, as well as separately by gender, when the data were available.

Additional Variables

For my analysis, the primary data set contains the 32 countries as the units of analysis, the NDI as the measure of educational selectivity, and the original educational attainment variables used to create the selectivity measure. In addition to these measures, I added several additional measures to the data set. Using U.S. census data, I calculated, for each country-of-origin group, the percentage who migrated before 1965, the percentage of the immigrants who were female, and the average age of the immigrants. On the basis of the country-of-origin data, I calculated the average years of schooling in each home country. I also added a dummy variable to distinguish political migrants from others.[8] I added a variable indicating the distance, in thousands of miles, of each country from the United States.[9] Finally, I added the Gini coefficient for each country of origin, which is a measure

---

6. I gratefully acknowledge the suggestion of an anonymous reviewer that I calculate the NDI. Findings using a different summary measure that was based on comparisons of measures of central tendency and measures along specific points of the educational distribution were the same (and are available on request). The NDI, however, provides a simpler and more intuitive measure of educational selectivity, particularly since any immigrant group that is negatively selected would have a negative NDI value.

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

8. I coded immigrants from Cuba, El Salvador, Guatemala, Haiti, Hungary, Iran, Nicaragua, Poland, Russia, and Vietnam as political migrants (although many of them may have also migrated for economic reasons).

9. This calculation was based on distance from the closest U.S. city that is considered a typical port of entry: New York, San Francisco, Los Angeles, or Miami.

of the degree of income inequality around the time when most immigrants arrived in the United States (taken from the data set by Deininger and Squire n.d.).

FINDINGS

How Are Immigrants Selected by Education?

Table 1 summarizes the variation in educational selectivity by country of origin for all immigrants, as well as for women and men separately. Focusing on the first column, which presents the NDI for both male and female immigrants, immigrant groups are sorted from the least selective (Puerto Ricans, who are negatively selected: −.064) to the most positively selected (Iranians: .884). The table shows that with the exception of Puerto Ricans, immigrants from all major sending countries tend to be more educated than the general populations in their home countries. This finding challenges the view that immigrants are the least desirable of their country or that immigrants are positively selected only under certain specific conditions. This finding is consistent with theories that relative, rather than absolute, deprivation is the motivation for migration and with observations that it takes a tremendous amount of resources, skills, motivation, initiative, and ambition to migrate to another country. The finding that immigrants are nearly all positively selected is also true for political refugees, even though less "choice" is often involved in their decision to migrate. Migrants from Iran, Cuba, Vietnam, Russia, and Poland (as well as those from countries such as Guatemala and El Salvador, who may flee their countries for political reasons, even though they are not granted asylum in the United States), are all more highly educated than their counterparts who remain in their home countries. These findings challenge Lee's (1966) theory that migrants who respond to push factors are negatively selected, at least as applied to international migration.

The *only* exception to the pattern of positive selectivity is Puerto Rican migrants. The Puerto Rican population in Puerto Rico is more highly educated than are Puerto Ricans who migrate to the U.S. mainland. Puerto Ricans are unique because they are U.S. citizens; therefore, other than the cost of a plane ticket, they face virtually no barriers to entry to the U.S. mainland. This finding is also consistent with several other studies on Puerto Rican selectivity that found that Puerto Rican migrants have similar or lower socioeconomic levels than nonmigrants (Melendez 1994; Ortiz 1986; Ramos 1992). However, findings from Puerto Rican case studies should not be generalized to immigrants from other countries. Ramos (1992), for example, used the findings that Puerto Ricans are negatively selected as support for Borjas's (1987, 1991) theory that immigrants from home countries with highly unequal income distributions come from the lower end of the socioeconomic distribution. But the theory may apply only in cases for which there are no major barriers to entry, such as financial costs, distance, or immigration status. My findings suggest that Borjas's theory is not applicable to most of the major immigrant-sending countries.

The findings show that even though all immigrant groups are positively selected, the degree of positive selectivity varies considerably by country of origin. Immigrants from Asia tend to be more positively selected than those from Latin America or the Caribbean. That is, the NDI for 8 out of the 13 immigrant groups from Latin America or the Caribbean (Puerto Rico, Mexico, El Salvador, Cuba, Honduras, Dominican Republic, Ecuador, and Guatemala) is below the overall median of .553 for the 32 groups, while only 2 of the 9 immigrant groups from Asia (Korea and Hong Kong) have NDIs that are slightly below the median. The variability in educational selectivity by country is striking. For example, Mexican immigrants are more educated than Mexican nonmigrants 20% more often than Mexican nonmigrants are more educated than immigrants (NDI = .200). In contrast, Indian immigrants have higher educational attainments than do Indian nonmigrants 86% more often than the converse is true (NDI = .858).

Table 1.   **Educational Selectivity (Net Difference Index) of U.S. Immigrants, by Country of Origin**

Country of Origin	Net Difference Index	Net Difference Index, Women	Net Difference Index, Men
Puerto Rico	–0.064	–0.075	–0.050
Mexico	0.200	0.252	0.158
Portugal	0.244	0.265	0.222
Italy	0.260	0.233	0.285
El Salvador	0.342	0.365	0.322
Greece	0.402	0.373	0.426
Cuba	0.406	0.484	0.292
Honduras	0.433	0.447	0.416
Canada	0.434	0.415	0.456
Dominican Republic	0.490	N.A.	N.A.
Yugoslavia	0.502	0.511	0.493
Ecuador	0.513	0.537	0.491
Russia	0.520	0.488	0.558
Korea	0.524	0.537	0.505
Hong Kong	0.525	0.472	0.578
Guatemala	0.534	0.560	0.511
Ireland	0.572	0.542	0.617
Poland	0.573	0.605	0.540
Vietnam	0.589	0.545	0.631
Philippines	0.602	0.584	0.631
Colombia	0.617	0.606	0.630
Thailand	0.638	0.594	0.723
Peru	0.645	N.A.	N.A.
China	0.667	0.662	0.673
Nicaragua	0.669	N.A.	N.A.
Jamaica	0.670	0.649	0.693
Japan	0.670	0.631	0.722
Netherlands	0.676	0.675	0.677
Haiti	0.710	0.746	0.677
India	0.858	0.640	0.980
Hungary	0.880	0.907	0.859
Iran	0.884	0.875	0.890

Note: N.A. indicates that data on country of origin were not available by gender.

The second and third columns of Table 1 reveal that although educational selectivity often differs between male and female immigrants from the same country, these differences are generally not great. For example, among the most highly selective immigrant group, Iranians, the NDI for Iranian female immigrants is .890, compared to .875 for Indian male immigrants; likewise, the NDIs for Puerto Rican male and female immigrants

are similarly low (−.075 for women and −.050 for men). Indeed, the NDIs for male and female immigrants are highly correlated (.89). Furthermore, gender differences in educational selectivity do not appear to follow any clear pattern. In over half the cases, women are less positively selected than men, but women from a substantial minority of the countries (12 out of 29) are more highly selected than men. In some cases, the gender differences are much more pronounced than in others, with the most-noticeable difference between Indian men (.980) and women (.640). Few patterns can be discerned from these gender differences, however. For example, gender differences in educational selectivity are not related to the percentage of immigrants who are female (results available on request). The only factor that is somewhat related is distance: gender differences in selectivity tend to be greater among immigrants from countries that are farther away from the United States, with these women tending to be less selective than their male counterparts. One possible explanation for this finding may be that female migrants from distant countries are less likely to migrate for their own job opportunities; rather, they migrate to accompany highly skilled husbands who are responding to particular employment opportunities in the United States. Future research is needed to explore these patterns further. However, because gender differences in educational selectivity are not substantial, the remainder of the article focuses on the overall level of educational selectivity for both male and female immigrants.

Factors Related to Immigrants' Educational Selectivity

Factors such as the relationship between the sending country and the United States, the contexts of exit, U.S. immigration policy, and economic conditions in the sending and receiving countries likely affect the selection of immigrants from any particular country. Although a full-scale investigation of all such dynamics is beyond the scope of this article, I consider several possible determinants of immigrant selection that can be straightforwardly operationalized. Possible factors that influence the selectivity of any given group of immigrants that I was able to analyze include the average years of schooling in the home country, the distance of the home country from the United States, the average year of migration, the level of income inequality in the home country, and whether most migrants left for political reasons. I also considered whether the different age or gender compositions across immigrant groups influence educational selectivity.

Table 2 presents correlations between the included variables and immigrant selectivity (NDI), bivariate regression coefficients for the NDI regressed on each variable, and multivariate regression coefficients for a model including all significant bivariate relationships. The table shows that the average years of schooling in the home population is negatively correlated with selectivity (−.353) and that this relationship is significant; thus, immigrants from highly educated populations are less likely to be as highly positively selected as those from less-educated populations. Greater distance from the United States is associated with greater positive selectivity (.421, .029). The negative correlation for the percentage of immigrants who migrated before 1965 (−.123) suggests that immigrants from countries who only recently began migrating to the United States tend to be more positively selected than those who came primarily in the 1960s or 1970s; however, this relationship is not statistically significant in the bivariate model. Thus, these findings challenge the popular perception that immigrants' skills have declined as the regional origins of immigrants have changed over time. There is a negative association (−.302) between home-country inequality and positive selectivity. While this finding provides some support for Borjas's (1987, 1991) and Chiswick's (2000) claims that immigrants from more-egalitarian countries are more positively selected, income inequality is not a statistically significant predictor of selectivity in the bivariate model. This finding contradicts the theory that immigrants from highly unequal societies are less likely to be positively selected. Furthermore, although there is a positive relationship between political reasons for

Table 2.   Relationships Between Select Factors and Immigrants' Educational Selectivity (Net Difference Indexes)

Factors	Correlation Coefficient	Bivariate Regression Coefficient	Multivariate Regression Coefficient
Average Years of Schooling in Home Country	−.353	−.041*	−.043*
Distance (in thousands of miles) from the United States	.421	.029*	.030*
Percentage Who Migrated Before 1965	−.123	−.001	
Gini Coefficient (inequality level in home country)	−.302	−.007	
Political Reasons for Migration (dummy variable = 1 if political)	.240	.107	
Average Age of Immigrants	−.098	−.004	
Percentage of Immigrants Who Are Female	−.087	−.358	
Constant for Multivariate Model			.665***
R^2 for Multivariate Model			.308
N for Multivariate Model			32

*$p < .05$; ***$p < .001$

migration and positive selectivity (.240), it also is not significant. This finding conflicts with the economic view, which assumes that only economic migrants are positively selected. Finally, the correlations show that the average age and the percentage of women in the immigrant group are both negatively correlated with the level of selectivity; however, neither variable significantly predicts educational selectivity. These insignificant results are important because they suggest that the results for selectivity are not biased by the different age and gender compositions across immigrant groups.[10]

The multivariate model includes only the significant bivariate predictors of selectivity: average years of schooling in the home country and distance from the United States.[11] When included in the same model, immigrant groups from highly educated home populations are still significantly less positively selected, net of distance. While this finding seems counterintuitive, it is logical if one considers the ceiling effect: among highly educated populations, immigrants' education could not possibly be much higher than average.[12] This finding also suggests that in less-developed countries, the few individuals who have attained a higher education may have substantial incentives to migrate to a more developed country, such as the United States. This phenomenon, known as "brain drain," has been identified as a problem in developing countries (Glaser 1978; Grubel and Scott 1977; Vas-Zoltan 1976). Distance significantly increases the likelihood of a group being more positively selected, net of average home-country educational attainment. This finding suggests one reason why Asians tend to be more highly selected than most Latin

---

10. Although I was able to account for differences in the age compositions between home-country populations and their immigrant counterparts, because of data limitations, I was not able to account for differences in the age structures among immigrant groups in calculating the selectivity measure. However, this analysis suggests that differences in the age compositions across immigrant groups do not affect my results.

11. The variables that were not significant predictors of selectivity in the bivariate models are also not significant when included in multivariate models and do not add any explanatory power to the multivariate model (results available on request).

12. One way to think about this point is similar to questions of socioeconomic mobility. If a child's parents are physicians, substantial upward mobility is simply not possible.

American or Caribbean groups. Asian countries are much farther away geographically than most Latin American or Caribbean countries. For example, India is almost 8,000 miles away from the nearest major U.S. immigrant gateway city, while Mexico shares a border with the United States. Distance creates greater travel costs and perhaps psychological costs in moving to another country. Greater distance means that there is less possibility of simply returning to the homeland. Therefore, it is likely that Asians who migrate to the United States are the most highly selective because only a select few can bear the costs associated with such a drastic move.

Although it was not possible to operationalize in this analysis, U.S. immigration policies may also account for differences in educational selectivity by country of origin. With the 1965 Immigration Act, the two main criteria that are used to allow migrants to enter the United States became family reunification and occupational qualifications. On the one hand, because few Asians were allowed to enter the United States before 1965, few had family members in the United States, so most could enter only under the formal credentials criteria. On the other hand, because Mexico has a long immigration history to the United States, many Mexicans could legally migrate for family-reunification purposes. Studies have shown that immigrants who enter under family reunification have lower occupational statuses than do those who enter under employment preferences (Lobo and Salvo 1998a, 1998b); these immigrants are therefore likely to be less highly selected by education as well.

Selectivity and Changes in the Regional Origins of Immigrants

Figure 1 shows the selectivity of each immigrant group sorted by the region of origin and average decade of migration, to address whether immigrants from Asia and Latin America (currently the largest sending areas) are less selective than those from Europe (previously the largest sending area). The figure clearly illustrates how the regional origins of immigrants have changed over the past few decades. Most immigrant groups whose major waves arrived in the 1960s and 1970s are from Europe, whereas most immigrant groups who arrived more recently are from Asia, Latin America, and the Caribbean. The figure shows no clear pattern in terms of the selectivity of recent immigrant groups compared to older immigrant groups. Indeed, if anything, immigrant groups who arrived in the 1960s appear to be less positively selected than those who arrived in the 1980s. The average NDI of immigrants in the 1960s, who came mainly from Europe, was .44, compared with .58 among Asian and Latin American/Caribbean immigrants in the 1980s. Even when the average NDI is weighted by the size of the immigrant group, which accounts, for example, for the fact that over one fourth of the immigrants who arrived in the 1980s were from Mexico, immigrant groups who arrived in the 1980s are not less positively selected (.44) compared with immigrant groups who arrived in the 1960s (.26). This figure suggests that immigrant groups today, especially those from Asia, are actually more likely than were earlier immigrants to come from the top of the educational distribution in their countries of origin. Thus, any suggestions that immigrants are currently less selective than in the past owing to their changing regional origins are overstated.

Changes in the Selectivity of Mexican Immigrants Over Time

In this section, I address the question of how selectivity changes over successive waves of migrants from the same country. I examine the hypothesis that positive selectivity declines over successive waves of migrants using data on immigrants from Mexico, the largest immigrant group in the United States with one of the longest migration histories (Massey 1988) and the least positively selected group in Figure 1. It is important to note that the Mexican case is unique compared with most other immigrant-sending countries in that Mexico shares a border with the United States, has a long and substantial history

Figure 1.   **Educational Selectivity of Migrants to the United States, by Average Decade of Migration and Region**
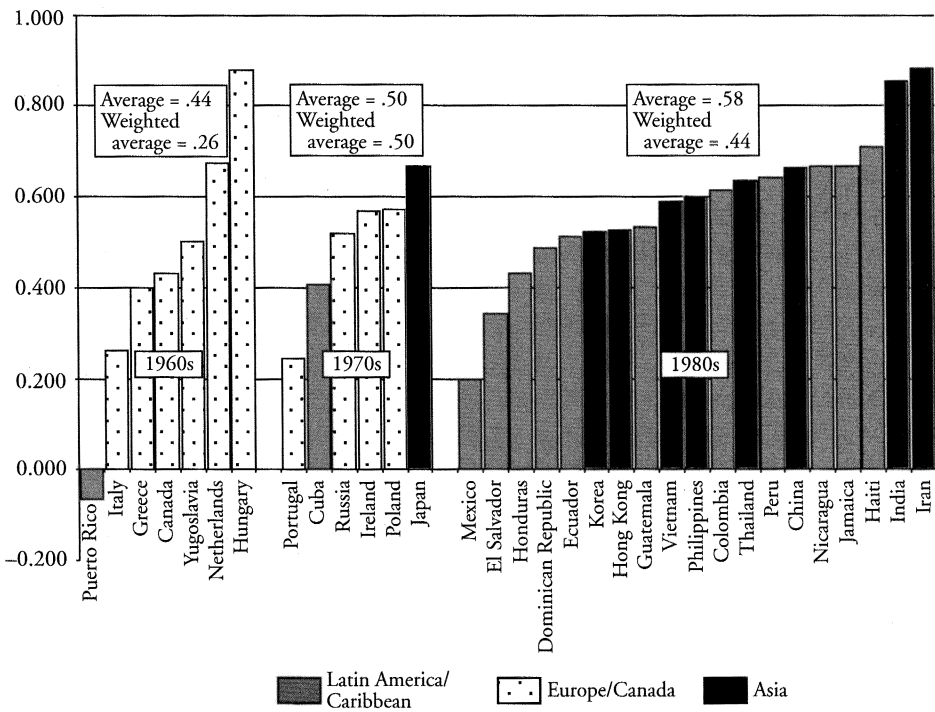
Notes: Average = average NDI for all immigrant groups with this average decade of arrival. Weighted average = average NDI weighted by the size of the immigrant groups.

of labor migration, and includes a large number of undocumented migrants.[13] Although ideally I would have liked to compare the selectivity of Mexican immigrants over time to the patterns for other groups, I was unable to locate appropriate data over time for any other group.

Table 3 presents a series of multivariate, ordinary least-squares (OLS) regression analyses to examine differences in years of schooling by migrant status among Mexicans, from 1960 to 2000, controlling for age and gender.[14] With regard to the coefficients for recent U.S. migrants,[15] those who migrated within the past five years, there is a pattern of

---

13. Unfortunately, I was unable to distinguish between documented and undocumented immigrants with the available data. These data are based on census data that include all U.S. residents, regardless of legal status; however, undocumented immigrants are most likely underrepresented in the data. Therefore, readers should be cautious in generalizing these results to undocumented immigrants, since there may be differences in selectivity by legal status.

14. The analyses presented in this section are based on all Mexican immigrants because the patterns did not differ for men and women (separate analyses for men and women are available on request).

15. I focus the discussion only on recent migrants because prior migrants are likely to be a biased sample of the most successful immigrants who have remained in the United States over a long period. The comparison group is Mexican nonmigrants, excluding those who ever lived abroad in 1960 and 1970, and those who were

Table 3.   Coefficients of the Determinants of Years of Schooling Among Mexicans in the United
            States and Mexico, Aged 25–64

Determinants of Years of Schooling	1960	1970	1990	2000
Recent U.S. Migrant	1.178***	2.156***	1.872***	1.614***
Prior U.S. Migrant (reference = nonmigrants in Mexico)	1.569***	2.504***	2.208***	2.146***
Female	–0.177***	–0.392***	–0.803***	–0.467***
Age	–0.012***	–0.025***	–0.111***	–0.113***
Constant	3.891***	4.897***	10.751***	11.571***
R^2	0.020	0.037	0.117	0.116
N	111,662	154,416	307,728	411,006

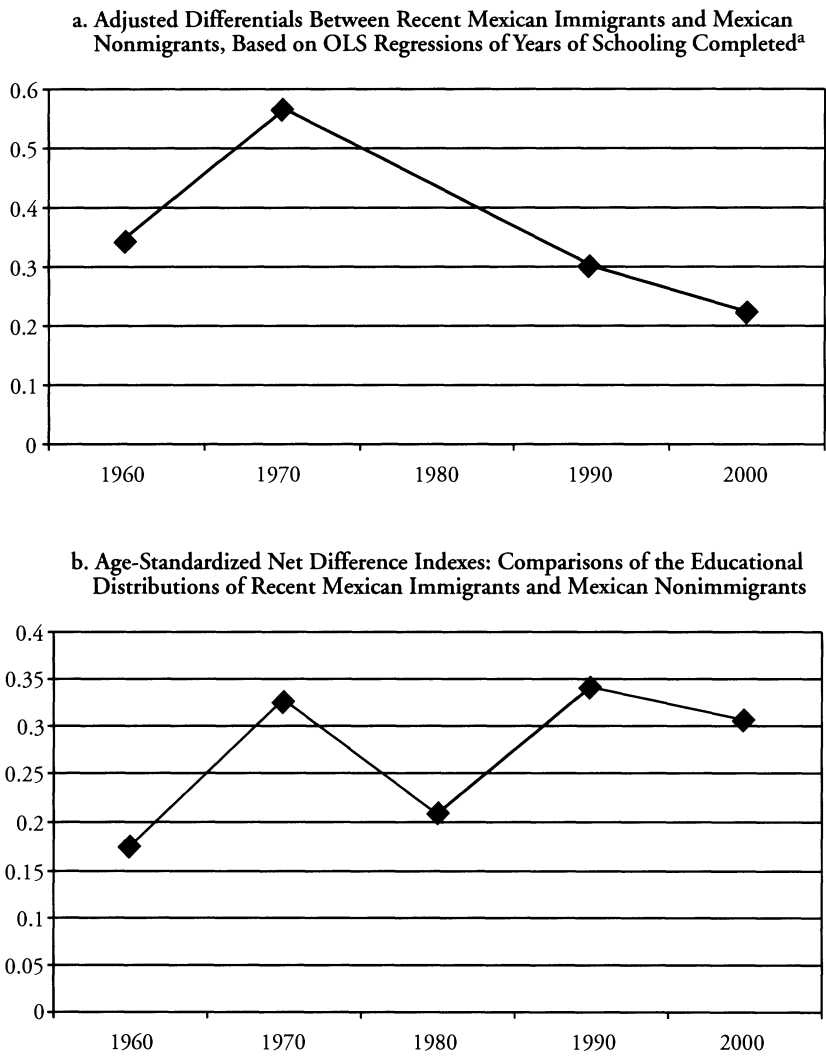*Source:* IPUMS International (Mexican and U.S. censuses).

***$p < .001$

strong positive selection from 1960 to 2000. Migrants consistently averaged more than one additional year of schooling than nonmigrants. The migrant advantage was the greatest in 1970, when migrants had more than two additional years of schooling than nonmigrants, but declined in 1990 and 2000 (although migrants in the later years still appear to have had a greater advantage over nonmigrants than was true in 1960).

Figure 2 depicts the trends in educational selectivity among Mexican immigrants over time, using two different methods. The first panel is based on the OLS regression results in Table 3. It plots the regression coefficients for recent migrant status, standardized by the mean years of schooling of all Mexicans (migrant and nonmigrant), to facilitate the interpretation of comparisons over time. This method follows Tolnay's (1998) and takes into account the rising educational attainments over the past few decades in Mexico and thus the fact that a one-year advantage in 1960, when Mexicans averaged 3.4 years of schooling, may be relatively larger than a one-year advantage in 2000, when the Mexican average was more than 7 years of schooling. The trend line indicates a sharp rise in educational selectivity among recent migrants from 1960 to 1970, perhaps because of the ending of the Bracero program in 1964, which directly recruited low-skilled laborers. From 1970 to 2000, however, educational selectivity appears to have declined (although data are not available for 1980).

The second panel in Figure 2, based on comparisons of age-standardized NDIs from 1960 to 2000, presents a slightly different picture. One still sees a sharp increase in educational selectivity from 1960 to 1970, but the pattern after 1970 is less clear. Educational selectivity among Mexican migrants declined from 1970 to 1980, increased from 1980 to 1990, and then declined slightly again from 1990 to 2000. Thus, instead of a pattern of declining selectivity from 1970 to 2000, as was shown when the comparison was based on mean years of schooling, a comparison based on the entire educational distribution shows little difference in the educational selectivity of recent migrants in 1970, 1990, and 2000, but lower levels of selection in 1960 and 1980. On the basis of these analyses, it is difficult to draw firm conclusions about the educational selectivity of Mexican immigrants over time. While the general trend is clearly *not* one of *increasing* educational selectivity over time, whether selectivity has declined since 1970 (Panel A) or has remained relatively

living abroad five years earlier in 1990 and 2000 (changes in the survey question do not allow for exact consistency across decades).

Figure 2.   Educational Selectivity of Mexican Immigrants in the United States, 1960–2000

a. Adjusted Differentials Between Recent Mexican Immigrants and Mexican
Nonmigrants, Based on OLS Regressions of Years of Schooling Completed[a]

b. Age-Standardized Net Difference Indexes: Comparisons of the Educational
Distributions of Recent Mexican Immigrants and Mexican Nonimmigrants

[a]The adjusted differential is the ratio of the regression coefficient of recent migrant status (see Table 3) to the mean for all Mexican-born adults aged 25-64.

stable (Panel B) depends upon how education is measured. Nevertheless, it is clear that regardless of the decade of migration, Mexican immigrants are positively selected, but the level of positive selectivity (NDI ranging from about .17 to .35) is low relative to other immigrant groups (see Table 1).

These findings lend mixed support to Massey's (1988) hypothesis that the selectivity of immigrants declines over successive waves of immigrants from the same country. Although the average years of schooling of immigrants relative to Mexican nonmigrants declined from 1970 to 2000, comparisons of the entire educational distribution reveal a

pattern of lower selectivity in 1960 and 1980 but similar levels of selectivity among recent migrants in 1970, 1990, and 2000. Overall, the findings do not indicate substantial changes in selectivity. These mixed results may have to do with the changing nature of migration from Mexico. While migration from Mexico has historically been dominated by migrants from rural Mexico, in recent years, a growing number have come from urban areas (Durand et al. 2001; Fussell 2004; Marcelli and Cornelius 2001; Roberts, Frank, and Lozano-Ascencio 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, whereas urban-origin migrants, who are more educated, may be responding to a different set of factors (Fussell and Massey 2004). Indeed, recent research has suggested 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). These findings suggest that future research should examine the factors that influence the changing characteristics over time of migrants from different regions in Mexico and other countries.

CONCLUSION

In response to Gans's (2000) appeal for more research on who immigrants are and how they differ from those who do not migrate, this article has examined how immigrants' educational attainments compare to those of their nonmigrant counterparts. Although scholars have agreed that migrants are not random samples of their home countries' populations, they have disagreed about how immigrants' characteristics compare to those of persons who remain in the sending society. Some scholars have contended that immigrants are consistently the most educated and ambitious of their home countries, while others have argued that only some immigrant groups are positively selected or that positive selectivity declines over time. This article has taken the first step toward resolving this debate by focusing on one aspect of immigrants' selectivity—how their educational attainments compare to those of nonmigrants.

I found that there is substantial variation in the degree of educational selectivity depending on the country of origin and the timing of migration from a particular country, but that nearly all immigrant groups are more educated than their nonmigrant counterparts. This finding challenges theories that have proposed that immigrants are positively selected only under certain conditions. Of the 32 immigrant groups I studied, 31 are positively selected on education. Only Puerto Ricans are negatively selected; that is, Puerto Rican migrants to the United States mainland tend to be less educated than Puerto Rican nonmigrants. However, this finding can probably be attributed to their status as U.S. citizens, which makes migration much less costly for Puerto Ricans than for other migrant groups.

Distance from the United States and the average educational attainment in the home country help determine immigrants' educational selectivity. Specifically, immigrants from countries that are farther from the United States (such as those in Asia) are more positively selected, which is consistent with the idea that immigrant groups that face greater barriers to or costs of migration will be more highly educated relative to their home countries' populations. In general, immigrants from countries with high levels of schooling are less positively selected than those from countries with low levels of schooling. This finding may be partly due to a ceiling effect created by the inclusion of countries, such as Canada and Korea, with highly educated populations. Conversely, the finding may also be due to the inclusion of brain-drain societies, such as India, where the general population has little education. In such countries, those with higher educational levels may have strong incentives to migrate to more-developed countries, such as the United States; they also may be the only ones with the resources to migrate. Future research is needed to assess

these different explanations. I also found that some factors that are often thought to be predictors of selectivity, such as the level of income inequality in the origin country and whether migrants left primarily for political reasons, have no significant effect.

The changing regional origins of U.S. immigrants in the past few decades do not appear to be associated with major changes in immigrant selectivity. While previous research has suggested that recent immigrants from Asia and Latin America are less positively selected than were immigrants from Europe decades ago (Borjas 1999), my findings suggest that contemporary immigrants are not less selected, and may be more positively selected, than were those who came from Europe in the 1960s.

Finally, I found limited support for the idea that successive waves of immigrants from Mexico are less educated relative to the population in Mexico than were those who immigrated earlier. Mexican immigrants who arrived in the 1980s and 1990s are less positively selected than were their counterparts who came earlier in terms of average level of education, but their overall educational distribution is not lower. This mixed finding suggests that future research that takes into account the regional origins of immigrants within sending countries is needed to discern patterns of changing selectivity over time.

Understanding the selectivity of migrants is crucial to understanding who immigrants are in general. Although scholars have agreed that immigrants do not represent a random sample of their home countries' populations, from the vantage point of the average U.S. native, who sees only immigrants and not those who remain in the homeland, it is easy to attribute immigrants' characteristics to an entire national group. For example, Mexicans are generally seen as an uneducated group by American standards, while Indians are seen as highly educated. A look at the educational distributions of Mexico and India, however, challenges these common perceptions because *most* Indians in India have little formal schooling compared with less than one third of Mexicans in Mexico. The fact that Indians who migrate to the United States are much more highly educated than those who remain in India, while Mexicans who migrate to the United States are not much more educated than those who remain in Mexico, drives the perceptions of these groups in the United States. Future research should address the selection of immigrants in other sending and receiving contexts; the reasons why male immigrants are more highly selected than female immigrants from some countries, but not others; how social networks affect the selectivity of different types of immigrants; and whether patterns of immigrant selection are an important component for understanding differences in the socioeconomic outcomes of immigrants and their children in the United States.

REFERENCES

Abbott, E. 1969. *Historical Aspects of the Immigration Problem: Select Documents*. New York: Arno Press.

Bean, F., H. Browning, and W.P. Frisbie. 1985. "What the 1980 Census Tells Us About the Character of Illegal and Legal Mexican Immigrants." Working Paper, Series 6, No. 10. Population Research Center, University of Texas at Austin.

Bonacich, E. 1976. "Advanced Capitalism and Black/White Race Relations in the United States: A Split Labor Market Interpretation." *American Sociological Review* 41:34–51.

Borjas, G.J. 1987. "Self-Selection and the Earnings of Immigrants." *American Economic Review* 77:531–53.

———. 1991. "Immigration and Self-Selection." Pp. 29–76 in *Immigration, Trade, and the Labor Market*, edited by J.M. Abowd. Chicago: University of Chicago Press.

———. 1992. "National Origin and the Skills of Immigrants in the Postwar Period." Pp. 17–47 in *Immigration and the Workforce: Economic Consequences for the United States and Source Areas*, edited by G. Borjas and R.B. Freeman. Chicago: University of Chicago Press.

———. 1996. "The Earnings of Mexican Immigrants in the United States." *Journal of Development Economics* 51(1):69–98.

Appendix Table A1.   Data Sources and Data Collected on Immigrants and Home Country Populations

Country of Origin	Year of Country Data	Average Year of Migration	IPUMS Data Year	Immigrants Selected[a]
Italy	1961	1960–1964	1970, 1960	Migrated 1955–1965, ages 25+ in 1961
Canada	1961	1965–1969	1970	Migrated 1960–1970, ages 25+ in 1961
Hungary	1963	1960–1964	1970	Migrated 1955–1970, ages 25+ in 1963
Ireland	1966	1965–1974	1970, 1980	Migrated 1960–1974, ages 25+ in 1966
Iran	1966	1980–1981	1980, 1990	Migrated 1970–1990, ages 25+ in 1966
Puerto Rico	1970	1965–1969	1970	Migrated 1965–1969, ages 25+ in 1970
Poland	1970	1970–1974	1970, 1980	Migrated 1965–1979, ages 20+ in 1970
Russia	1970	1970–1974	1980, 1990	Migrated 1970–1984, ages 25+ in 1970
Japan	1970	1975–1979	1980, 1990	Migrated 1970–1984, ages 25+ in 1970
Dominican Republic	1970	1980–1981	1980, 1990	Migrated 1975–1986, ages 20+ in 1970
Greece	1971	1965–1969	1970, 1980	Migrated 1960–1974, ages 25+ in 1971
Yugoslavia	1971	1965–1969	1970, 1980	Migrated 1960–1975, ages 18+ in 1971
Netherlands	1971	1965–1969	1970, 1980	Migrated 1960–1975, ages 18+ in 1971
Nicaragua	1971	1982–1984	1980, 1990	Migrated 1975–1990, ages 20+ in 1971
Columbia	1973	1980–1981	1980, 1990	Migrated 1970–1986, ages 20+ in 1973
Mexico	1980	1980–1981	1980, 1990	Migrated 1975–1984, ages 20+ in 1980
Philippines	1980	1980–1981	1980, 1990	Migrated 1975–1984, ages 20+ in 1980
Thailand	1980	1980–1981	1980, 1990	Migrated 1975–1990, ages 20+ in 1980
Korea	1980	1982–1984	1980, 1990	Migrated 1975–1986, ages 20+ in 1980
Cuba	1981	1965–1974	1970, 1980	Migrated 1965–1974, ages 25–49 in 1981
Portugal	1981	1975–1979	1980, 1990	Migrated 1970–1984, ages 20+ in 1981
Hong Kong	1981	1980–1981	1980, 1990	Migrated 1975–1986, ages 20+ in 1981
India	1981	1982–1984	1980, 1990	Migrated 1975–1986, ages 20+ in 1982
Guatemala	1981	1982–1984	1980, 1990	Migrated 1975–1990, ages 20+ in 1982
Peru	1981	1982–1984	1980, 1990	Migrated 1975–1990, ages 20+ in 1981
China	1982	1980–1981	1980, 1990	Migrated 1975–1986, ages 20+ in 1982
Ecuador	1982	1980–1981	1980, 1990	Migrated 1975–1990, ages 18+ in 1980
Jamaica	1982	1980–1981	1980, 1990	Migrated 1975–1986, ages 25+ in 1989
Haiti	1982	1980–1981	1980, 1990	Migrated 1975–1986, ages 20+ in 1982
Honduras	1983	1980–1981	1980, 1990	Migrated 1975–1990, ages 18+ in 1980
Vietnam	1989	1982–1984	1980, 1990	Migrated 1975–1986, ages 25+ in 1989
El Salvador	1992	1982–1984	1990	Migrated 1980–1990, ages 25+ in 1992

Note: The data source for all countries of origin, except Puerto Rico, is UNESCO; the data source for Puerto Rico is the census.

[a]All immigrants selected were at least 22 years old when they migrated to the United States.

————. 1999. *Heaven's Door: Immigration Policy and the American Economy*. Princeton, NJ: Princeton University Press.

Bray, D. 1984. "Economic Development: The Middle Class and International Migration in the Dominican Republic." *International Migration Review* 18:217–36.

Briggs, V.M. 1975. "The Need for a More Restrictive Border Policy." *Social Science Quarterly* 56:477–84.

Chiswick, B.R. 1978. "The Effect of Americanization on the Earnings of Foreign-born Men." *Journal of Political Economy* 86:897–921.

————. 1986. "Is the New Immigration Less Skilled Than the Old?" *Journal of Labor Economics* 4:168–92.

————. 2000. "Are Immigrants Favorably Self-Selected?" Pp. 61–76 in *Migration Theory: Talking Across Disciplines*, edited by C.B. Brettell and J.F. Hollifield. New York: Routledge.

Cobb-Clark, D.A. 1993. "Immigrant Selectivity and Wages—The Evidence for Women." *American Economic Review* 83:986–93.

Deininger, K. and L. Squire. n.d. "Deininger and Squire Data Set: A New Data Set Measuring Income Inequality." *World Bank Group, Economic Growth Research*. Available on-line at http://www.worldbank.org/research/growth/dddeisqu.htm

Donato, K.M. 1993. "Current Trends and Patterns of Female Migration: Evidence From Mexico." *International Migration Review* 27:748–71.

Durand, J., D.S. Massey, and R.M. Zenteno. 2001. "Mexican Immigration to the United States: Continuities and Changes." *Latin American Research Review* 36:107–27.

Foner, N. 2000. *From Ellis Island to JFK: New York's Two Great Waves of Immigration*. New Haven, CT: Yale University Press.

Fussell, E. 2004. "Sources of Mexico's Migration Stream: Rural, Urban, and Border Migrants to the United States." *Social Forces* 82:937–67.

Fussell, E. and D.S. Massey. 2004. "The Limits to Cumulative Causation: International Migration From Mexican Urban Areas." *Demography* 41:151–71.

Gans, H.J. 2000. "Filling in Some Holes: Six Areas of Needed Immigration Research." Pp. 76–89 in *Immigration Research for a New Century*, edited by N. Foner, R.G. Rumbaut, and S.J. Gold. New York: Russell Sage Foundation.

Glaser, W.A. 1978. *The Brain Drain: Emigration and Return*. Oxford, England: Pergamon Press.

Green, D.A. 1999. "Immigrant Occupational Attainment: Assimilation and Mobility Over Time." *Journal of Labor Economics* 17(1):49–79.

Grubel, H.G. and A. Scott. 1977. *The Brain Drain: Determinants, Measurement and Welfare Effects*. Waterloo, Ontario: Wilfrid Laurier University Press.

Hirschman, C. and L.M. Falcon. 1985. "The Educational Attainment of Religio-Ethnic Groups in the United States." *Research in Sociology of Education and Socialization* 5:83–120.

Jasso, G. and M.R. Rosenzweig. 1986. "What's in a Name? Country-of-Origin Influences on the Earnings of Immigrants in the Untied States." *Research in Human Capital and Development* 4:75–106.

Lamm, R.D. and G. Imhoff. 1985. *The Immigration Time Bomb: The Fragmenting of America*. New York: Truman Talley Books.

Landale, N.S. 1994. "Migration and the Latino Family—The Union Formation Behavior of Puerto-Rican Women." *Demography* 31:133–57.

Landale, N.S., R.S. Oropesa, and B.K. Gorman. 2000. "Migration and Infant Death: Assimilation or Selective Migration Among Puerto Ricans?" *American Sociological Review* 65:888–909.

Lee, E.S. 1966. "A Theory of Migration." *Demography* 3:47–57.

Lieberson, S. 1976. "Rank-Sum Comparisons Between Groups." *Sociological Methodology* 7:276–91.

————. 1980. *A Piece of the Pie: Blacks and White Immigrants Since 1880*. Berkeley: University of California Press.

Lobo, A.P. and J.J. Salvo. 1998a. "Changing U.S. Immigration Law and the Occupational Selectiv-

ity of Asian Immigrants." *International Migration Review* 32:737–60.

———. 1998b. "Resurgent Irish Immigration to the US in the 1980s and Early 1990s—A Socio-Demographic Profile." *International Migration Review* 36:257–80.

Long, L.H. 1973. "Migration Differentials by Education and Occupation—Trends and Variations." *Demography* 10:243–58.

Marcelli, E.A. and W.A. Cornelius. 2001. "The Changing Profile of Mexican Migrants to the United States: New Evidence From California and Mexico." *Latin American Research Review* 36:105–31.

Massey, D.S. 1987a. "Do Undocumented Immigrants Earn Lower Wages Than Legal Immigrants?" *International Migration Review* 21:236–74.

———. 1987b. "Understanding Mexican Migration to the United States." *American Journal of Sociology* 92:1372–403.

———. 1988. "Economic Development and International Migration in Comparative Perspective." *Population and Development Review* 14:383–413.

——— 1999. "Why Does Immigration Occur? A Theoretical Synthesis." Pp. 34–52 in *Handbook of International Migration,* edited by C. Hirschman, P. Kasinitz, and J. DeWind. New York: Russell Sage Foundation.

Massey, D.S., J. Arango, G. Hugo, A. Kouaouci, A. Pellegrino, and J.E. Taylor. 1993. "Theories of International Migration—A Review and Appraisal." *Population and Development Review* 19:431–66.

Massey, D.S. and F.G. España. 1987. "The Social Process of International Migration." *Science* 237:733–38.

Massey, D.S. and K.E. Espinosa. 1997. "What's Driving Mexico-U.S. Migration? A Theoretical, Empirical, and Policy Analysis." *American Journal of Sociology* 102:939–99.

Melendez, E. 1994. "Puerto-Rican Migration and Occupational Selectivity, 1982–1988." *International Migration Review* 28:49–67.

Menjivar, C. 1993. "History, Economy and Politics: Macro and Micro-Level Factors in Recent Salvadorean Migration to the U.S." *Journal of Refugee Studies* 6:350–71.

Ortiz, V. 1986. "Changes in the Characteristics of Puerto Rican Migrants from 1955 to 1980." *International Migration Review* 20:612–28.

Palloni, A., D.S. Massey, M. Ceballos, K. Espinosa, and M. Spittel. 2001. "Social Capital and International Migration: A Test Using Information on Family Networks." *American Journal of Sociology* 106:1262–98.

Portes, A. 1979. "Illegal Immigrants and the International System: Lessons From Recent Legal Mexican Immigrants to the United States." *Social Problems* 26:425–38.

Portes, A. and R.G. Rumbaut. 1996. *Immigrant America: A Portrait.* Berkeley: University of California Press.

Ramos, F. 1992. "Out-Migration and Return Migration of Puerto Ricans." Pp. 49–66 in *Immigration and the Work Force: Economic Consequences for the United States and Source Areas,* edited by G.J. Borjas and R.B. Freeman. Chicago: University of Chicago Press.

Ravenstein, E.G. 1885. "The Laws of Migration." *Journal of the Royal Statistical Society* 48(2):167–227.

Roberts, B.R., R. Frank, and F. Lozano-Ascencio. 1999. "Transnational Migrant Communities and Mexican Migration to the US." *Ethnic and Racial Studies* 22:238–66.

Roy, A.D. 1951. "Some Thoughts on the Distribution of Earnings." *Oxford Economic Papers* 3:135–46.

Ruggles, S., M. Sobek et al. 1997. *Integrated Public Use Microdata Series: Version 2.0.* Minneapolis: Historical Census Projects, University of Minnesota. Available on-line at http://www.ipums.umn.edu

Rumbaut, R.G. 1995. "The New Californians: Comparative Research Findings on the Educational Progress of Immigrant Children." Pp. 17–69 in *California's Immigrant Children: Theory Research, and Implications for Educational Policy,* edited by R.G. Rumbaut and W.A. Cornelius.

San Diego: Center for U.S.-Mexican Studies, U.C. San Diego.

———. 1997. "Ties That Bind: Immigration and Immigrant Families in the United States." Pp. 3–46 in *Immigration and the Family: Research and Policy on U.S. Immigrants,* edited by A. Booth, A.C. Crouter, and N. Landale. Mahwah, NJ: Lawrence Erlbaum.

———. 1999. "Assimilation and Its Discontents: Ironies and Paradoxes." Pp. 172–95 in *The Handbook of International Migration: The American Experience,* edited by C. Hirschman, P. Kasinitz, and J. DeWind. New York: Russell Sage Foundation.

Schultz, T.P. 1984. "The Schooling and Health of Children of U.S. Immigrants and Natives." *Research in Population Economics* 5:251–88.

Shryock, H.S. and C.B. Nam. 1965. "Educational Selectivity of Interregional Migration." *Social Forces* 43(3):299–310.

Sobek, M., S. Ruggles, R. McCaa, M. King, and D. Levinson. 2002. *Integrated Public Use Microdata Series (IPUMS)-International: Preliminary Version 1.0.* Minneapolis: Minnesota Population Center, University of Minnesota. Available on-line at http://www.ipums.umn.edu/international/index.html

Stark, O. and D.E. Bloom. 1985. "The New Economics of Labor Migration." *American Economic Review, Papers and Proceedings of the Ninety-Seventh Annual Meeting of the American Economic Association* 75:173–78.

Suval, E.M. and C.H. Hamilton. 1965. "Some New Evidence on Educational Selectivity in Migration to and From the South." *Social Forces* 43:536–47.

Taylor, J.E. 1986. "Differential Migration, Networks, Information, and Risk." Pp. 141–71 in *Research in Human Capital and Development,* edited by O. Stark. Greenwich, CT: JAI Press.

———. 1987. "Undocumented Mexico-U.S. Migration and the Return to Households in Rural Mexico." *American Journal of Agricultural Economics* 69:626–38.

Teitelbaum, M. 1980. "Right Versus Right: Immigration and Refugee Policy in the United States." *Foreign Affairs* 59:21–59.

Tolnay, S.E. 1998. "Educational Selection in the Migration of Southern Blacks, 1880–1990." *Social Forces* 77:487–514.

Treiman, D.J., V. Lew, H. Lee, and T.A. Brown. 1986. "Occupational Status Attainment Among Ethnic Groups in Los Angeles." Working Paper. UCLA Institute for Social Science Research.

UNESCO. 1975. *United Nations Educational, Scientific and Cultural Organization Statistical Yearbook.* Paris: UNESCO Publishing and Berman Press.

———. 1978–79. *United Nations Educational, Scientific and Cultural Organization Statistical Yearbook.* Paris: UNESCO Publishing and Berman Press.

———. 1989. *United Nations Educational, Scientific and Cultural Organization Statistical Yearbook.* Paris: UNESCO Publishing and Berman Press.

———. 1992. *United Nations Educational, Scientific and Cultural Organization Statistical Yearbook.* Paris: UNESCO Publishing and Berman Press.

———. 1993. *United Nations Educational, Scientific and Cultural Organization Statistical Yearbook.* Paris: UNESCO Publishing and Berman Press.

———. 1995. *United Nations Educational, Scientific and Cultural Organization Statistical Yearbook.* Paris: UNESCO Publishing and Berman Press.

———. 1997. *United Nations Educational, Scientific and Cultural Organization Statistical Yearbook.* Paris: UNESCO Publishing and Berman Press.

U.S. Census Bureau. 1973. *1970 Census of the Population, Characteristics of the Population, Vol. 1, Part 53, Puerto Rico.* Washington, DC: U.S. Department of Commerce, Social and Economic Statistics Administration, U.S. Census Bureau.

Vas-Zoltan, P. 1976. *The Brain Drain: An Anomaly of International Relations.* Budapest: A.W. Sijthoff, Leyden.