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AUTHOR Chapa, Jorge
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ABSTRACT

Estimates of the school-age, 5-17-year-old, language minority and Limited-English-Proficient (LEP) populations in the United States are discussed. The estimates are based on the population counts for first, second, and third generation Hispanics, Anglos, Asians, and Blacks derived from the June 1988 Current Population Survey. The language minority population is estimated by determining the ratio of language minority children to the total population for each race-ethnic-generation group from the November 1979 Current Population Survey. The LEP estimates, derived from multiplication of the non-English languages background (NELB) population by LEP-to-NELB ratios established in previous studies, are much higher than some projections that do not reflect the impact of recent high rates of Hispanic and Asian immigration. Fifteen tables and figures are provided to illustrate population statistics, language usage, generational distributions, etc. (LB)

POPULATION ESTIMATES OF SCHOOL AGE LANGUAGE MINORITIES AN LIMITED ENGLISH PROFICIENCY CHILDREN OF THE UNITED STATES, 1979 - 1988

Jorge Chapa

INTRODUCTION

The goal of this paper is to present recent (1988) estimates of the school age language minority and limited English proficiency (LEP) populations. This goal will be achieved using data sources and analytic procedures not typically used for this purpose. Another goal of this paper will, therefore, be to present this analytic approach so that it may be examined, criticized and refined for future use. The obstacle to providing a direct estimate of these population groups is that there is no currently available recent, large-scale data source with national coverage which contains the information required for a direct estimate. The size of the language minority and LEP population to be presented here will be the result of recent demographic estimates of the school age population combined with rates of incidences or proportions of minority language and LEP children among these demographic groups taken from older data sources.

The key and, perhaps, unique feature of the analytic procedure used here is to disaggregate the school age population into demographic groups or categories based on racial or ethnic group and generation. These two categories define demographic groups which have different proportions of language minority and LEP children. "Generation" refers to the standing of the child in elation to immigration to this country. I will use "first generation" to refer to a person who was born in a foreign country and then immigrated to the United States. A second generation child is one born in the United States but who had one or two foreign-born parents. The third generation consists of the US-born children of two US-born parents. Since this schema defines generation in terms of the individual's and parents' place of birth, it cannot discern between third, fourth, fifth, etc. genealogical generations. The third generation defined by parental place of birth is thus composed of the third and third-plus genealogical generations. (See Lopez, 1978; and Floyd, 1985 for a discussion.)

The appeal of using generation to estimate these linguistically defined population groups is that the notion of generation is directly related to the concept of language shift. The general and fairly consistent pattern found among European immigrants to the United States is that immigrants from non-English-backgrounds, i.e., the first generation, acquire speaking some English

for economically instrumental purposes but primarily use the foreign tongue at home. Their children, the second generation, initially learn the non-English language but become predominantly English-speaking over the life course. The third generation are typically monolingual English speakers (Oxford, et al., 1980, pp. 118-120; Fishman, et al., 1966). If Spanish-speaking immigrants follow the same pattern of language shift, they do so at a slower rate than the typical three-generation European pattern, and the overall pattern of language maintenance and language shift may well be different (Macias, 1985; Oxford, et al., 1980, pp. 118-120). These considerations lay the basis for conducting this analysis in terms of generational and racial-ethnic differences.

Data and Definitions

The analyses which will be presented in this paper were based on an analysis of the machine-readable data files of the November 1979 and June 1988 Current Population Surveys (CPS). The CPS is a monthly survey of approximately 53,000 households across the United States. The CPS is conducted by the US Bureau of the Census primarily to determine employment levels and other labor force and economic characteristics. Each CPS questionnaire also contains a set of supplemental questions asked on a rotating or ad hoc basis. The November 1979 CPS is the most recent publicly available CPS data file to include supplemental questions regarding language use and ability. It also included questions on immigration, nativity and parental place of birth. These are the data items required to attribute generational status as defined above. The 1980 Census included some of the same language-related questions, but it did not ascertain parents' place of birth. As discussed above, both the individual's and the parents' nativity are needed to attribute generation as typically defined. For this reason, the November 1979 CPS is preferable over 1980 Census data for the purposes of this paper.

The June 1988 CPS has supplemental questions on fertility and immigration. The data presented here were collected in June 1988. The tabulating and processing of these data typically takes more than a year. Therefore, the June 1988 CPS is one of the most current, detailed data sets available. The inclusion of the supplemental questions on immigration make it a particularly useful source of information on minority children. It is possible to estimate the size of the school-age population by race-ethnicity and generation. (See U.S. Bureau of the Census, 1978, 1981, and 1989, for further description and documentation.) The major problems with CPS data are that they are relatively tricky and complicated to use and that using 53,000 households results, in some cases, in a relatively small sample size for analyzing the characteristics of small population subgroups.

This discussion will analyze and present data for four different and mutually exclusive race-ethnic groups: Blacks, Anglos, Hispanics and Asian

and others. "Latino" is growing in preference over the use of the term "Hispanic." To reflect this and still be consistent with those who continue to use "Hispanic," I will use the terms interchangeably. (See Hayes-Bautista and Chapa, 1987 for a discussion of the use of "Latino" rather than "Hispanic" identifier.) Anglos might be more familiarly known as "white non-Hispanics" or "white non-Latinos." In my tabulations, the relatively small proportion of Blacks who are also Hispanic are grouped with Hispanics. So Blacks or African Americans do not overlap with Latinos in my tabulations. Finally, the group Asian and other races is also exclusive of Hispanics. The small number of Asian, Pacific Islander, Native American or Aleutian Islander respondents in the CPS sample permits this group to be referred only to in the aggregate. The label "Asian" will be used to be synonymous with "Asian" and "Pacific Islanders." "Minority" refers to all non-Anglo groups; i.e., Blacks, Hispanics and Asians and others taken together.

For the sake of clarity and consistency, I will rephrase the basis of defining different generations as discussed above. The nativity of an individual's parents was the basis for identifying different generations. I define the third generation as consisting of the US-born children of US-born parents. This category includes all those who have been in this country for more than three generations as well. The second generation consists of a person born in the United States with one or two foreign-born parents. The first generation refers to foreign- born immigrants with foreign-born parents.

It is important to make clear that my use of generational groups is not based on the assumption that the cross-sectional comparison of first, second and third generation individuals at one point in time does not necessarily reflect or replicate longitudinal changes over historical time. While this type of analysis is common in the sociology of immigration and minority groups, it is logically incorrect to assume that the differences in the attributes among the three generations accurately and inevitably represent a longitudinal pattern. The differences between generations may recapitulate a historical pattern, but they do not necessarily indicate a future trend. A comparison among the first, second and third generations in a cross-section does not predict the future attainments of the children and grandchildren of the first generation immigrant. (See Chapa, 1988 for a theoretical and empirical critique of this logic. Bean and Tienda, 1987; and Hart-Gonzalez, 1988 and 1990 present other arguments against this assumption.) Differences between generations as presented here are a cross-sectional representation of one point in time. My use of generational characteristics is based on the consideration that generation is a major determinant of non-English languages background (NELB) status. I assume, for example, that third generation proportions of NELB Hispanic children will be the same in 1988 as in 1979. This is different from assuming that the proportion of third generation NELB Hispanics represents or in any way approximates the future proportion of NELB among the children of

today's second generation Hispanics.

The school age population consists of all children between the ages of 5 through 17 inclusively. By using CPS data to estimate the size and characteristics of this group, I limit my analysis to the civilian non-institutional population between these ages. There is no reason to expect much of a difference between this and the total population in this age group but, no doubt, differences do exist.

The concepts and definitions of minority language and limited English proficiency have a decisive impact on the results of an analysis such as this. In a comprehensive, close-grained analysis of several previous publications estimating these populations, Reynaldo Macias and Mary Spencer find LEP population estimates ranging from less than 1,000,000 to more than 5,000,000. A major component in explaining these differences was the use of different definitions or criteria for determining language minority and LEP status (Macias and Spencer, 1984, p. xiv et passim.) There are many different alternative conceptualizations and definitions possible. Many of these are more closely tied to specific aspects of the laws, regulations or rulings promulgating bilingual education programs. Whatever advantages these alternative definitions may have, the data to use then for current demographic estimates are simply not available. My procedure here is to operationally equate the minority language population with that in which the individual child reportedly used a non-English language in his or her home as presented in data from the November 1979 CPS. This is also one definition of the category known as non-English language background or NELB. For convenience and brevity I will use the acronym NELB both in its specific meaning and as the equivalent of the minority language population in this paper. (For a discussion of the formulation and consequences of different definitions see Macias and Spencer, 1984; Oxford, et al., 1980, pp. 35-37, et passim; and Waggoner, 1984). A review of these same documents will show that NELB as used here is a common and a numerically conservative estimate of the minority language population.

Methods and Assumptions

While the intended methodology has been alluded to above, this section will present it in summary form and explicitly present and discuss its assumptions and limitations. The goal of deriving recent estimates of the minority language and LEP school age population will be accomplished by deriving estimates of the civilian non-institutional population between the ages of five through seventeen from the June 1988 CPS. These population estimates will be presented in terms of generation and race-ethnicity. I will derive the same race-ethnic-generation specific estimates for 1979 from the November 1979 CPS. In addition, I will estimate the proportion of each race-ethnic group

by generation who are reported to speak a non-English language in the home in 1979. I will assume that the proportions of the 1988 race-ethnic-generation groups who are NELB are the same as in 1979. This will be the basis for estimating the Spanish and other-non-English NELB populations for 1988. NELB population estimates are used as the basis for estimating the minority language population. I will use these calculated NELB estimates to further calculate the LEP population in 1988. I will follow this same procedure by using the Spanish and Other non-English LEP-to-NELB ratios calculated on the basis of the Children's English and Services Study (CESS). This study included a detailed assessment of English speaking, understanding, reading and writing skills for children ages 5-14 (Macias and Spencer, 1984, pp. 89-107). This procedure assumes that my operational basis for estimating the NELB population is reasonable and that the LEP-to-NELB ratios were the same in 1988 as they were in 1979. I am also assuming that this ratio can be extended to the children between the ages of 15-17.

One way of evaluating this procedure is to compare it to that involved in projecting the future NELB and LEP population totals as presented in Oxford, et al., 1980. Their projection procedure makes the same assumptions regarding the future proportions of NELB population and LEP-to-NELB ratios, plus all the assumptions necessary about future birth, death and immigration rates to project the population base upon which to calculate the LEP and NELB populations. Using actual population estimates rather than projections gives these results a higher degree of reliability and credibility than those derived from population projections. Additionally, the use of race-ethnic-generation specific NELB proportions makes the NELB population estimate more precise because it takes account of the variation in composition by generation between the two points in time. To explain, the proportion of NELB children is very different from one generation to the next and the proportion differs among the different race-ethnic groups. The procedure of estimating the population number of specific race-ethnic-generation groups provides a more precise basis for estimating NELB and LEP populations. So this technique can more accurately calculate NELB populations to reflect the sharp increase in foreign immigration between 1979 and 1988. A procedure that did not take this into account would less fully account for a change which has a major impact on the NELB population. The best way to improve these estimates would be to get current measures of NELB and LEP population proportions by the same race-ethnic-generation specific groups. Data collected but not yet released by the Census Bureau will soon make this possible.

Results

Table 1 presents the number of school age children by race-ethnicity and NELB for November 1979. The purpose of this tabulation is to show how NELB proportions vary tremendously from group to group. Only 3 percent

TABLE 1

Non-English home language use among children ages 5-17
by race-ethnicity
United States, 1979
Source: Tabulations from the November 1979 Current Population Survey

	ANGLO		HISPANIC		BLACK		ASIAN		TOTAL	
No	34,333,130	97%	764,040	25%	6,746,084	99%	543,955	56%	42,387,210	91%
Yes (NELB)	1,148,031	3%	2,309,801	75%	94,807	1%	431,941	44%	3,982,379	9%
Total	35,479,161	100%	3,073,841	100%	6,840,891	100%	975,896	100%	46,369,589	100%

of the Anglo children spoke a non-English language at home compared to 75 percent of the Hispanics. Overall, 9 percent of all children in the age group ranging from 5 through 17 could be classified as being NELB. The total CPS population estimate for children 5-17, 46,369,588, compares very closely with the 1980 Census count of 47,451,236. The 1980 Census count of the NELB population 5-17 was 4,529,098. (Both Census figures are reported in Macias and Spencer, 1984, pp. 69-70.) The 1980 Census NELB population is higher than that shown in Table 1, 3,826,391. The Census was collected during April 1980. The time elapsed between November 1979 and April 1980 is too short a period to explain differences of this magnitude. However, the difference in data collection technique could easily account for the different sizes of the NELB estimates. Almost all of the 1980 Census data were collected by respondent completed questionnaires. CPS data are collected by trained and experienced interviewers. Finally, the CPS population estimates are based in part on population weights based on the 1970 Census counts. (See Hart-Gonzalez, 1988 for a discussion.) The 1970 Census apparently had a differentially higher underenumeration of Hispanics (Bean and Tienda, 1987, Chapter 2). Inaccurate weights for Hispanics could lower the NELB proportion much more than the total population estimate because of the high proportion of NELB children among Hispanics. Given these considerations, the 1979 CPS is surprisingly consistent with 1980 Census counts. Since the 1979 CPS will be used primarily to calculate NELB-to-population ratios among Hispanics and other race-ethnic groups by generation, the consequences of inaccurate population weights in these data will have minimal effects on the 1988 estimates of NELB and LEP school aged children.

Figure 1a and 1b present the data from Table 1 in a graphic format. Figure 1a illustrates the percent or proportion of the children of each race-ethnic group that had non-English language backgrounds in 1979. This figure makes the high proportion of NELB Hispanic children very clear. Asians too, have a high percentage of NELB children. The proportion of NELB Anglos and Blacks is very small. The percent of NELB among the total population reflects the NELB proportions of each group and their different sizes. The number of NELB children in each race-ethnic group is illustrated in Figure 1b. The graph shows that, while the proportion of NELB Anglo children may be small numerically, it is about half the size of the Hispanic NELB population. The relatively high proportion of NELB Asians results in a relatively small population estimate of Asian NELB children because the population number is relatively small.

Table 2a contains the specific non-English languages used by the NELB youth presented in Table 1. Spanish accounts for two-thirds (66 percent) of those who did speak a foreign language. Other languages not otherwise listed in Table 2a comprise the second largest group. Asian languages probably constitute most of this category. The large proportion of these

Figure 1a - % of NELB Children 5-17 by Race-ethnicity, U.S. 1979. Source: November 1979 CPS

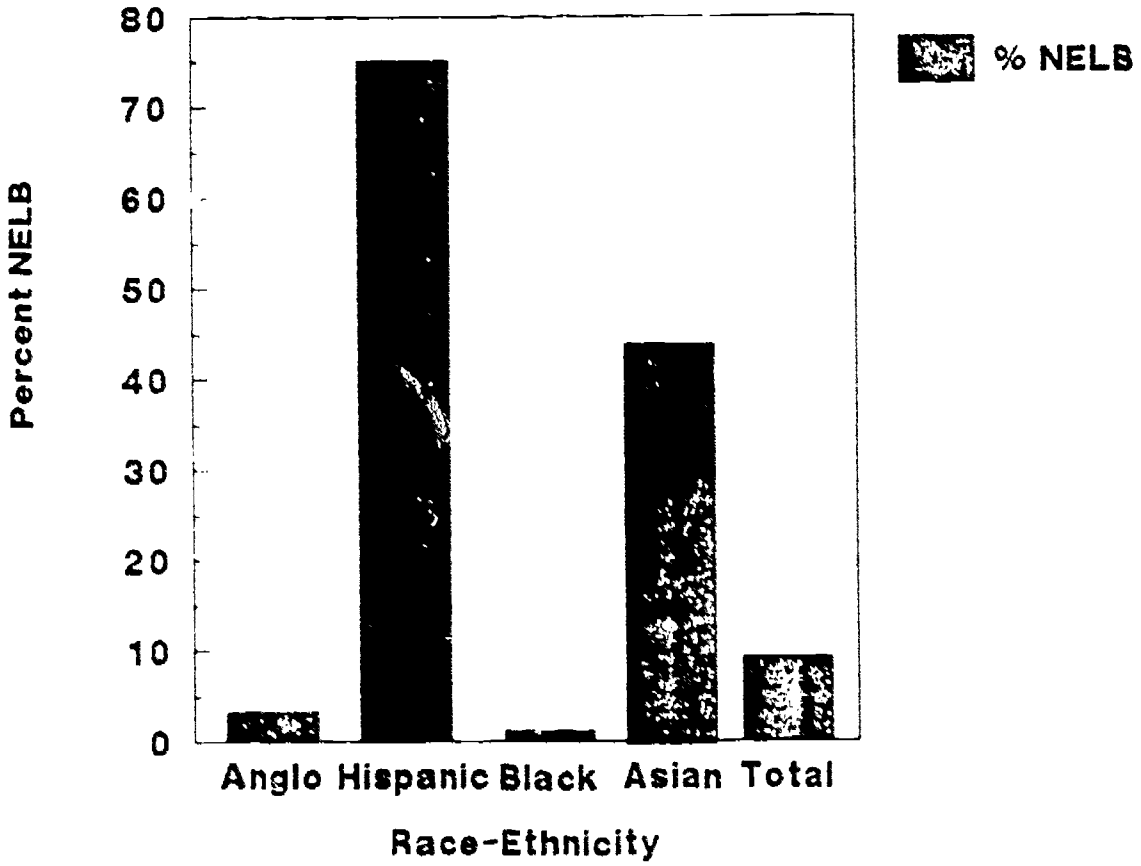


Figure 1b - # of NELB Children 5-17 by Race-ethnicity, U.S. 1979. Source: November 1979 CPS

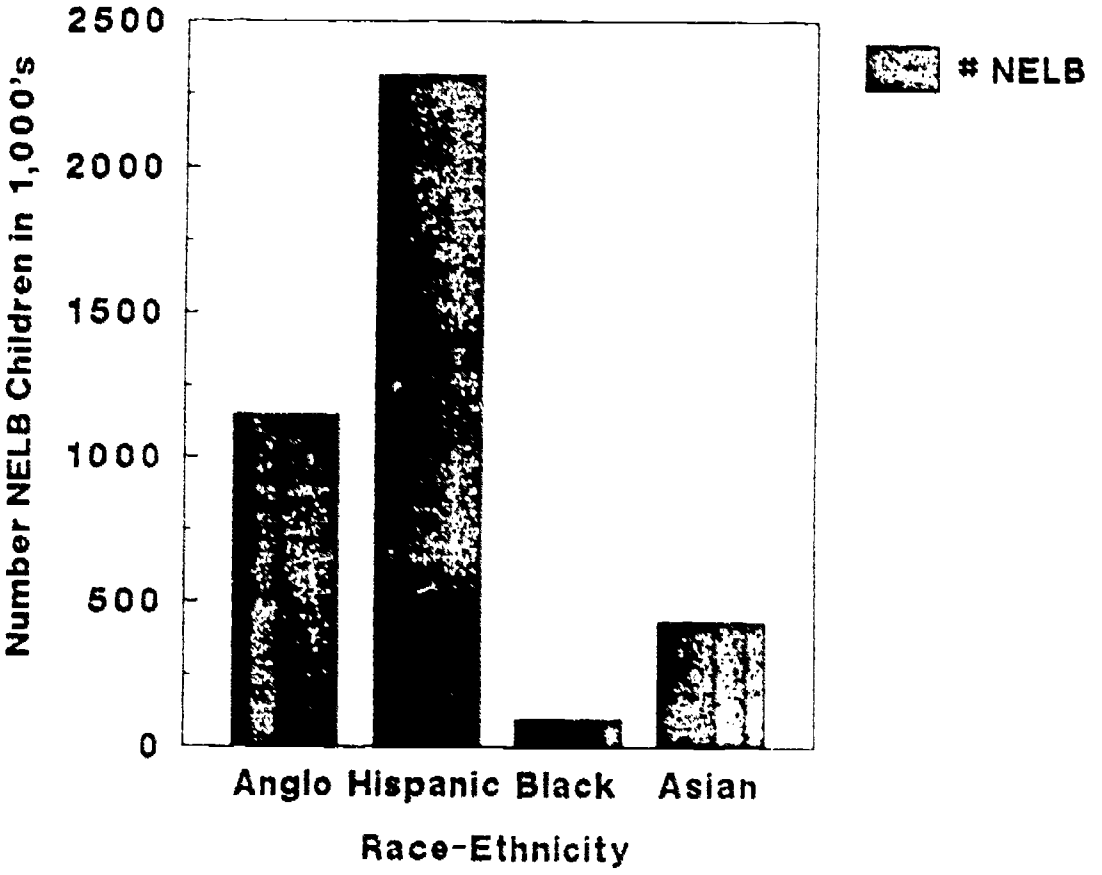


Table 2a

Languges used by children ages 5-17 who do speak a non-English at home. (United States, 1979)

Source: Tabulations from the November 179 Current Population Survey

Language used at home:	Number	Percent
Spanish	2,632,210	66%
Other	535,970	13%
Italian	174,840	4%
German	162,026	4%
French	139,965	4%
Chinese	96,722	2%
Greek	76,539	2%
Filipino	70,126	2%
Portuguese	62,884	2%
Polish	31,117	1%
Total	3,982,379	100%

Table 2b

Estimated numbers of foreign-born children ages 5-17 who immigrated to the U. S. between 1980-1985 by country or groups of countries where specific languages are spoken.

Source: Waggoner, 1987, Table 4, p. 34.

	Number	Percent
Spanish speaking countries	173,000	27%
English-speaking countries	86,000	13%
Vietnam	75,000	12%
Phillipines	43,000	7%
Korea	39,000	6%
Chinese-speaking countries	38,000	6%
Laos	32,000	5%
Countries speaking Asian Indian languages	25,000	4%
Kampuchea	21,000	3%
Arabic-speaking countries	13,000	2%
Thailand	9,000	1%
Haiti	9,000	1%
Portuguese-speaking countries	8,000	1%
Soviet Union	8,000	1%
Iran	8,000	1%
Germany and Austria	6,000	1%
French-speaking countries	4,000	1%
Israel	4,000	1%
Italy	3,000	0.5%
Japan	2,000	0.3%
Greece	2,000	0.3%
Total	639,000	95%

languages and the small proportion of the European languages used clearly suggest the changing nature of immigration to the United States. Table 2a showing data from 1979 indicates a high proportion of immigration from Spanish-speaking countries. Table 2b shows the origin of documented school age immigrants who came to the U.S. between 1980 and 1985. Spanish speakers are still the largest group but represent less than one third of the total rather than two-thirds. The original data source for Table 2b was Immigration and Naturalization Service reports (Waggoner, 1987), which do not, therefore, include estimates of the undocumented immigrants. Table 3 includes the distribution of each race-ethnic group by generation, the distribution of the generations within groups and the population proportion of each race-ethnic group. Almost all, 93 percent, of the Anglos and even more of the Blacks, 96 percent, are third generation. In contrast, only about 40 percent of the Asians and Hispanics are third generation. Asians had the highest proportion of first generation immigrants. The percent distribution of generation within each group is illustrated in Figure 2. The fact that Anglos and Blacks are larger groups as a whole is reflected in the fact that only about 4 percent of this age group were first generation, 8 percent were second generation and 89 percent were third. [The percentages in Table 3 may not add to 100 percent because of independent rounding.] Table 4 shows the NELB proportion for each specific race-ethnic-generational grouping. Although these are presented as decimal fractions in Table 4, I will discuss them as percentages. They are presented as decimals to make their use in subsequent computations more clear, but I will refer to them here in percentages for ease of presentation. Almost all, 96 percent, of the first generation Hispanics had NELB status. Asians also had a high, 76 percent, proportion of NELB children in the first generation. A very high proportion of second generation Hispanics, 86 percent, also reported that they were NELB. The proportion of NELB Blacks in the second generation, 26 percent, is greater than for the first generation Blacks, which is 10 percent NELB. The number and sample size of first and second generation Blacks are relatively small. Sampling variability may account for these figures. The estimates produced here, however, are consistent with the methodological consideration used by the Census Bureau for its published estimates based on CPS data. (See Appendices B and C, US Bureau of the Census, 1990.) The fact that the NELB proportion among second generation Blacks is greater than among the first generation could reflect real differences in the origins, composition and circumstances of immigration of these two groups. As such, it serves as a good illustration of the principle that these generational patterns should not be interpreted as the approximation of longitudinal change. In any case, the number of first and second generation Blacks is so small that any sampling or other possible error in NELB proportions for first and second generation Blacks will have a negligible effect on the final population estimates. In 1979, 51 percent of the third generation Hispanics reported the use of the Spanish language in the home. This proportion is very different from and much higher than that of any other third generation group.

Table 3:
Generational distribution of children ages 5-17 by race-ethnicity
United States, 1979
Source: Tabulations from the Nov. 1979 Current Population Survey

	ANGLO		HISPANIC		BLACK		ASIAN		TOTAL	
First	644,205	2%	676,719	22%	84,682	1%	335,872	35%	1,730,758	4%
Second	1,896,406	5%	1,192,476	39%	182,703	2%	241,480	25%	3,488,324	8%
Third	32,897,590	93%	1,199,916	39%	6,585,447	96%	395,153	41%	41,099,316	89%
All Generations	35,441,201	100%	3,069,111	100%	6,832,832	100%	972,505	100%	46,318,399	100%
Race-Ethnic group as % of all children 5-17	77%		7%		15%		2%		100%	

Table 4:
Proportion of non-English background children ages 5-17
by race-ethnicity and generation (United States, 1979)
Source: Tabulation from the November 1979 Current Population Survey

	ANGLO	HISPANIC		BLACK	AS	TOTAL
GENERATION		A Mexican Origin	non-Mexican Origin			
First	0.433	0.98	0.97	0.95	0.097	0.78	0.68
Second	0.285	0.89	0.91	0.87	0.255	0.49	0.5
Third	0.009	0.51	0.58	0.29	0.008	0.15	0.03
Total	0.032	0.76	0.76	0.75	0.013	0.45	0.085

Figure 2 - Generational Distribution by Race-ethnicity, Children 5-17, U.S. 1979

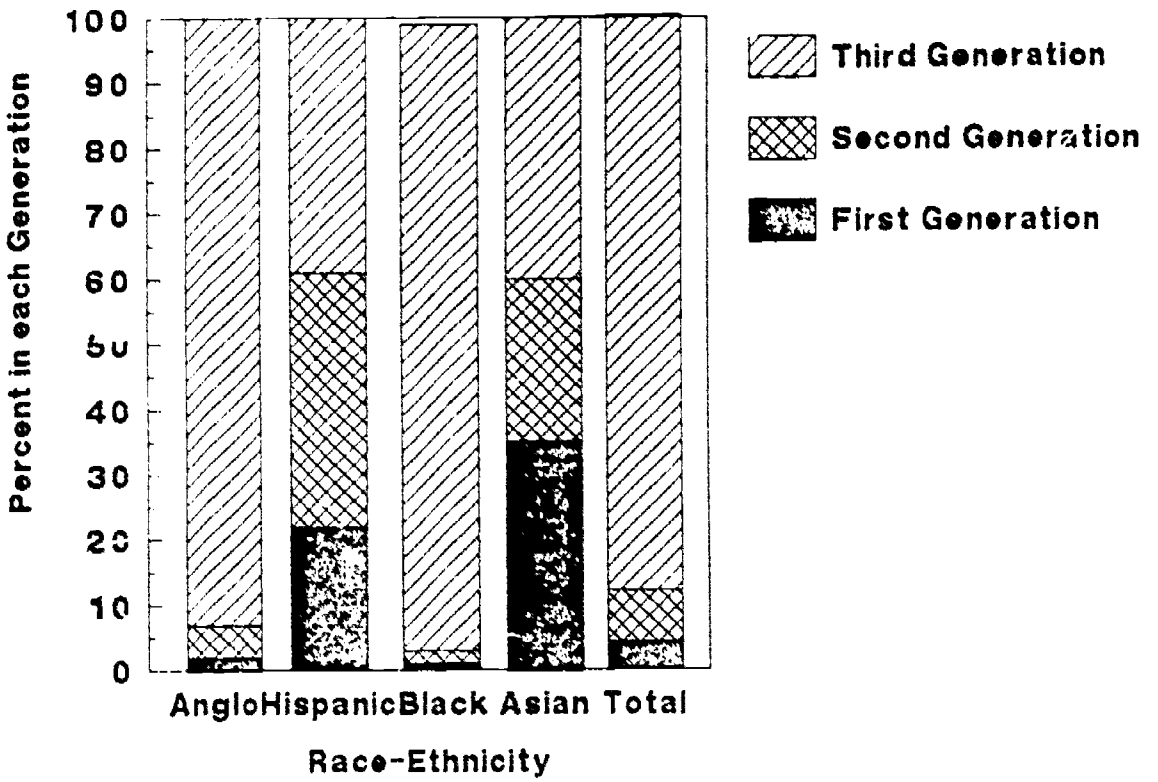


Figure 3 - Percent NELB Children by Generation and Race-ethnicity, U.S. 1979

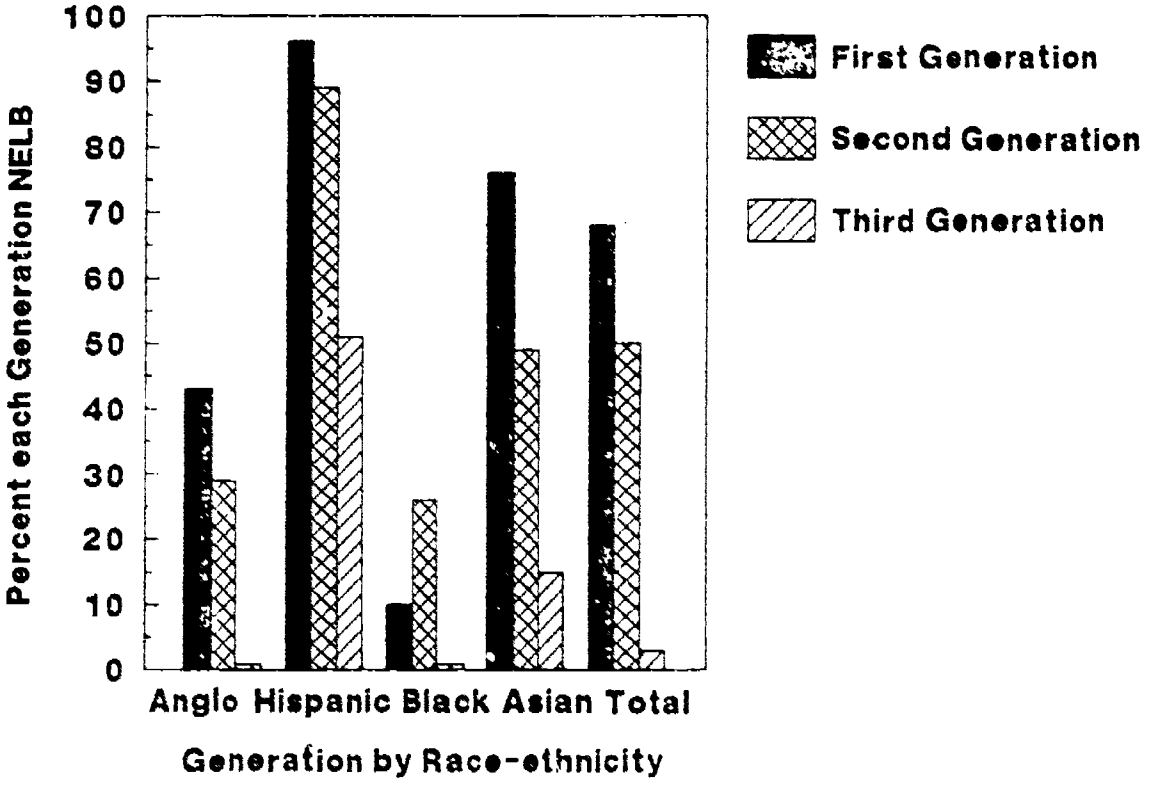


Figure 3 graphs the NELB proportion of each generation for each race ethnic group. This graph makes the high proportion of third generation Hispanic NELB children strikingly clear. The pattern between the proportion offirst, second and third generation Hispanic NELB children is one of decline. However, the high proportion of NELB among the third generation and the fact that the third generation as operationally defined here is really a composite of third, fourth, fifth, etc. genealogical generations make the interpretation of the Hispanic pattern ambiguous. Both language maintenance and language shift can be seen in these data. More research and more data are needed here. It would be particularly interesting to compare the 1979 NELB proportions with more recent estimates. This comparison might help determine the presence or absence of a trend towards shift.

Table 4 also presents the NELB proportions for Mexican Origin and non-Mexican Origin Hispanics. The primary purpose for presenting this detail is that this facilitates a comparison with the NELB proportions among married Mexican Origin women in Los Angeles (Lopez, 1978). Lopez reports that 100 percent of his first generation, 53 percent of his second generation, and 34 percent of his third generation adult sample used Spanish when they were children (Lopez, 1978, Table 1, p. 270). His data suggest a more clear pattern towards language shift. However, the differences in sample, survey content and procedure make direct comparisons between his results and mine indeterminate. The data on the proportion of NELB children among non-Mexican Origin Latinos should be interpreted with caution. The specific national origin subgroups, i.e., Puerto Rican, Cuban, etc., could not be reliably presented because of sample size. The fact that the non-Mexican Latinos are thus an aggregation of these different groups apparently with different patterns of language shift and maintenance (see Laosa, 1975 and Pedraza, 1985) means that the apparent pattern may be only an artifact of the composition of this group.

Table 5a presents the race-ethnic-generational distribution of school-aged children in 1988. When compared to Table 3, the data in Table 5 illustrate how the school aged population changed during the 1980s. First, note that the total population in 1988 — 44,092,681 — is less than the 1979 total of 46,316,399. The 1979 estimate was corroborated by comparison to the 1980 Census enumerations. If the 1988 estimate is reliable, then this comparison shows that the school age population decreased between 1979 and 1988. In the absence of other sources for comparison, this will be taken as a tentative finding of this analysis. There are two other comparisons between Table 3 and Table 5a worth noting. First, the proportion and number of Hispanics and Asians increased from 1979 to 1988. The proportion of school-age children who were Hispanics increased from 7 percent to 11 percent. Asians doubled their proportion of this population. They went from 2 percent in 1979 to 4 percent

Table 5a

Generational Distribution of Children ages 5-17 by race-ethnicity, United States, 1988

Source: Tabulations from the June 1988 Current Population Survey and Table 3 above.

	ANGLO		HISPANIC		BLACK		ASIAN		TOTAL	
First	435,784	1%	1,025,862	21%	177,864	3%	618,802	36%	2,208,810	5%
Second	2,036,573	6%	2,243,004	47%	322,724	5%	626,329	36%	5,158,484	11%
Third	29,089,026	92%	1,517,507	32%	6,394,118	93%	493,655	28%	37,825,587	84%
All Generations	31,561,383	100%	4,786,372	100%	6,894,723	100	1,738,788	100%	44,992,881	100%
Race-Ethnic group as % all Children 5-17	70%		11%		15%		4%		100%	

Table 5b

Estimated Number of NELB Children ages 5-17 by Race Ethnicity and generation (United States, 1988)

Source: Calculations based on tabulations from the November 1979 and June 1988 Current Population Surveys

	ANGLO	HISPANIC	BLACK	ASIAN	TOTAL
First	188,894	983,801	17,255	467,814	1,657,564
Second	580,423	1,996,273	82,295	305,649	2,964,640
Third	261,801	773,928	38,365	76,023	1,150,117
All Generations	1,030,919	3,754,003	137,914	849,486	5,772,321
% Race-Ethnic Group NELB	3%	78%	2%	49%	13%

in 1988. The other notable difference between 1979 and 1988 is that the second generation Asians and Hispanics became a larger proportion of each of these two groups. Second generation Hispanics were 39 percent of all Hispanics in 1979 and 47 percent in 1988. Second generation Asians were 25 percent of all Asians in 1979 and 36 percent in 1988. This increase must in part reflect children born to the large number of Asian and Hispanic immigrants to the United States in the 1980s.

Table 5b presents the estimated number of NELB Children between the ages of 5 through 17 in 1988. These estimates are simply the product of multiplying the race-ethnic-generation specific NELB proportions in Table 4 by the population estimates in Table 5a. As the previous discussion has suggested, the number of Asian and Hispanic NELB children has increased the most. The relevant NELB population estimates from Table 1 and Table 5b are presented at the top of Table 6. The figures in Table 6 and Table 1 indicate that the number of Hispanic NELB students in 1988 — 3,754,003 — is greater than the total number of Hispanics in 1979 — 3,073,841! The number of Asian NELB students almost doubled from 431,941 in 1979 to 849,486 in 1988. Overall, the number of NELB students increased from 3,982,379 in 1979 to 5,772,321 in 1988. (The economic, social and political consequences of these demographic trends are discussed in detail in Hayes-Bautista, Schink and Chapa, 1988.)

Table 6 then presents the LEP-to-NELB ratios for Spanish and other non-English languages. Here, I used the Spanish ratio for Hispanics and the Other non-English ratio for non-Hispanic NELB children. The value of the difference between each ratio and its upper and lower 95 percent confidence interval is also presented in Table 6. Figure 4 illustrates the resulting numerical estimates of the NELB children of each race-ethnic group. This figure shows the preponderance of Latino NELB children. The number of LEP students in 1979 and 1988 was calculated simply by multiplying the NELB estimate for each year by the appropriate LEP-to-NELB ratio. The values of the difference between the estimated number of LEP students and each extreme of the 95 percent confidence interval are also presented. The estimated number of Anglo LEP students is lower in 1988 than it was in 1979. However, examination of the confidence interval values shows that this difference is not statistically significant. This procedure indicates that there are more than an additional million LEP Hispanic students in 1988 than there were in 1979. The number of Asian LEP students in 1988 is again almost double that in 1979. The total number of LEP students in 1988 —3,684,995 — is 49 percent greater than the 1979 total of 2,468,921! Again, this increase is the inevitable result of the demographic trends which are reshaping America's population. However, it is startling to see the consequences of these trends summarized in this manner. The results of the LEP population estimates for 1979 and 1988 are presented in Figure 5, where the size of the Hispanic LEP population in 1988 clearly stands out.

Table 6:
Estimated numbers of NELB and LEP Children ages 5-17
by race-ethnicity (United States, 1979 and 1988)
Source: Calculations based on tabulations from the November 1979
and June 1988 Current Population Surveys
and Macias and Spencer, 1984, p. 114

	ANGLO	HISPANIC	BLACK	ASIAN	TOTAL
NELB Children 1979	1,148,031	2,309,801	94,807	431,941	3,982,379
% of all NELB Children	0.29	0.58	0.02	0.11	100%
NELB Children 1988	1,030,919	3,754,003	137,914	849,486	5,772,321
% of all NELB Children	0.18	0.65	0.02	0.15	100%
LEP/NELB Ratio	0.466	0.73	0.466	0.466	
95% confidence interval	(+.114)	(+.055)	(+.114)	(+.114)	
LEP Children in 1979	535,342	1,686,155	44,276	202,148	2,468,921
95% confidence interval	(+ 61,142)	(+ 92,739)	(+ 5,047)	(+ 23,045)	(+ 181,974)
LEP Children 1988	482,470	2,740,422	64,544	397,559	3,684,995
95% confidence interval	(+ 55,002)	(+ 150,723)	(+ 7,358)	(+ 45,322)	(+ 258,405)
% of all LEP Children	0.13	0.74	0.02	0.11	100%
% change in number of LEP Children 1988/1979	-0.1	0.63	0.46	0.97	0.49

Figure 4 - Number of NELB Children by Race-ethnicity, U.S. 1988. Source: Estimated from CPS data

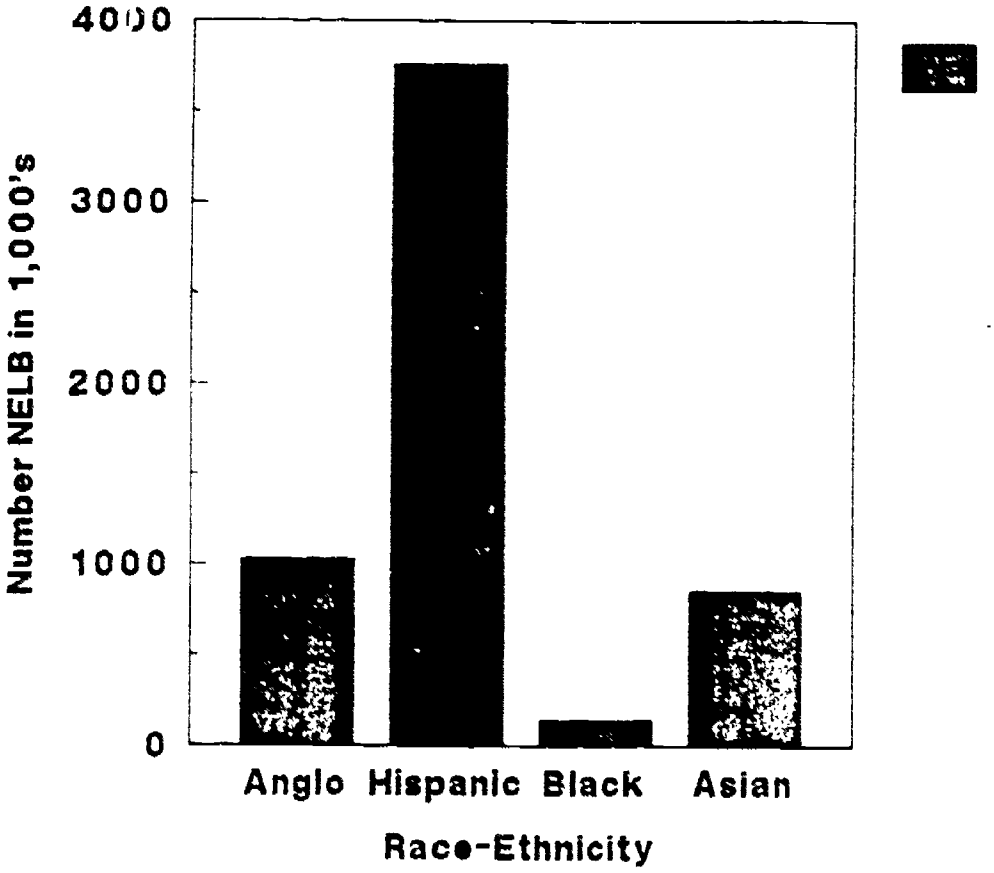
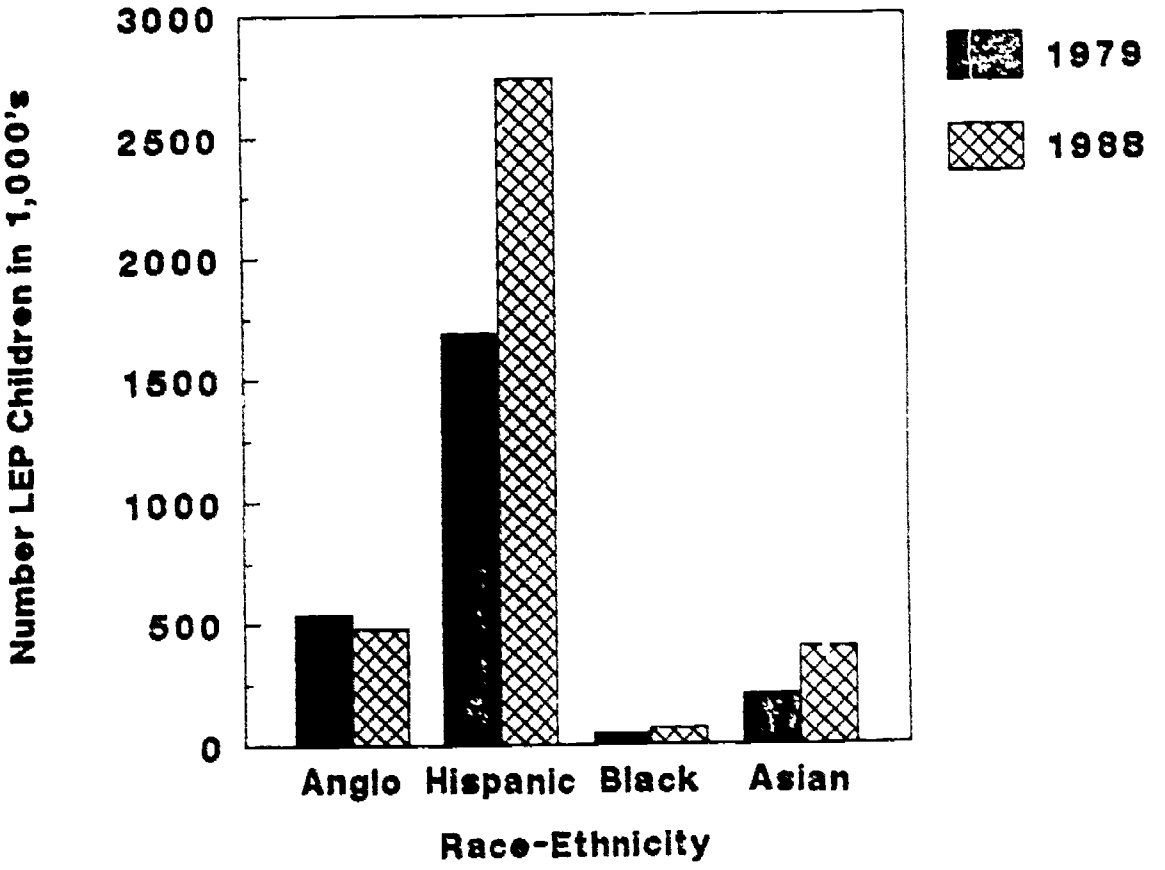


Figure 5 - Number of LEP Children by Race-ethnicity, U.S. 1979 and 1988.



One point of comparison for these final LEP estimates exists between the 1979 LEP estimates presented here and two estimates for 1978. Macias and Reynolds present and review two estimates of the LEP population between the ages of 5 through 14 for 1978. These estimates are based on the CESS and a subsequent reanalysis of the survey data — 2,409,000 and 2,631,075, respectively (p. 206). My estimate of the 1979 LEP population between the ages of 5 through 17 is 2,468,921 (Table 6). While my estimate used a LEP-to-NELB ratio derived from the same data, my estimate of the NELB population is completely independent of theirs. Since my estimate covers a larger population group because it includes children 15-17, the LEP estimate for 1979 appears to be numerically conservative but within acceptable bounds. This suggests that the 1988 estimate is also closer to a lower bound.

Another point of comparison exists between the 1979 and 1988 NELB and LEP estimates presented here and the projected figures in Oxford, et al. They projected 3,636,000 NELB children between ages 5-14 in 1980. I estimated 3,982,379 5-17 year old children in 1979. Given the difference in population groups, these figures are relatively close. They also projected 2,313,000 Spanish NELB in 1980 compared to 2,309,801 in this report. Again, these different estimates are very consistent. However, their 1990 projections for all and Spanish NELB children are 4,197,000 and 2,802,000, respectively. Both figures are substantially lower than those presented for 1988 in Table 6. The Oxford, et al.-projected LEP populations of 2,796,000 for all languages and 2,093,000 for Spanish are also substantially less than those calculated here and shown in Table 6. Their 1990 projection for Asian NELB children is 240,000 compared with my 1988 estimate of 849,486. Asian LEP students were projected to number 125,000 in 1990. This is much lower than my 1988 estimate of 397,559. Their projection assumptions understated the actual immigration and growth rates that are major factors in determining NELB and LEP population change.

One final comparison can be drawn between the estimates presented in this paper and those prepared by the United States Department of Education and published by the Governmental Accounting Office (US GAO, 1987). The Department of Education estimated that there were between 1.2 and 1.7 million LEP children in the United States in 1982. The GAO report says, "Other estimates are higher and the department's own methodology can be used to create higher estimates ranging up to 2.6 million" (p. 12). This upper estimate is close to my 1979 LEP population of 2,468,921 (Table 6). The Department of Education projected the 1986 LEP population by assuming a 7 percent increase between 1982 and 1986. Both the original estimate and the projected increase appear to greatly understate the size of the LEP population. Neither projection fully accounts for the impact of Hispanic and Asian migration during the 1980s.

Regional Differences

Both in 1979 and 1988, more than half of the limited English proficient population was found in three states — California, New York, and Texas (Table 7 and Figure 6). These estimates were produced in the same manner as the national estimates presented above. Table 7 presents a large amount of information including the number and percent of each race-ethnic group within each state's population for both years. For example, in 1979, 80 percent of all of California's LEP students were Hispanic and 10 percent were Asian. In 1988, Table 7 shows that the number of Hispanic LEP children almost doubled (96 percent) yet still comprised about the same proportion of the state's total LEP population. The number of Asian LEP students more than doubled. It increased by 145 percent between 1979 and 1988 to become 1988 of California's LEP population. The reason for the relative lack of change in the percent of Latino LEP children in spite of the large numerical increase is that the total number of LEP youths in California grew at about the same rate (94 percent). The number of all school age children in the state increased by 27 percent. In 1979, LEP youngsters were 16 percent of the population between the ages of 5 through 17; in 1988, LEP children were 24 percent of the state's school age population. In 1979, 26 percent of the nation's LEP population lived in California; in 1988, one out of three (33 percent) lived there.

The estimates presented here show that the number of school age children decreased in New York State. The number of both Latino and Asian LEP youngsters increased. Asians went from 5 percent to 10 percent of the state's LEP population. Because of the rapid growth in California and Texas, New York's proportion of all the LEP students in the country decreased from 12 percent to 10 percent. The number of Latino LEP students in Texas almost doubled. There was a 96 percent increase in the 1988 population number over the 1976 estimate. LEP children increased from 13 percent of the state total in 1979 to 17 percent. In 1978, 19 percent of all LEP students in the nation lived in Texas.

The rest of the states taken together had an LEP population of 1,416,000. This is larger than the number for California. However, these LEP children were only 4 percent of the population of these forty-seven other states. Detailed analysis of the LEP and language minority population of these states is feasible only with the sample sizes of the order of those available from the 1990 Census.

Family Income

The most striking finding of this analysis lies in the fact that the Hispanic LEP population has grown so rapidly. Immigration is a major factor

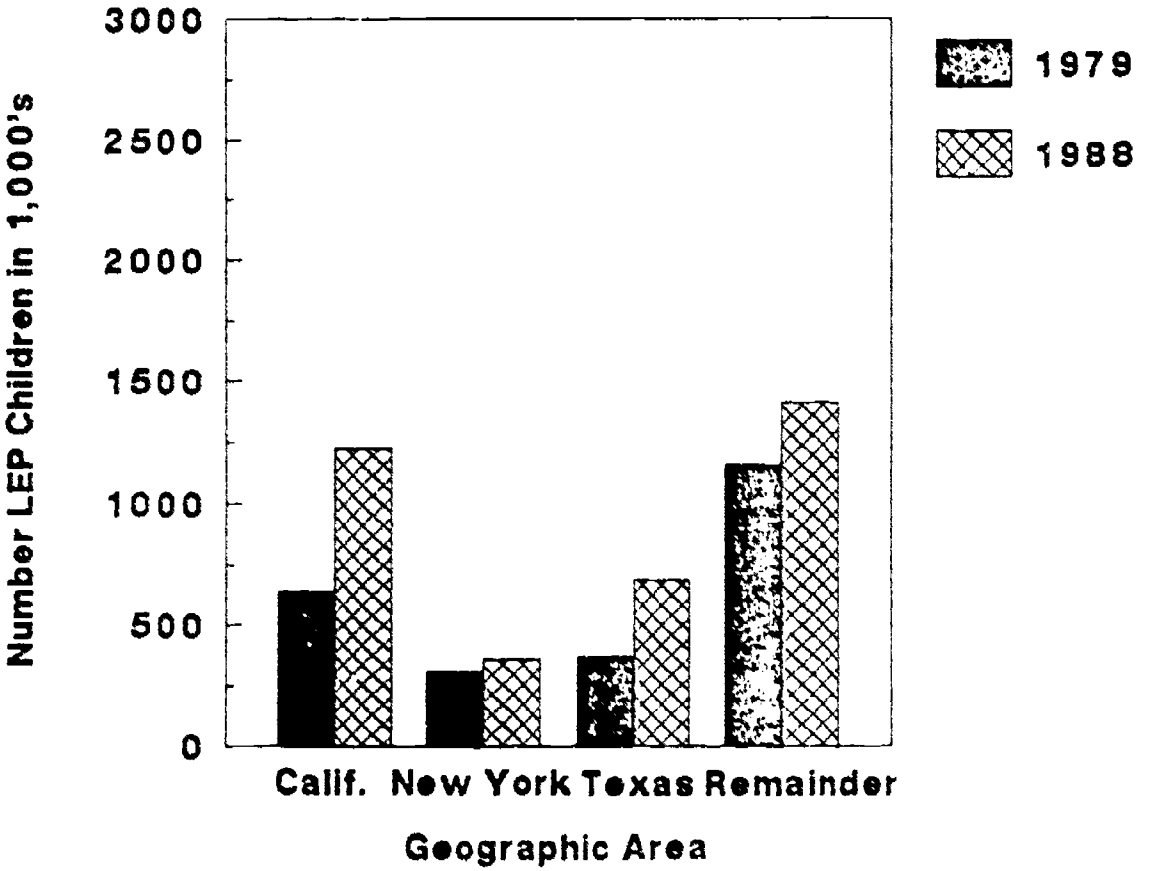
Table 7

Estimates of LEP children ages 5-17(in thousands) by race-ethnicity for California, New York, Texas, remaining states and United States, 1979 and 1988

Source: Calculations from the November 1979 and June 1988 Current Population Survey

	ANGLO	HISPANIC	BLACK	ASIAN	TOTAL LEP	ALL STDNT	%ALL LEP CHILDREN
CALIFORNIA							
1979	62	509	2	61	634	3971	26
% LEP by race/ ethnicity	10	80	0	10	16		
1988	74	999	5	150	1227	5030	33
% LEP by race/ ethnicity	6	81	0	12	24		
% Change 1988/89	20	96	178	145	94	27	
NEW YORK							
1979	64	214	13	14	306	3560	12
% LEP by race/ ethnicity	21	70	4	5	9		
1988	10	298	13	36	357	2914	10
% LEP by race/ ethnicity	3	83	4	10	12		
% Change 1988/89	-85	39	-3	162	17	-18	
TEXAS							
1979	26	329	2	12	370	2908	15
% LEP by race/ ethnicity	7	89	1	3	13		
1988	7	656	4	18	68	3918	19
% LEP by race/ ethnicity	1	96	1	3	17		
% Change 1988/89	-74%	99	64	48	85	33	
REST OF STATES							
1979	384	633	26	115	1158	35877	47
% LEP by race/ ethnicity	33	55	2	10	3		
1988							
% LEP by race/ ethnicity	392	787	43	194	1416	33119	38
% Change 1988/89	2	24	63	69	22	-8	
UNITED STATES							
1979	536	1686	44	202	2468	46316	100
% LEP by race/ ethnicity	22	68	2	8	5		
1988	482	2740	65	398	3685	44981	100
% LEP by race/ ethnicity	13	74	2	11	8		
% Change 1988/89	-10	63	48	97	49	-3	

Figure 6 - Number of LEP Children by Area 1979 and 1988.



in this growth, but the relatively high rates of Spanish retention among Hispanics also contribute to the increase in this population. A factor that is apparently associated with Spanish retention is the lower levels of economic attainment of Hispanics. Table 8 and Figure 7 present the family incomes of families with children ages 5 through 17 for each race-ethnic-generational group. If one focuses solely on the Hispanic group, the pattern of step-like increase from first through third generations may suggest the steady progress that is associated with assimilation and progress. Many authors have looked at exactly such a pattern of attainment levels among Hispanics and have claimed these to be evidence of assimilation. (See Chapa, 1988 for a review and critique.) The claim is made on the basis of this evidence that Hispanics are following the pattern of steady progress experienced by earlier European immigrants. The high rates of Spanish retention challenge the applicability of the traditional assimilation-language shift paradigm. The family income data also challenge this conclusion. What is more telling than the increase among generations for Hispanics is the fact that all Hispanic generations have much lower income than Anglos. A major factor in explaining the large number of Hispanic LEP children lies in the complex of factors which result in lower economic attainment levels.

Conclusion and Policy Implications

The 1980s have been a time of rapid increase in the NELB and LEP populations. The analysis of data from the June 1988 Current Population Survey suggests that there were about 5.7 million NELB children and 3.7 LEP children in the United States between the ages of 5 through 17. These figures represent a huge increase in the estimates for 1979. The 1988 estimates reflect a large increase in migration to the United States during the late 1970s and 1980s. Comparison with other estimates suggests that the estimates presented here are numerically conservative. They are more likely to be closer to the lower bound of alternative conceptualization and methods than to the upper bound. Analysis of future data from the Census Bureau can be used to evaluate the estimates presented here.

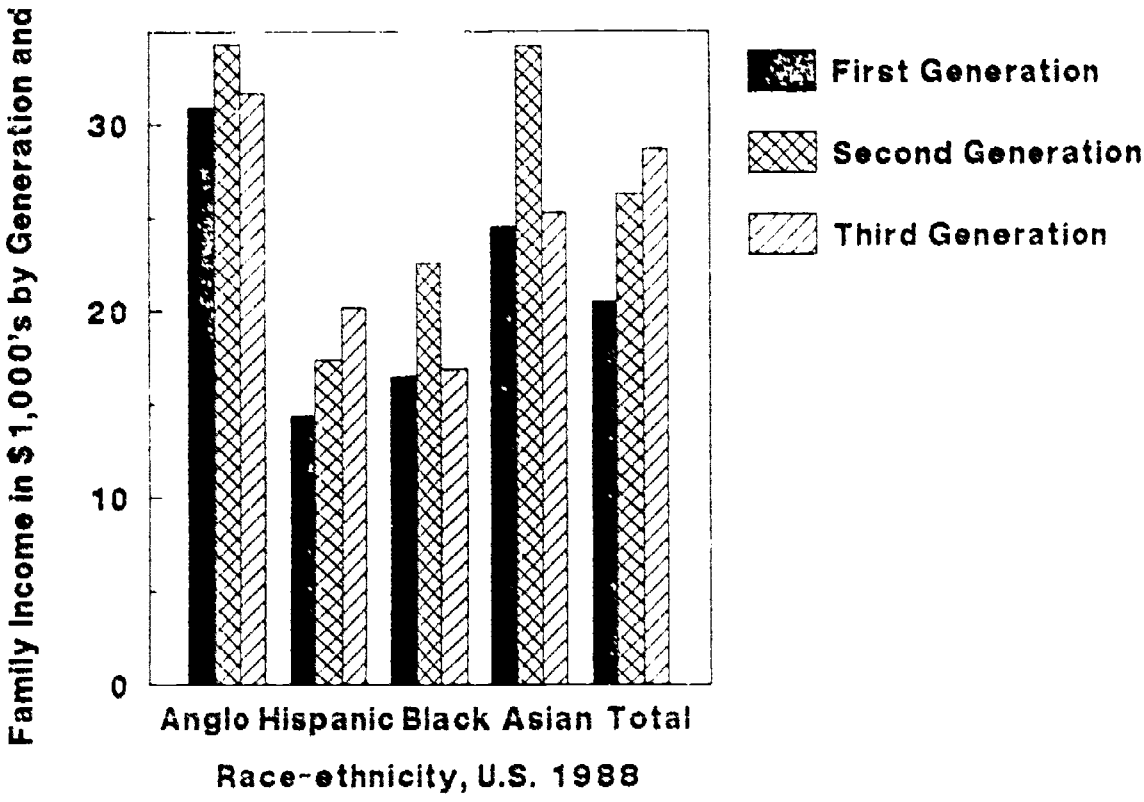
These findings have immediate policy implications. First and foremost, the rapid growth of the LEP population indicates that funds devoted to bilingual educational and the supply of bilingual teachers must also grow at a rapid rate only to maintain the status quo. Beyond these immediate and obvious implications, the growth of LEP children parallels a growth of minorities in our school age population and foreshadows the inevitable increase of minorities in our work force in the near future. The status quo is not enough. In a large and growing manner, the future economic well-being of the country depends on giving everyone, particularly minorities and especially language minorities, an educational foundation for productive labor force participation.

Table 8

Family income of families with children ages 5-17
by race-ethnicity and generation (United States, 1988)
Source: Tabulations from the June 1988 Current Population Survey

GENERATION	ANGLO	HISPANIC	BLACK	ASIAN	TOTAL
First	$30,900	$14,400	$16,500	$24,500	$20,500
Second	$34,300	$17,400	$22,600	$34,200	$26,300
Third	$31,700	$20,200	$16,900	$25,300	$28,700
Total	$31,800	$17,700	$17,200	$28,300	$28,000

Figure 7 - Family Income by Generation and Race-ethnicity, U.S. 1988



In addition to the obvious programmatic issues of teacher supply and fundings, these demographic considerations mandate a re-evaluation of the goals, outlook, and implementation of educational policy. Rather than debate traditional patterns or take ideological stances, all must agree to orient our educational policy towards productivity and participation rather than waste and exclusion.