

CHAPTER 3

Schooling, Language Background, and Literacy Proficiency

This chapter examines the relationship between English literacy and formal education among adults living in the United States. We look at this relationship within the context of language background, which Chapter 2 showed to be related to English literacy. Throughout this chapter, we see that higher levels of schooling are associated with higher levels of English language proficiency.

Formal education plays a fundamental role in enabling the U.S. population to become literate in the English language. This chapter focuses on the relationship between education and English literacy for U.S. adults who learned a language other than English before going to school. The analyses will indicate that immigrants who arrived in the United States as children developed higher levels of English literacy skills than immigrants who arrived later in life. The education young immigrants received in U.S. schools played a primary role in adoption of the English language. The level of education received by adult immigrants in their native countries was also positively associated with English literacy after arriving in the United States.

While nations differ in the number of years of instruction students receive at the elementary, secondary, and postsecondary levels, the relevance of these international differences to the findings presented in this chapter is minimized for two reasons. First, while the questionnaire items that measure education reflect U.S. practices in terms of the length of time spent in elementary and secondary education, interviewers were instructed to probe for equivalent levels of education if a respondent indicated that he or she went to school outside the United States. Second, comparisons are generally limited to three broad educational categories: less than secondary, secondary only, and some postsecondary.

Hispanics comprise the largest language minority group in the United States. Therefore, this chapter will focus on the experiences of the Hispanic population as well as the experience of immigrants in the United States. The reader is cautioned against making comparisons between Hispanics and other racial/ethnic groups or between native Spanish speakers and native speakers of other non-English languages. The

screening instrument used for the National Adult Literacy Survey in 1992 was available in English and Spanish, but not in other non-English languages. The results presented here, therefore, reflect substantially different populations for Spanish and non-Spanish language minorities. For non-Spanish language minority populations we only have data from those individuals who were able to complete the background questionnaire in English. This upwardly biases the estimates of English literacy for non-Spanish language groups.

Most of the analyses in this chapter made use of derived variables, which reflected respondents' self-assessed fluency and literacy. These variables were constructed using information from the background questionnaire. As explained in Chapter 1, each individual who participated in the National Adult Literacy Survey was asked to complete a background questionnaire, as well as a booklet of prose, document, and quantitative literacy tasks. Respondents who spoke a language other than English before starting school were asked questions about fluency and literacy in that language. We used the answers to these items to determine each individual's fluency and literacy in English and non-English languages. As discussed in Chapter 1, individuals who stated that they spoke or understood a language well or very well were coded as being fluent in that language. Those who answered that they spoke and understood a language poorly or not at all were coded not fluent. A similar procedure was followed for literacy. Individuals who claimed to read or write a language well or very well were coded literate in that language, while those who claimed to read and write it poorly or not at all were coded not literate.

Because questions about fluency and literacy in a language other than English were asked only of respondents who spoke a language other than English before starting school, the biliterate and bilingual categories in this report referred only to native speakers of a language other than English. People who learned a second language in school or as an adult were always coded as monoliterate/English monolingual, since no questions asked about languages other than English that were learned at school or in other settings.

Educational Attainment

The amount of formal education an individual living in the United States receives influences many aspects of his or her life. Therefore, differences in the amount of schooling completed by the members of various language



background groups should be taken into consideration when examining other differences in life outcomes. This section compares the aggregate education levels of adults born in the United States to those born in other countries, and explores the relationship between formal education level and current English language proficiency.

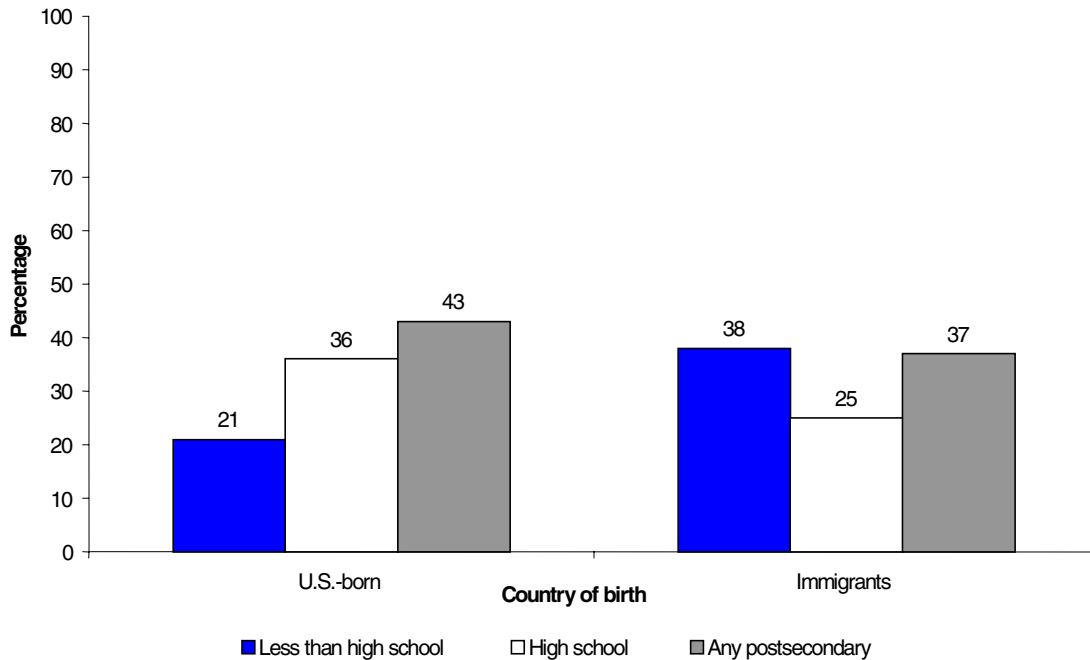
In order to keep the distinctions of education level meaningful and to help ensure adequate cell size for statistical analyses, we divided the National Adult Literacy Survey sample into only three educational attainment categories: respondents who left school without earning a high school diploma; those who completed their education by earning a high school diploma or GED (this group also included a small proportion of individuals who were still attending high school at the time of the survey); and individuals who received at least some form of postsecondary education.

U.S.-born adults had significantly higher levels of education than those born in other countries (Figure 3.1). They were significantly more likely to have finished high school and to have some college experience. Immigrants were more likely to have left school before finishing high school.

Immigrants attained education levels similar to people born in the United States, except for those from Spanish-speaking countries. Immigrants from Spanish-speaking countries were more likely to leave school before finishing high school and less likely to receive some postsecondary education than other immigrants (Figure 3.2). Immigrants from other European language countries were more likely to continue their education after high school than people born in the United States. Other differences observed between immigrants from non-Spanish language countries and the U.S.-born population were not statistically significant.

Hispanic immigrants were significantly more likely than those from countries in which European, Asian, or other languages predominate to have left school without a high school diploma. Over half of the immigrants from Spanish-speaking countries had not finished high school, compared to less than one-quarter of those born in non-Spanish countries. People born in Spanish-speaking countries were also significantly less likely than immigrants from other countries to have any postsecondary experience. Only one-fifth of Hispanic immigrants had received any education beyond high school. This sharply contrasts with the roughly half of other immigrants who had some college experience.

Figure 3.1: Level of educational attainment by immigration status



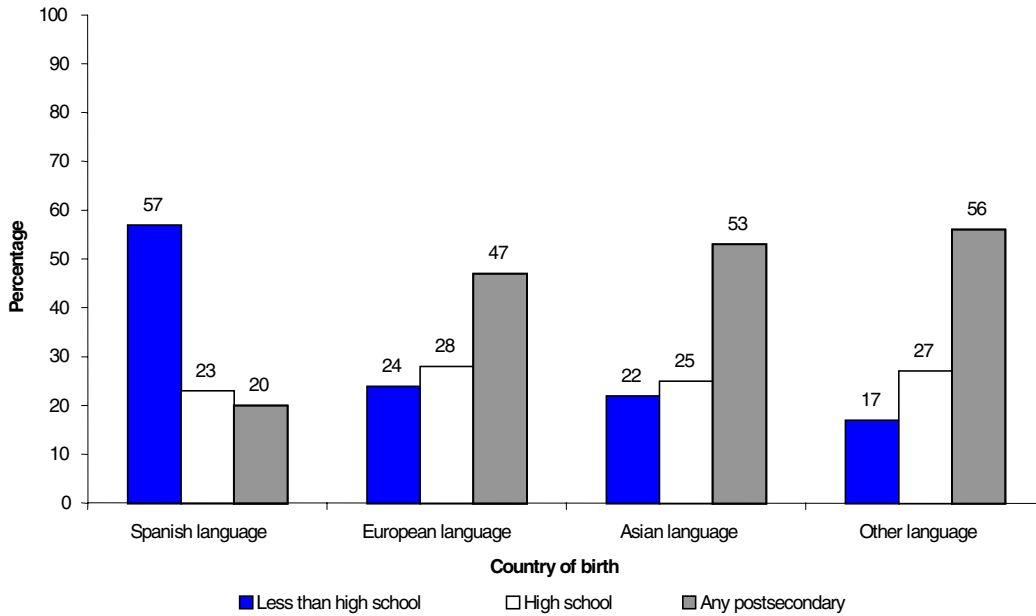
Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Spanish-speaking and other non-English-speaking adults may not be accurate, since the samples are not comparable for these populations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Differences in the aggregate education levels of non-Spanish-speaking immigrants were small and generally not statistically significant.

This difference between the education level of immigrants from Spanish-speaking countries and immigrants from non-Spanish-speaking countries probably stems from geography, as well as different reasons for being in the United States. The relative proximity of Mexico and other Latin America countries to the United States presents a lower financial barrier to immigration than travel over an ocean. Therefore, social class may have been less of a barrier to immigration from Spanish-speaking countries than from elsewhere in the world. In addition, as discussed in Chapter 4, many Spanish-speaking immigrants worked as low-wage workers in U.S. agriculture and industry. In contrast, *The Chronicle of Higher Education* reports that foreign-born adults from other parts of the world more often came to the United States seeking higher education. Over half of foreign students attending U.S. colleges and universities come from

Figure 3.2: Level of educational attainment by country of birth



Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Spanish-speaking and other non-English-speaking adults may not be accurate, since the samples are not comparable for these populations.

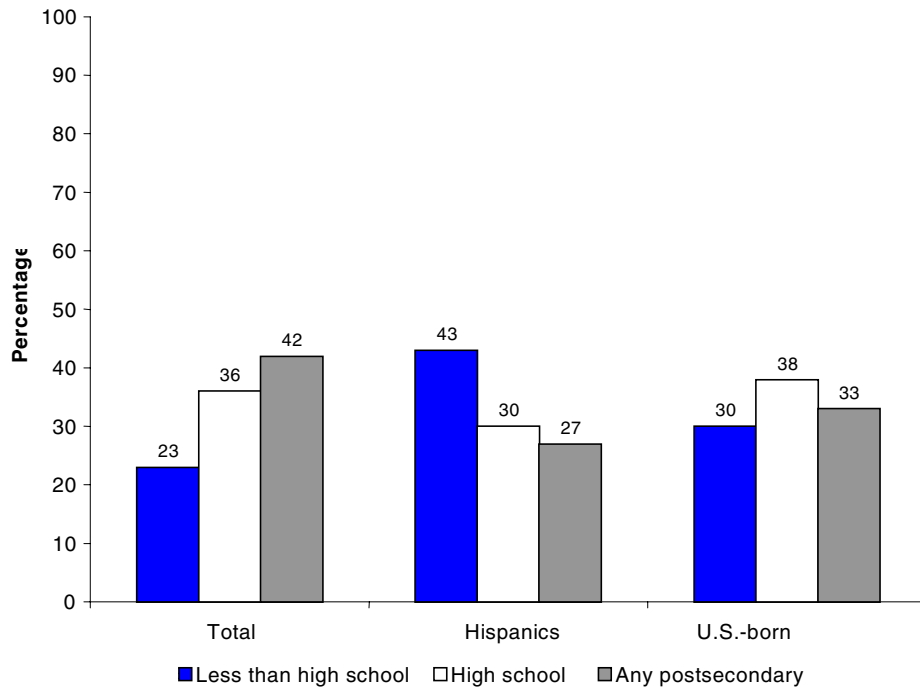
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Asian countries.¹ Some of the difference in educational attainment between immigrants from Spanish-speaking countries and immigrants from other countries may be attributed to the fact that the background survey was only available in English and Spanish.

A large proportion of the Hispanic population was born outside the United States. Therefore, it is not surprising that the education level of Hispanics as a group fell significantly below the U.S. average (Figure 3.3). Hispanics were nearly twice as likely to have left school before finishing high school as other members of the total U.S. population. Hispanics were also significantly less likely to enter college than those born in the United States: 27 percent of Hispanics had some postsecondary training compared to 42 percent of all adults living in the United States. The educational disadvantage of Hispanics was not limited to immigrant members of this group. U.S.-born Hispanics were also less likely to receive postsecondary education than total adult population (Figure 3.3).

¹*The Chronicle of Higher Education*. December 12, 1997. Page A42.

Figure 3.3: Level of educational attainment among all U.S. adults, all Hispanics, and U.S.-born Hispanics



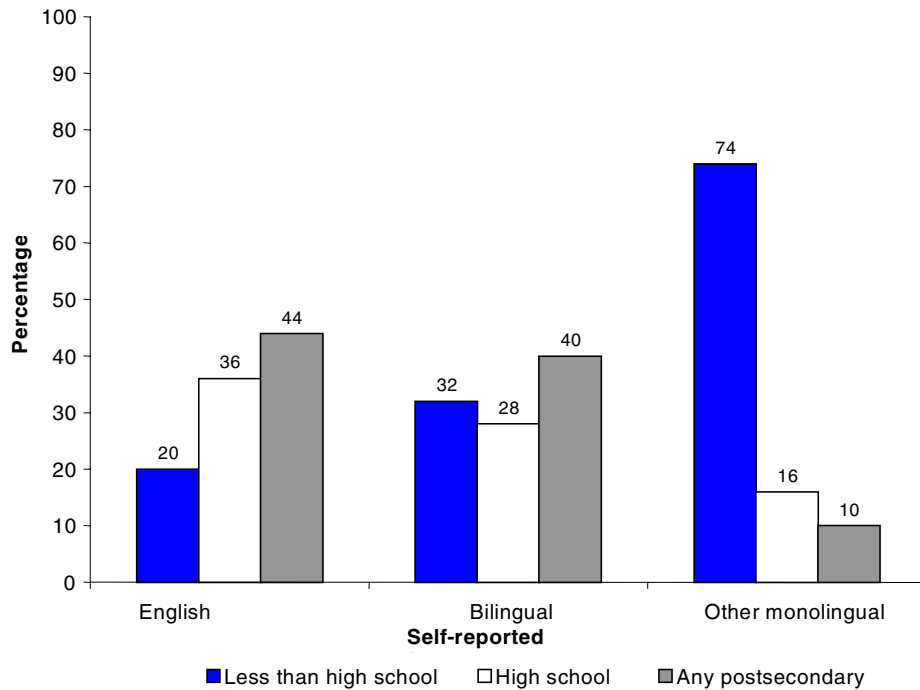
Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Hispanics and other racial/ethnic groups may not be accurate, since the samples are not comparable for these populations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

A substantial fraction of native-born adults, as well as most foreign-born adults, had language backgrounds that were not exclusively English. Therefore, an analysis that looks only at country of birth and Spanish ethnicity presents an incomplete story of the role language plays in educational attainment. Figures 3.4 and 3.5 illustrate the relationship between self-assessed English fluency and literacy and educational attainment.

These figures indicate that exclusive use of non-English languages in the U.S. adult population is strongly related to attainment of low levels of formal education. Proportionately more adults who exclusively spoke, read, and wrote only one language other than English (other monolinguals and other monoliterates) had less than a high school education than those who were English monolingual or bilingual. Nearly three quarters of those who spoke a non-English language exclusively had less than a high school

Figure 3.4: Level of educational attainment by self-reported fluency



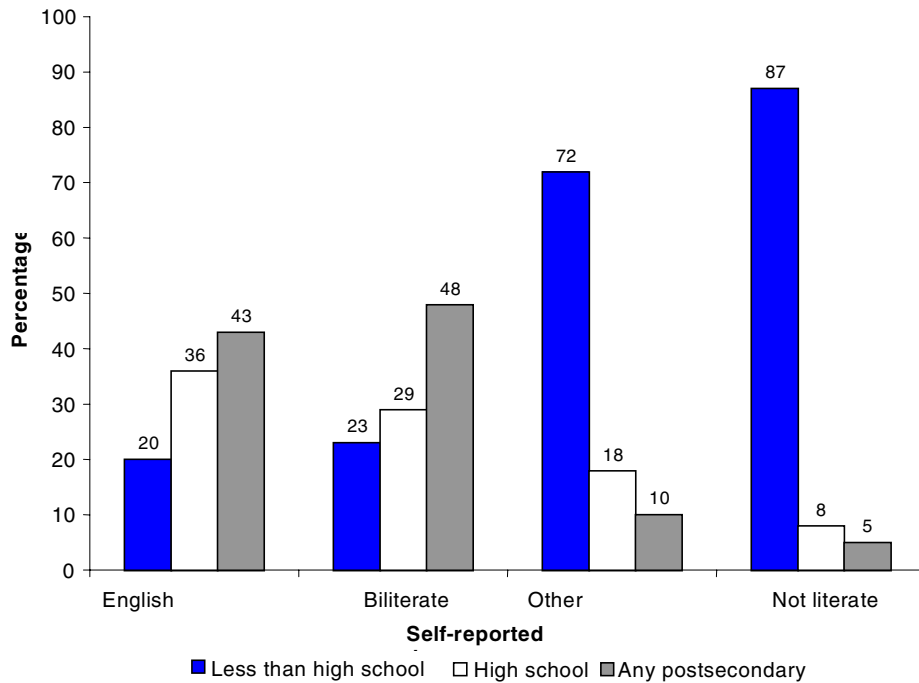
Respondents who reported that they spoke only English before starting school were coded English monolingual, even if they learned to speak another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

education. In contrast, only 20 percent of the English monolingual population and 32 percent of the bilingual population did not finish high school. Furthermore, 87 percent of those who reported that they were not literate in any language had less than a high school education. Again, this may reflect differences in prior schooling among immigrant adults.

The educational differences between those who use both a non-English language and English as their second language, and those who use English exclusively or as their native language, were more subtle. Bilingual individuals were less likely to finish high school than people who spoke English only. Approximately one-third of the bilingual population failed to complete high school compared to only 20 percent of those who spoke English exclusively or as their native language. The biliterate population,

Figure 3.5: Level of educational attainment by self-reported literacy



Respondents who reported that they spoke only English before starting school and who report that they read or wrote English well or very well were coded English monoliterate, even if they learned to read or write another language in school or as an adult. Respondents who spoke a language other than English before starting school and who read or wrote both that language and English well or very well as adults were coded biliterate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

however, had an educational advantage over those who read and wrote English as their native or only language. Nearly half of biliterate individuals had some postsecondary education compared to 43 percent of individuals who read and wrote English only. This high level of education among biliterate individuals was not due to learning a non-English language in school, as only respondents who learned a language other than English before going to school were coded biliterate. While the estimated 23 percent of biliterate individuals who did not complete high school was nominally higher than the 20 percent estimate for individuals who were English monoliterates, this difference was not larger than could have occurred by chance.

Figure 3.2 indicates that immigrant populations differed in their formal levels of education depending on what language was spoken in

their country of origin. The low levels of education of immigrants from Spanish-speaking countries were reflected in the low education levels of the entire Hispanic population. In Chapter 2, we saw a related pattern. Hispanics were less likely than those from other ethnic groups to claim proficiency in spoken and written English. Hispanics were more likely to retain exclusive use of Spanish than were native speakers of other non-English languages. Hispanics were less likely to speak, read, and write English because Hispanic immigrants were less educated than immigrants from non-Spanish language countries. This study showed that the majority of adults who were fluent or literate only in languages other than English did not finish high school (Figures 3.3 and 3.4).

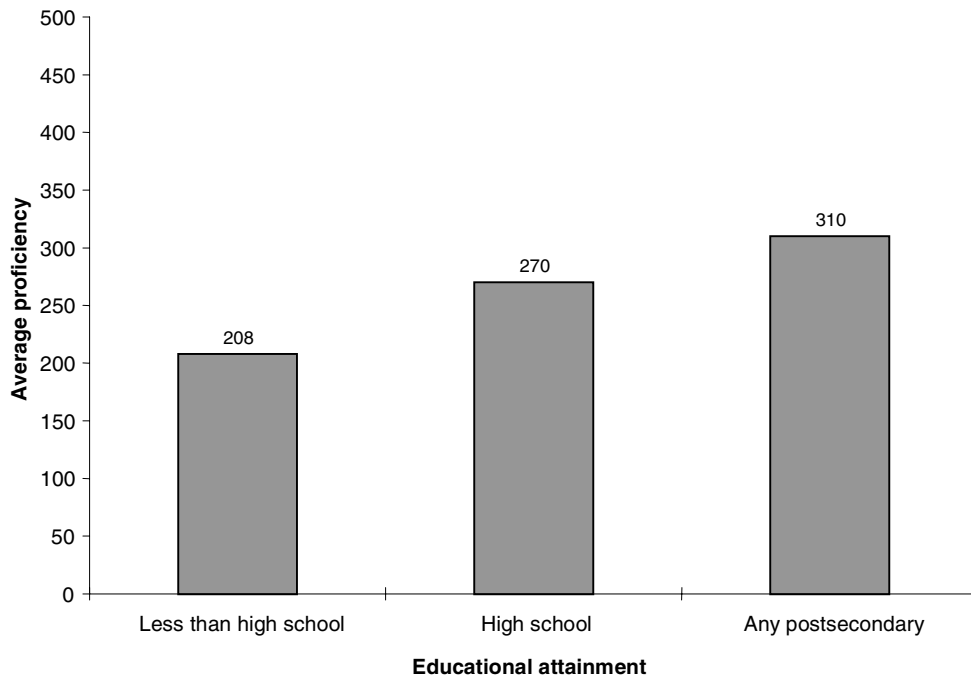
Immigrants from Spanish language countries had significantly lower education levels than both the native-born population and the foreign-born from non-Spanish language countries. The difference in formal education level among the foreign and U.S.-born members of the Hispanic population was related to the tendency to retain exclusive or primary use of Spanish. We now turn to exploring the relationship between formal education level and English literacy skills as measured by the National Adult Literacy Survey.

Education Attainment and Measured Prose Literacy

The observed relationship between education level and the life outcomes of today's adults has magnified the importance of understanding how education level is related to valued labor market skills, such as English literacy. In the next section we explore the relationship between prose literacy as measured by the National Adult Literacy Survey, education level, country of birth, and language status. We explore the labor market implications of these relationships in Chapter 4.

The amount of schooling a person completed was positively associated with his or her degree of English literacy. Simply put, the longer people stayed in school, the better they read English on average. It is important to remember that schooling is both a cause and effect of literacy proficiency. Not only does formal instruction develop English literacy skills, but individuals with stronger literacy skills may be inclined to stay in school longer. While it is difficult to identify cause and effect in the relationship between education and literacy skills, the existence of a positive relationship is clear (Figure 3.6). Individuals who have graduated from high school averaged 270 on the prose literacy scale, 62 points higher

Figure 3.6: Average prose proficiency by educational attainment



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

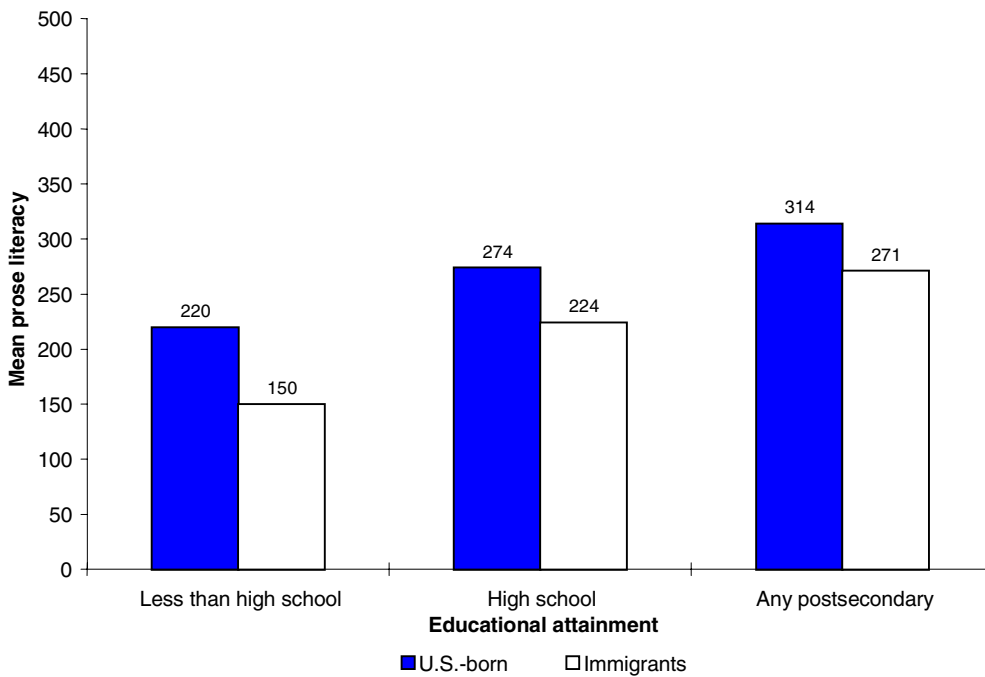
than individuals who failed to complete high school. Individuals who have gone on to college scored higher still, averaging 310.

The presence of immigrants and other individuals who currently use a language other than English in the U.S. population complicates our understanding of the relationship between education and English literacy. For instance, foreign-born adults who received much or all of their schooling abroad in a language other than English may, quite understandably, not read and write English as well as native speakers of English who received the same nominal level of instruction, but received all their schooling in English. Furthermore, as we saw in the previous section, immigrants from different parts of the world differed substantially in the amount of education they had completed. They also differed in their use of the English language prior to and after their arrival in the United States. National Adult Literacy Survey data allow us to investigate the relationship of country of birth, language status, formal level of education, and objective measures of English literacy.

Average scores on the prose literacy scale demonstrated a positive relationship with formal education level both for those born in the United States and for those born in other countries (Figure 3.7). Mean prose proficiency scores for the U.S.-born population increased from 220 for those who did not finish high school to 274 for high school graduates. The prose proficiency score for U.S.-born individuals with at least some college experience increases further still to 314. In the immigrant population, scores rise significantly at each step from 150 to 224 to 271, from the lowest education level to the highest. While the native-born population scored significantly higher on the prose literacy scale, within each educational category the foreign-born with postsecondary experience scored on par with native-born high school graduates and significantly higher than U.S. natives who had not completed high school.

Increases in formal education level seemed to be associated with higher mean prose literacy scores for immigrants, regardless of the language spoken in their county of birth (Table 3.1). However, due to the small number of cases of immigrants from Asian language and other

Figure 3.7: Average prose proficiency by educational attainment and immigration status



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

language backgrounds, we were not able to determine if all the observed differences between education levels within the Asian and other language groups were due to factors other than chance.

Due primarily to the large immigrant component of the Hispanic population, Hispanics scored significantly lower on the prose literacy scale than the total population, both overall and within the same education level. The differences in scale scores within the same education level between U.S.-born Hispanics and the total population were small and generally not statistically significant (Table 3.2). Only the mean scale score of U.S.-born Hispanics with some college experience was significantly lower than their counterparts in the total population. As we discussed in the previous section, however, the U.S.-born Hispanics had

Table 3.1: Average prose proficiency by educational attainment and country of birth

Average proficiency (s.e.)	Sample size	Population /1000	Less than high school	High school graduate	Any postsecondary	All
Country of birth						
United States	23,178	170,947	220 (1.5)	274 (0.9)	314 (0.9)	280 (0.7)
Spanish language countries	1,605	9,428	141 (3.1)	211 (4.9)	242 (4.6)	178 (3.0)
European language countries	521	4,745	182 (9.5)	245 (5.9)	297 (3.9)	254 (4.5)
Asian language countries	280	2,728	---	216 (19.0)	264 (7.1)	226 (8.4)
Other	443	2,848	188 (12.9)	233 (8.7)	275 (4.5)	249 (3.8)

Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Spanish-speaking and other non-English-speaking adults may not be accurate, since the samples are not comparable for these populations.

--- Sample size is too small to provide a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Table 3.2: Average prose proficiency by educational attainment and Hispanic ethnicity

Average proficiency (s.e.)	Sample size	Population /1000	Less than high school	High school graduate	Any postsecondary	All
Total population	26,027	190,695	208 (1.6)	270 (0.9)	310 (0.8)	273 (0.6)
Hispanics	3,093	18,236	162 (3.3)	242 (3.3)	275 (2.9)	216 (2.1)
U.S.-born Hispanics	1,480	8,726	205 (4.8)	262 (3.0)	296 (3.3)	257 (2.3)

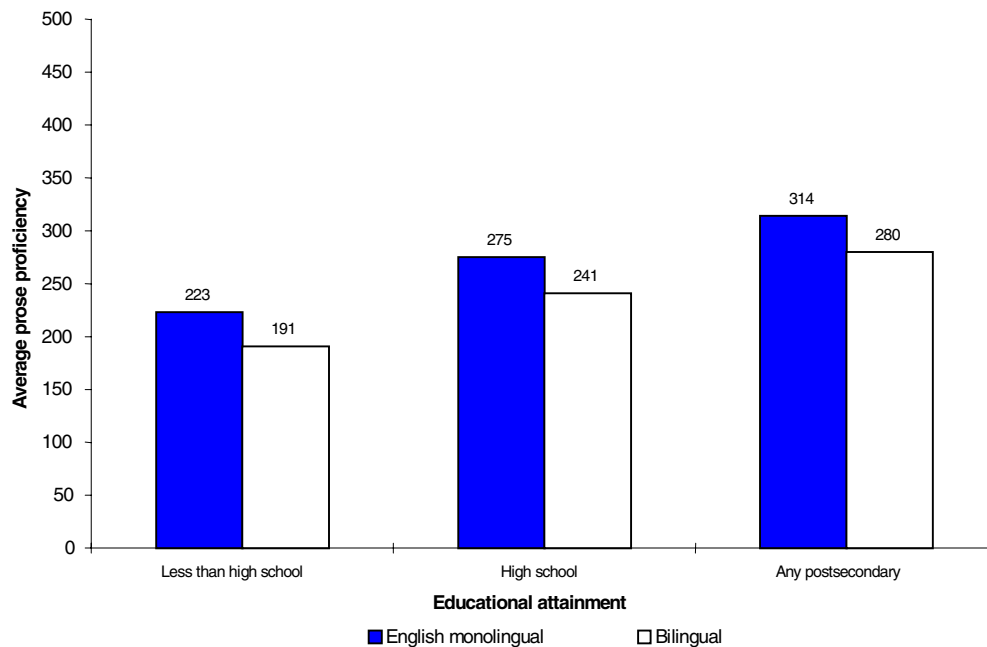
Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Hispanics and other racial/ethnic groups may not be accurate, since the samples are not comparable for these populations

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

lower average levels of educational attainment than the total population of the United States and hence lower scale scores overall.

Bilingual individuals, as defined in this report, all spoke a language other than English before starting school. Hence, it was not surprising that even when we hold education level constant, bilingual individuals scored lower on the prose literacy scale than those who spoke English only or as their native language (Figure 3.8). Within all three education levels, those who spoke English exclusively or as their native language scored approximately 30 points higher than those who spoke English in addition to another language. It is important to point out that this means that people who were bilingual appeared to benefit equally, in terms of increases in measured English proficiency, from receiving formal education, as did those who spoke English exclusively or as a native language. A similar pattern was observed among individuals based on self-assessed literacy.

Figure 3.8: Average prose proficiency by educational attainment and self-reported fluency

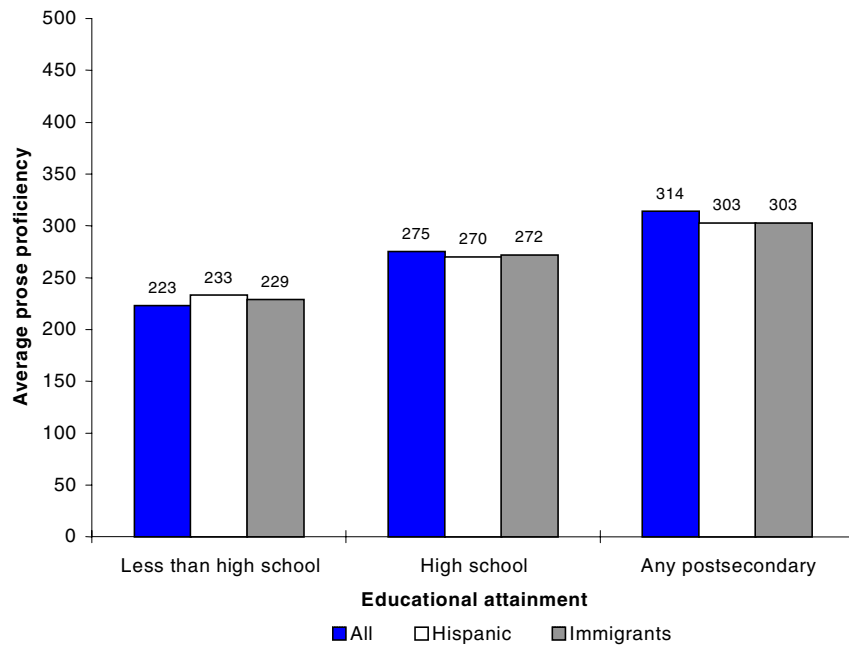


Respondents who reported that they spoke only English before starting school were coded English monolingual, even if they learned to speak another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

The preceding figures and tables show a consistently positive relationship between formal education and English literacy. Differences in English reading skills remained for members of language minority groups, specifically immigrants and Hispanics, even after controlling for group differences in education. Looking only at those who spoke English exclusively or as their native language, individuals with the same levels of educational attainment had similar prose proficiency levels, regardless of country of birth or ethnicity (Figure 3.9).

Figure 3.9: Average prose proficiency by educational attainment, Hispanic ethnicity, and nativity among adults who speak exclusively English



Respondents who reported that they spoke only English before starting school were coded English monolingual, even if they learned to speak another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

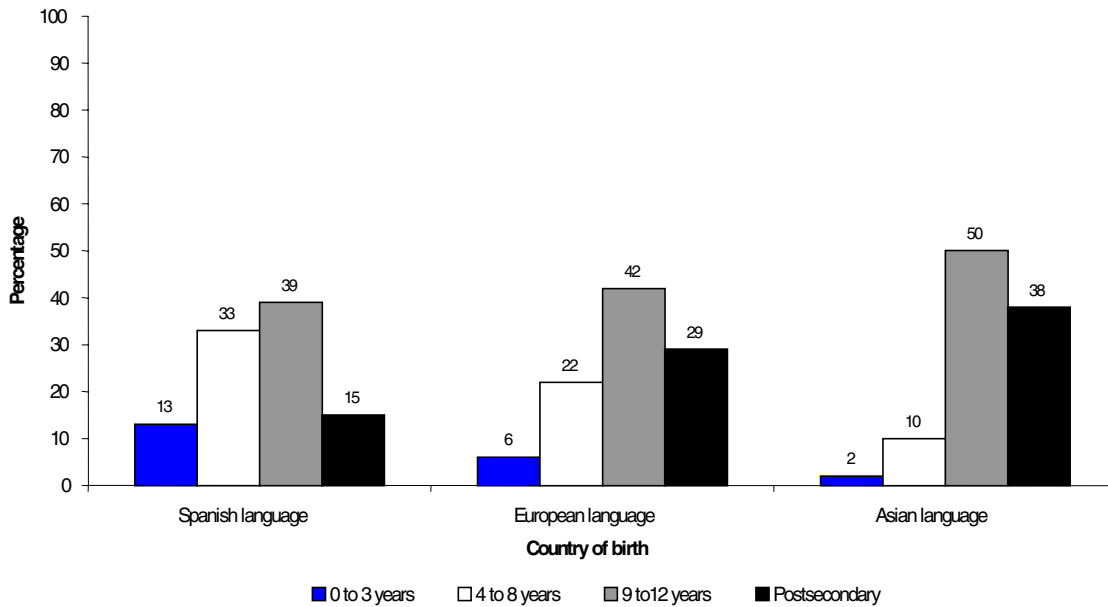
Educational Attainment Prior to Arrival in the United States

The background questionnaire asked foreign-born adults to indicate the level of schooling they had attained before coming to the United States using the following categories: did not attend school, primary (grades K to 3), elementary (grades 4 to 8), secondary (grades 9 to 12), post secondary vocational, college or university, or other. For this analysis, we grouped respondents into four age-at-arrival categories (ages 1 to 11, 12 to 18, 19 to 24, and 25 or older) and four prior education levels (0 to 3 years, 4 to 8 years, 9 to 12, and postsecondary/other schooling). Because background variables provided only rough approximations of both age of arrival and schooling prior to immigration, the data were most useful in gauging the educational status of people who arrived when they were at least 19 years old.² This is because adult immigrants would be highly unlikely to seek or receive elementary or secondary education in the United States.

Differences in the level of pre-immigration education among immigrants from different countries who arrived in the United States as children or adolescents were generally not significant when countries were grouped into language categories. Furthermore, the differences that might exist in the data were difficult to interpret, given the imprecision of measurement in both the age of U.S. arrival and amount of education received outside the United States, as measured by the National Adult Literacy Survey. When we compared pre-immigration educational attainment of individuals who were 19 years or older when they arrived in the United States, we saw that adult immigrants from Spanish language countries tended to report lower levels of prior education than those from countries where Asian languages were spoken (Figures 3.10 and 3.11). Both among immigrants who arrived between the ages of 19 and 24 and among those who arrived later in life, individuals from Spanish language countries were approximately twice as likely as their counterparts from Asian language countries to have arrived in the United States with 0 to 3 years or 4 to 8 years of school. Adult Hispanic immigrants were also substantially less likely than Asian immigrants to report postsecondary

²U.S. residence was coded in five-year increments between 1 and 20 years, ten-year increments between 21 and 50, and 51 or more years. Age of arrival was estimated as the difference between the individual's age and the midpoint of the U.S. residence code described above, and thus might differ by five or even more years from the actual age of arrival for some respondents. This uncertainty makes it impossible to determine whether respondents who arrived between the ages of 6 and 18 had completed the number of school years considered normal for the U.S.-born population.

Figure 3.10: Highest level of education completed before coming to the United States among immigrants who arrived when they were 19 to 24 years of age

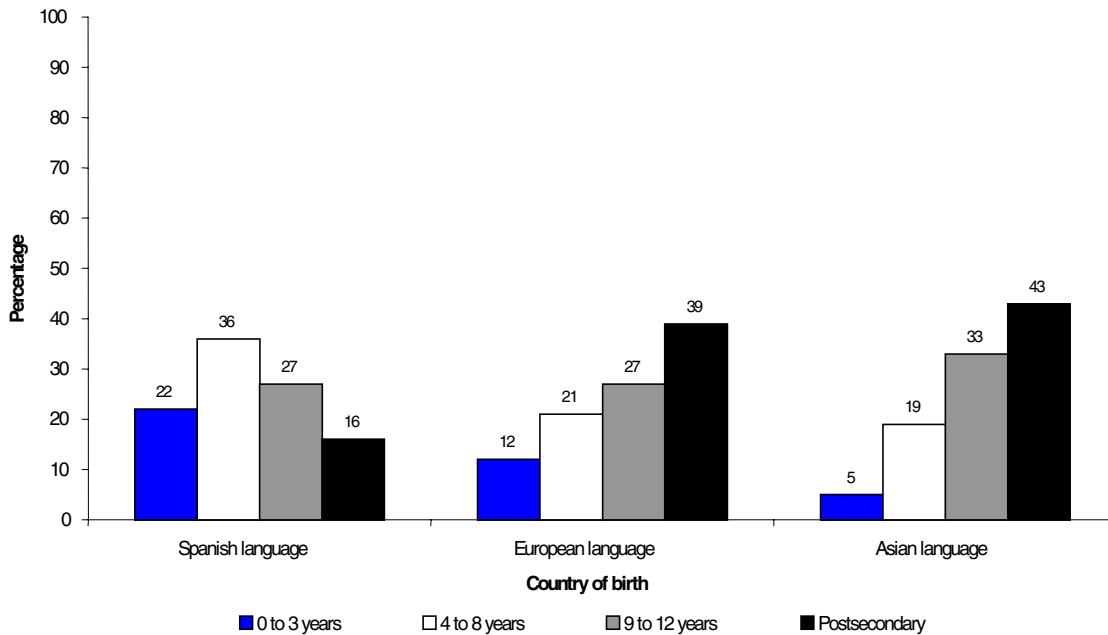


Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Spanish-speaking and other non-English-speaking adults may not be accurate, since the samples are not comparable for these populations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

experience. The estimates of pre-immigration education for immigrants from European language countries tended to fall in between those for people born in Spanish or Asian language countries. Those who arrived from European language countries after reaching 25 years of age were more likely to have received some college training than their Spanish language country counterparts. Due to the relatively small number of respondents who emigrated from a European language country after the age of 19, other differences in native country schooling in comparison to Hispanic and Asian immigrants were not statistically significant. (Some of the differences between immigrants from Spanish language countries and immigrants from other countries are probably related to the fact that the background questionnaire was only available in English and Spanish.)

Figure 3.11: Highest level of education completed before coming to the United States among immigrants who arrived after age 25



Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Spanish-speaking and other non-English-speaking adults may not be accurate, since the samples are not comparable for these populations.

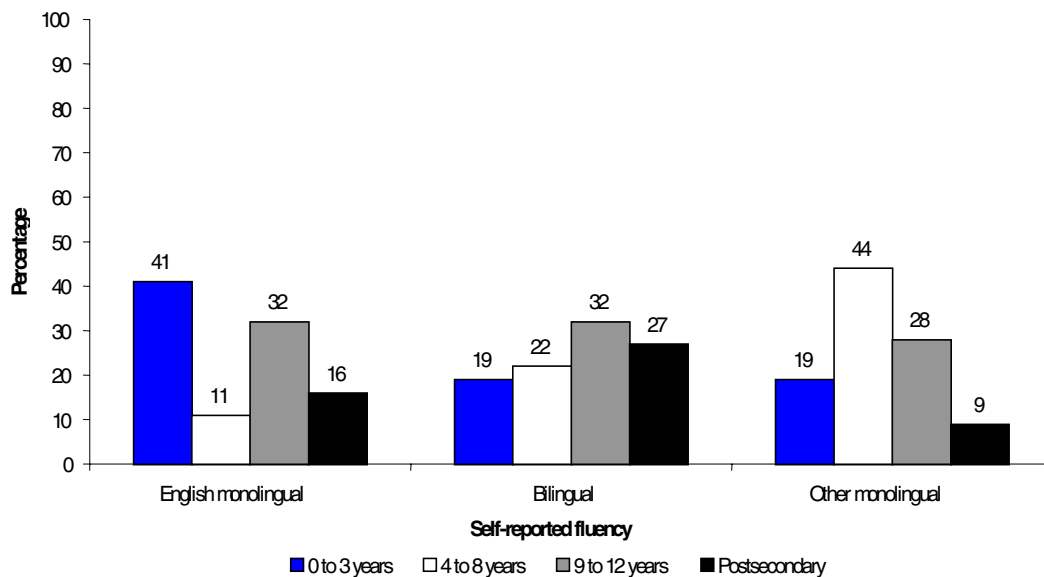
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Performance on the Prose Literacy Scale

The interrelationship of pre-immigration education, self-reported oral language fluency and literacy, and measured English literacy was reflected in the prose literacy scores of all immigrants. The educational opportunities available in the countries of birth, age at the time of immigration, and subsequent patterns of acquisition of the English language need to be kept in mind in making sense of the findings about the English language proficiency of the U.S. adult population that was foreign-born.

Foreign-born individuals who self-reported fluency in both English and their native language were more likely than those who spoke only

Figure 3.12: Highest level of education completed before coming to the United States by self-reported fluency among immigrants



Respondents who reported that they spoke only English before starting school were coded English monolingual, even if they learned to speak another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual.

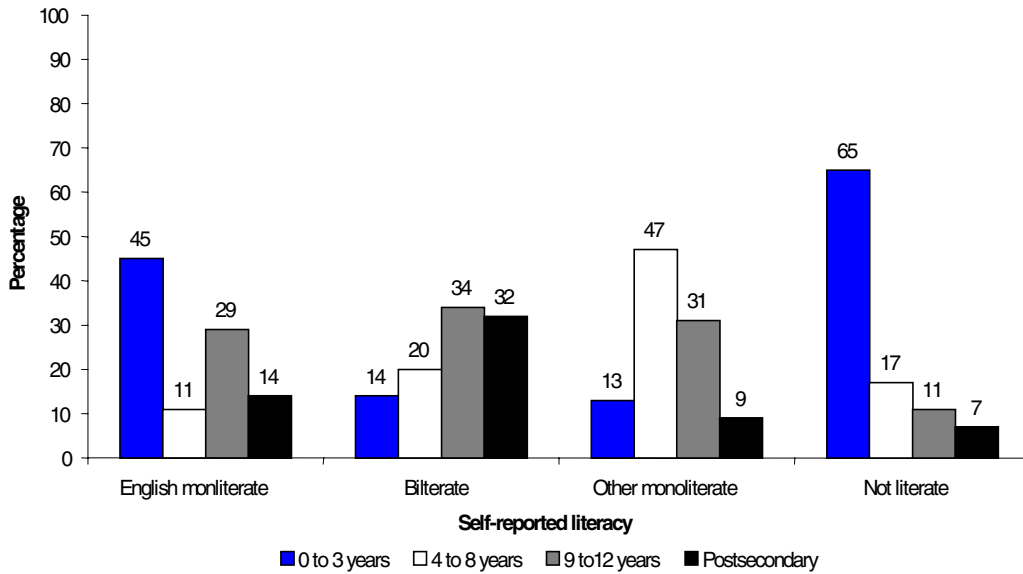
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

English or only their native language to have received some college education before immigrating (Figure 3.12). More than a quarter of the bilingual immigrants completed some college in their native countries, compared to only 16 percent of those immigrants who currently speak only English and 9 percent of those who speak only a non-English language.

Not surprisingly, the pattern was similar for self-reported literacy. Nearly a third of individuals who reported that they were literate in both English and their native language had received at least some college level education, more than twice the percentage of immigrants who reported English only literacy (Figure 3.13).

High levels of pre-immigration postsecondary education were associated with self-described bilingualism, and low levels of pre-immigration education were associated with monolingualism. Immigrants arriving in this country with little or no education tended to use either English or another language exclusively. The findings in Chapter 2 suggested that the age at arrival in the United States and language spoken

Figure 3.13: Highest level of education completed before coming to the United States by self-reported literacy among immigrants



Respondents who reported that they spoke only English before starting school and who report that they read or wrote English well or very well were coded English monoliterate, even if they learned to read or write another language in school or as an adult. Respondents who spoke a language other than English before starting school and who read or wrote both that language and English well or very well as adults were coded biliterate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

in the childhood home were primary determinants of which single language ends up being used by these immigrants when they reach adulthood.

Over 40 percent of adults who were born outside of the United States and who reported they were fluent and literate primarily in English received less than 3 years of education in their home countries. The majority of these adults arrived in this country as children. Arriving in the United States prior to or at the beginning of the primary school years was related to the exclusive adoption of English by adulthood.

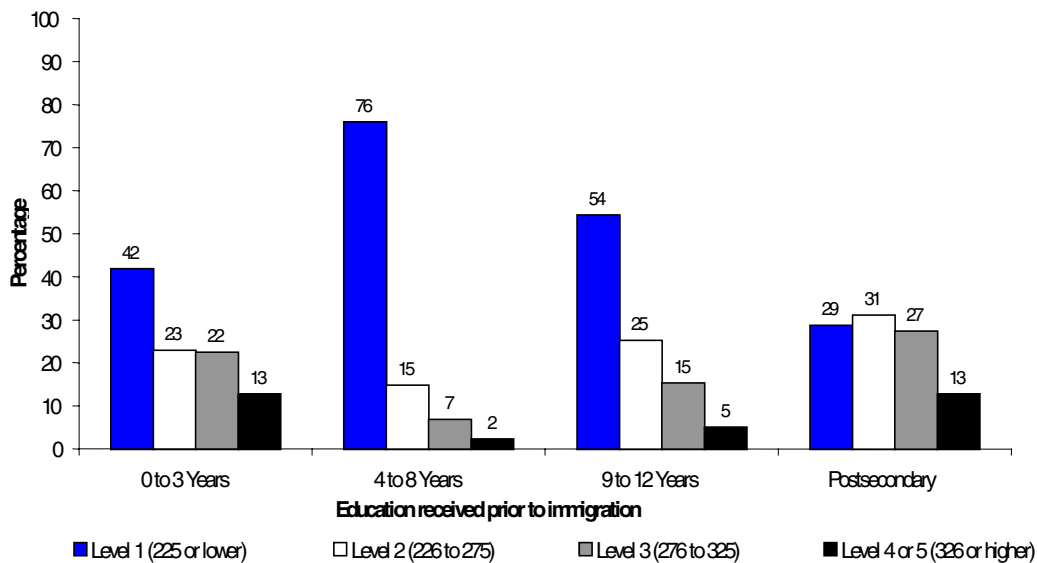
A low level of pre-immigration education was, however, also associated with continued exclusive use of a non-English language. Over 60 percent of immigrants who said they were fluent or literate primarily in their native non-English language reported having completed fewer than 9 years of schooling before their arrival. Additionally, having little or no pre-immigration education was associated with not being able to read any language. Nearly two-thirds of individuals who said they read neither English nor their native language well reported having completed three or

fewer years of schooling abroad. Most of these immigrants, who were not fluent and literate in English, or literate in any language, and who had low levels of pre-immigration education, arrived in the United States as adults.

The relationship between level of education completed before immigrating to the United States, language status, and age of arrival in the United States helps to make sense of the seemingly counterintuitive finding that high scores on the prose literacy scales were associated with both low and high levels of pre-immigration education (Figure 3.14).

The majority of immigrants with moderate levels of pre-immigration education categories read at the lowest level, Level 1. In comparison, only 42 percent of immigrants with little or no education, and only 29 percent immigrants who arrived in the United States with some college experience read at the lowest level. Extremely high and low levels of foreign education among all immigrants were equally associated with prose literacy performance at the highest level, Level 4 or 5. The immigrant groups with the highest levels of prose proficiency tended either to have arrived as children with 0-3 years of prior native country schooling or to have immigrated as adults with some prior native country postsecondary training.³

Figure 3.14: Prose literacy level by highest level of education completed before coming to the United States



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

³ Analysis of document and quantitative literacy levels by the highest level of education completed before coming to the U.S. produced similar results.

The diversity of the foreign-born population of the United States precludes a simple explanation of the interrelationship between pre-immigration education, self-reported fluency and literacy, and measured English literacy. The data do suggest two successful avenues and one bumpy road that foreign-born adults travel in acquiring the types of reading skills measured by the prose literacy scale. Immigrants arriving as young children with little or no formal education, or adults arriving with high levels of formal education, were the most likely to develop high levels of English literacy. Adult immigrants arriving with little or no formal education had a much more difficult time acquiring English literacy skills.

Reasons for Not Completing High School

Given the strength of the relationship between education level and English literacy described in the three previous sections of this chapter, we now turn our attention to the relationship between English language background and the reasons individuals cite for not completing high school.

According to the National Adult Literacy Survey data, nearly 43 million U.S. adults had not completed high school in 1992. This was over one-fifth of all the adults living in the United States at that time. We saw earlier in this chapter (Figure 3.1) that a greater proportion of the foreign-born population left school prior to earning a high school diploma than did the U.S.-born population. Foreign-born individuals are, therefore, over-represented in this group; comprising 17 percent of the population not completing high school, compared to only 10 percent of the entire adult population.

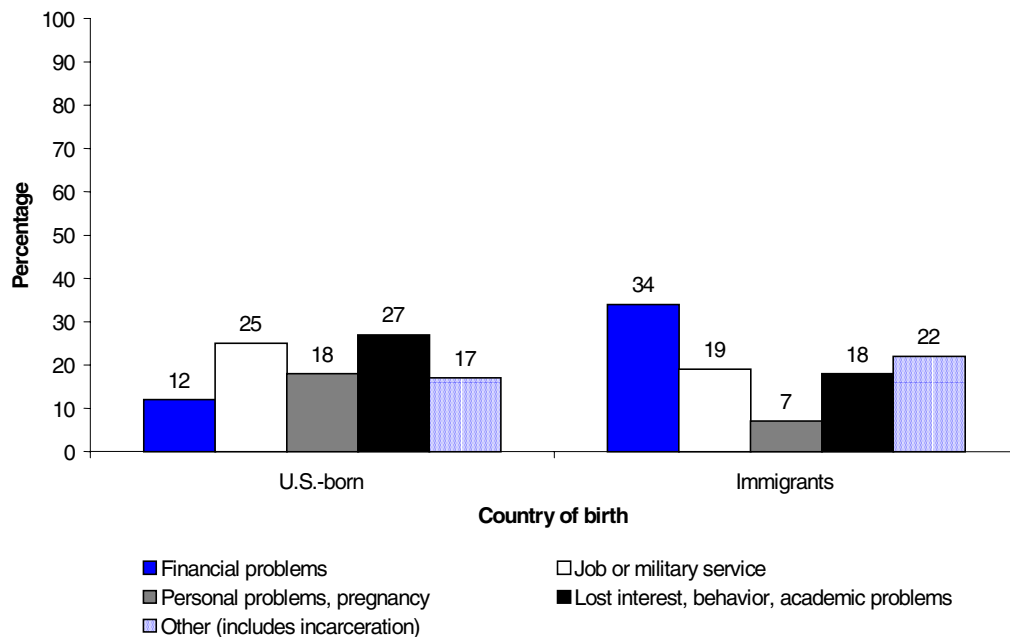
In many countries, secondary education formally ends before 12 years of school. While the questionnaire item used to measure the respondent's education reflects U.S. practice in terms of number of years of elementary and secondary education, interviewers were instructed to probe for equivalent levels of education, if a respondent indicated that he or she went to school outside the United States.

A variety of circumstances contributed to this premature exit (by U.S. standards) from formal education. The background questionnaire asked respondents who had not finished high school to indicate which of seven possible explanations was their main reason for dropping out: financial problems, went to work or into the military, pregnancy, lost interest or behavior problems in school, academic problems at school,

family or personal problems, or other. The background survey for the prison population included an eighth reason related to conviction or incarceration. For purposes of this analysis, these eight reasons were collapsed into five categories: financial problems, job or military service, personal problems (including pregnancy), school-related problems (academic, interest, or behavior), and other (including incarceration).

U.S.-born and foreign-born individuals differed significantly in the frequency with which they cited particular reasons for not staying in school (Figure 3.15). Financial problems were cited most frequently by immigrants and least frequently by people born in the United States. A third of the immigrant population cited financial problems as the reason for not completing high school compared to only 12 percent of U.S.-born population that gave this reason. U.S.-born individuals were more likely to indicate that personal problems kept them from finishing high school than were immigrants, 18 percent versus 7 percent. Native-born individuals who did not complete high school were also more likely to attribute not finishing to school-related problems and a job or military service than their foreign-born counterparts.

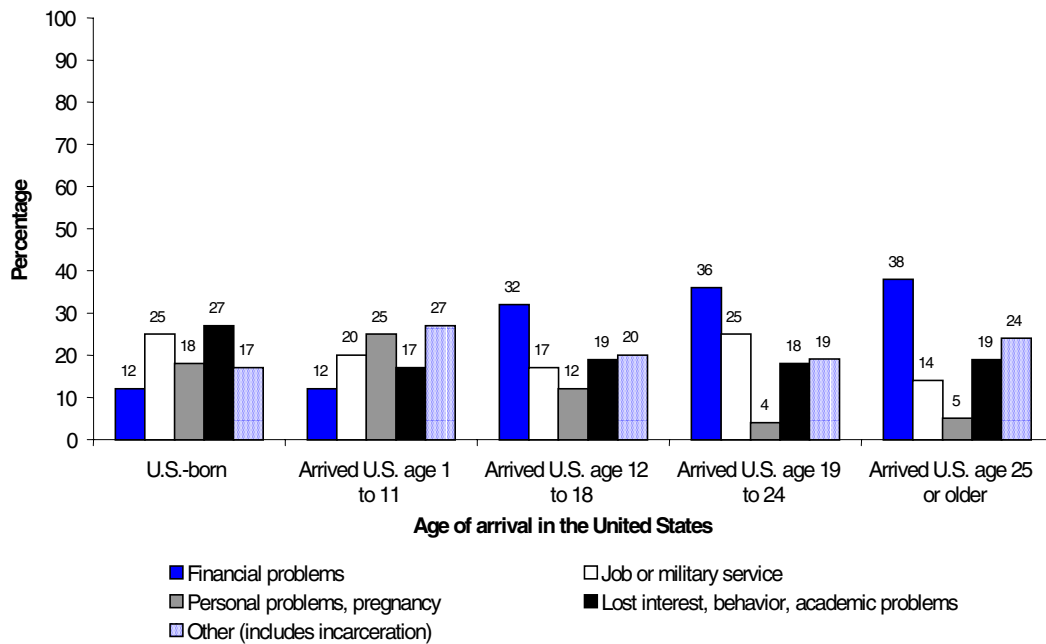
Figure 3.15: Reasons for high school noncompletion among adults born in the United States and immigrants



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Immigrating to this country at an early age tempered differences in the reasons cited for not completing high school between the foreign-born and native-born. Individuals who immigrated as young children (before 12 years of age) did not differ significantly from their native-born counterparts in the reason they cited for not finishing high school. This finding needs to be treated with some caution as sample size was quite small (sample size = 90) for those who arrived in the United States before their twelfth birthday and subsequently did not finish high school. With so few cases, only a substantial disparity would reach statistical significance. It is important to note, however, that the propensity of the immigrant population to cite “financial reasons” for leaving school seems to be much more frequent among those who came to the United States after reaching 12 years of age (Figure 3.16).

Figure 3.16: Reasons for high school noncompletion by age of arrival in the United States



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Further analysis of the reasons individuals reported for failing to complete high school was hampered by limited sample size and the difficulty in distinguishing immigrants who left school in their native country from those who entered a U.S. school system and did not complete high school.

Training in English language skills is not limited to regular schools which this chapter has focused on until now. We turn now to two types of English language training available to U.S. adults outside of formal venues of education, English as a second language (ESL) courses and basic skills classes. While these two types of training may not lead to an education credential, they provide opportunities for members of language minorities to develop English language skills.

Participation in ESL by Individuals Who Learned a Language Other Than English Before School

The background questionnaire asked respondents who had learned a language other than English before school, “Have you ever taken a course to learn how to read and write English as a second language?” and “Have you ever taken a course to learn how to speak and understand English as a second language?” Those who indicated that they had taken such courses were then asked if they had completed them. On the basis of these responses, we categorized individuals who reported taking one or both types of classes as having taken ESL, and those who reported having completed at least one type of class as having completed ESL.

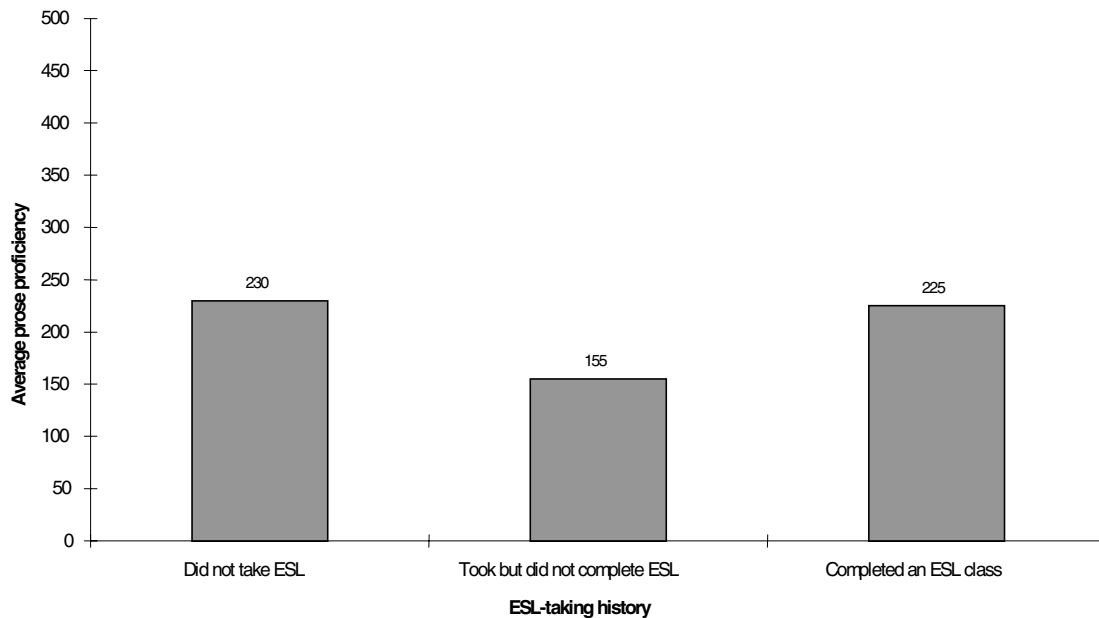
It is important to recognize that ESL courses usually lack a prescribed ending that is associated with a specified level of English mastery. The reason why individuals stop attending ESL courses range from mastering English, to the external termination of an ESL offering, to simply giving up. Whether an individual’s cessation of an ESL course constituted “completion” was self-defined. Therefore, causal connections cannot be supported with these data.

Approximately 28 million adults living in the United States learned a language other than (or in addition to) English before school. About 35 percent of this language minority population reported taking an ESL class, with 24 percent completing such a class. While individuals enrolled in ESL classes presumably because they could not speak, understand, read, or write English as well as they would like to, those who did not enroll

included not only individuals who might benefit from ESL classes, but also people who had learned English in other ways. For example, individuals who learned both English and a non-English language before going to school by growing up in a bilingual household might have little need to enroll in ESL classes.

The diversity among the population that learned a non-English language prior to enrolling in school made it difficult to assess the effectiveness of ESL classes in improving the types of English literacy skills measured by the literacy scales in the National Adult Literacy Survey. The finding that the mean prose literacy scale score for those who completed an ESL (225) class was not significantly different from that of those who did not take an ESL class (230) tells us nothing about the effectiveness of ESL training on English literacy (Figure 3.17). The finding that those who completed an ESL program scored significantly higher than those who enrolled in but did not complete a class only suggests that ESL classes promote English literacy. This result could have also simply reflected an initial English skill disparity between those who were able to complete ESL classes once they enrolled and those who were not able to do so.

Figure 3.17: Average prose proficiency among adults who learned a non-English language before starting school



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Given the difficulty in assessing the effectiveness of ESL classes with cross-sectional data, this section will concentrate on describing differences in the propensity of individuals from different English language background groups to take and complete ESL courses. Results concerning ESL completion should be interpreted with some caution as these courses generally lack a definitive beginning and end. Typically, people with a wide range of English mastery are together in the same ESL classroom. The individual goals that would constitute “completion” are likely to vary among individuals based on present English proficiency. Further, as individuals begin to develop their English skills in a ESL course, they are likely to adjust their completion goals upward. Completion statistics presented below are based simply on individuals indicating that they completed an ESL course.

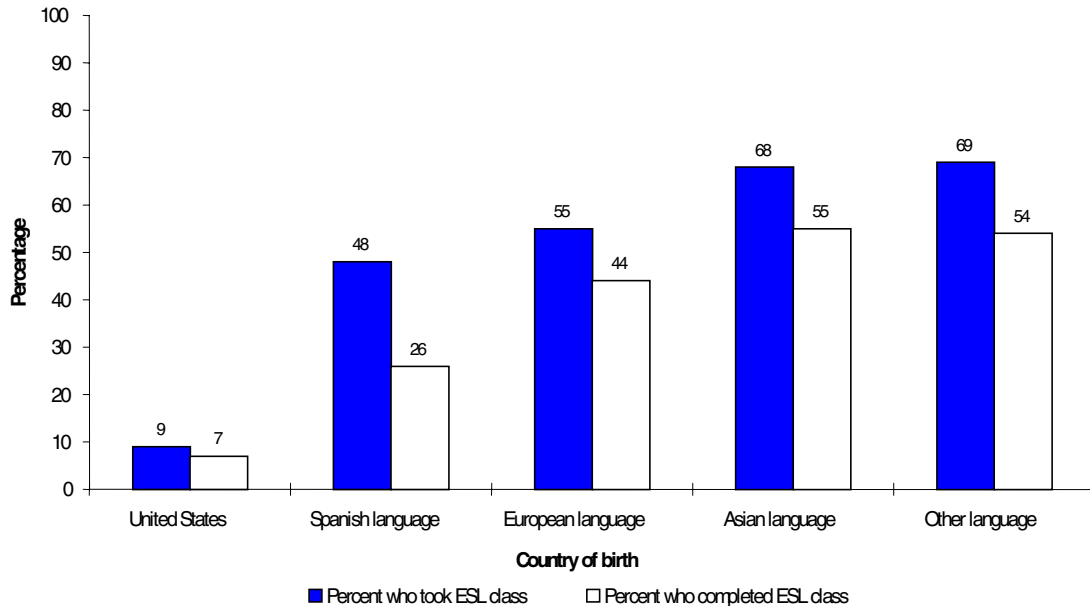
Most U.S.-born individuals with non-English language backgrounds learned English in addition to their family’s native language before starting school and were unlikely candidates for ESL classes.⁴ Only 9 percent of U.S. natives took an ESL course (Figure 3.18). In contrast, roughly half of the natives of European language and Spanish language countries and over two-thirds of the immigrants from countries in which non-European languages predominated enrolled in an ESL course.⁵

Immigrants from Spanish language countries completed ESL programs at significantly lower rates than immigrants born in non-Spanish language countries. Approximately one-half of individuals born in Spanish language countries took an ESL class, but only one-quarter completed an ESL class. In contrast, 44 percent of those from European language countries and over half of those from Asian/other language countries completed an ESL course. This disparity was not merely the result of the lower overall ESL participation rate of Spanish-speaking immigrants. Limiting comparisons to only those who had started an ESL course reveals that while roughly half of those from Spanish-speaking countries report finishing, the members of the other immigrant groups had nearly 80 percent completion rates. There was not a sufficient number of cases to support a meaningful analysis of the effectiveness of ESL programs, in terms of improving literacy scale scores, by country of origin.

⁴Eighty-five percent of U.S. natives who learned a non-English language before school also learned English before school. Among those U.S. natives who reported the age at which they had learned English, 88 percent had learned English before the age of five.

⁵The analysis only considers individuals who reported having learned at least one language other than English before school. Thus, the sample of immigrants from European countries excludes most people who came from English-speaking countries and who learned only English before school.

Figure 3.18: Participation in ESL classes by country of birth among adults who learned a non-English language before starting school



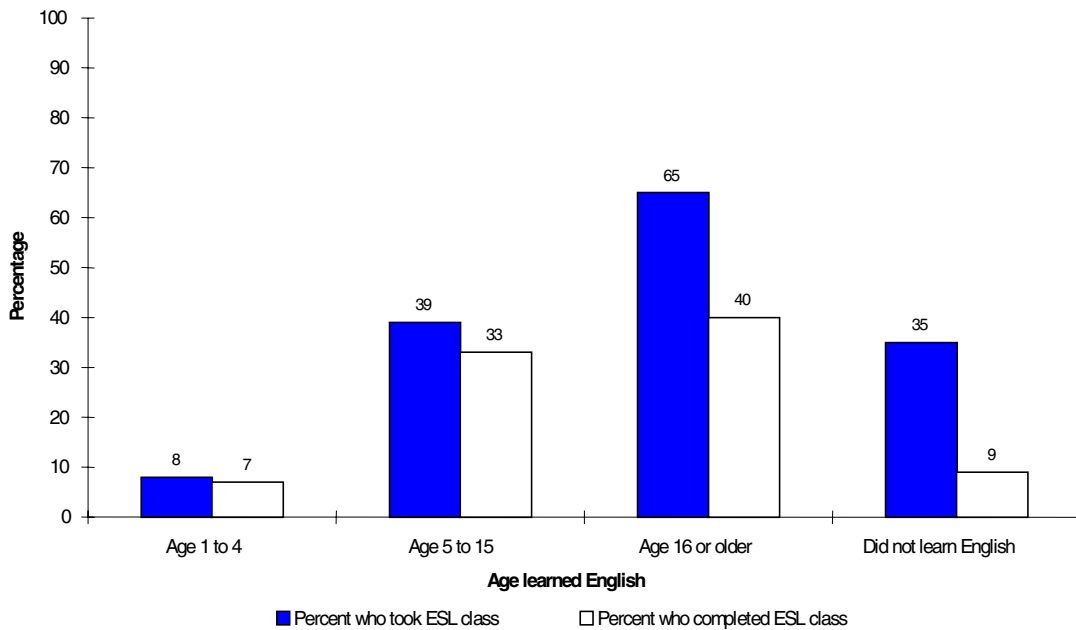
Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Spanish-speaking and other non-English-speaking adults may not be accurate, since the samples are not comparable for these populations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

ESL participation was also related to the age at which English was learned. The later in life individuals learned English, the more likely they were to report taking an ESL class. Individuals learning English as well as another language prior to going to school (usually at age 5) were very unlikely to take—or need—an ESL course later in life. For individuals who learned English between the ages of five and fifteen, ESL participation rates reflected both instruction received in conjunction with their formal education and any additional courses. There was a potential for measurement error in the ESL participation and completion rates for those who reported learning English during their school-age years. These respondents may have taken an ESL course while in school, but not recognized it as being different from the English courses being taken by their native English-speaking peers. Adult English learners were the most likely to have reported taking an ESL class. Those who reported learning

English after reaching 16 years of age were, however, less likely to complete ESL classes once they enrolled than those who learned English at a younger age. Individuals who reported not having learned English at all represented 12 percent of the population that had learned a language other than English before school. Over one-third of this group reported having taken an ESL class, but only 9 percent reported finishing (Figure 3.19).

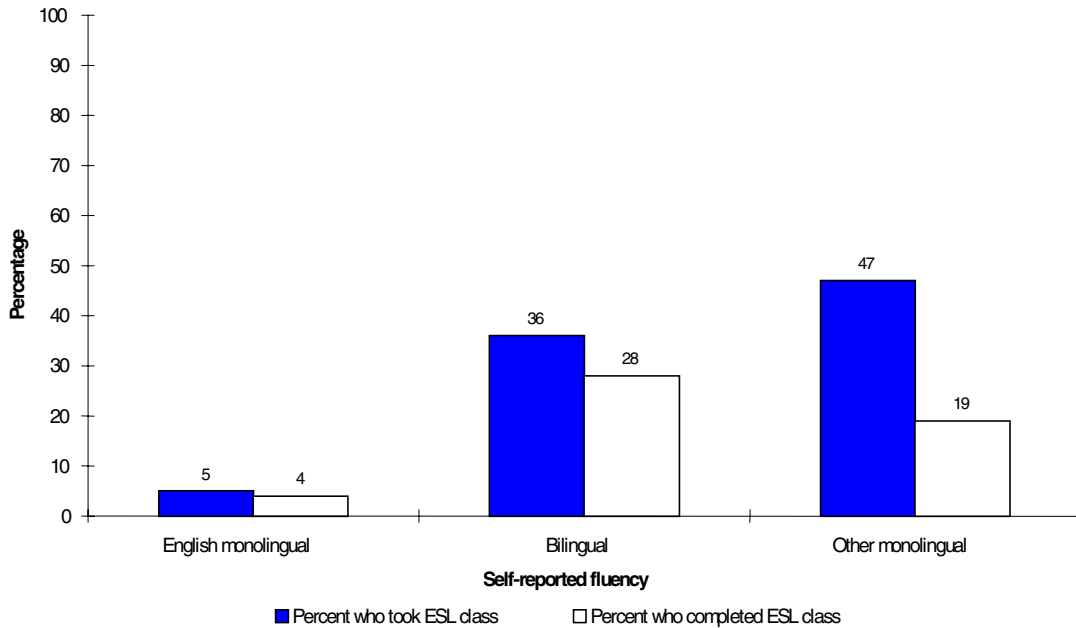
Figure 3.19: Participation in ESL classes by age learned English among adults who learned a non-English language before starting school



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

ESL participation and completion were related to respondents' self-reports of their language fluency and literacy at the time of the survey. English monolingual and English monoliterate individuals were most likely to have learned English early in life; therefore, very few of them reported participating in ESL classes. Bilingual and biliterate persons learned English at various stages of their lives and thus had varying needs to participate in formal ESL classes. While those who spoke English and another language were less likely to have taken an ESL class than those who spoke a non-English language exclusively (36 percent versus 47

Figure 3.20: Participation in ESL classes by self-reported fluency among adults who learned a non-English language before starting school

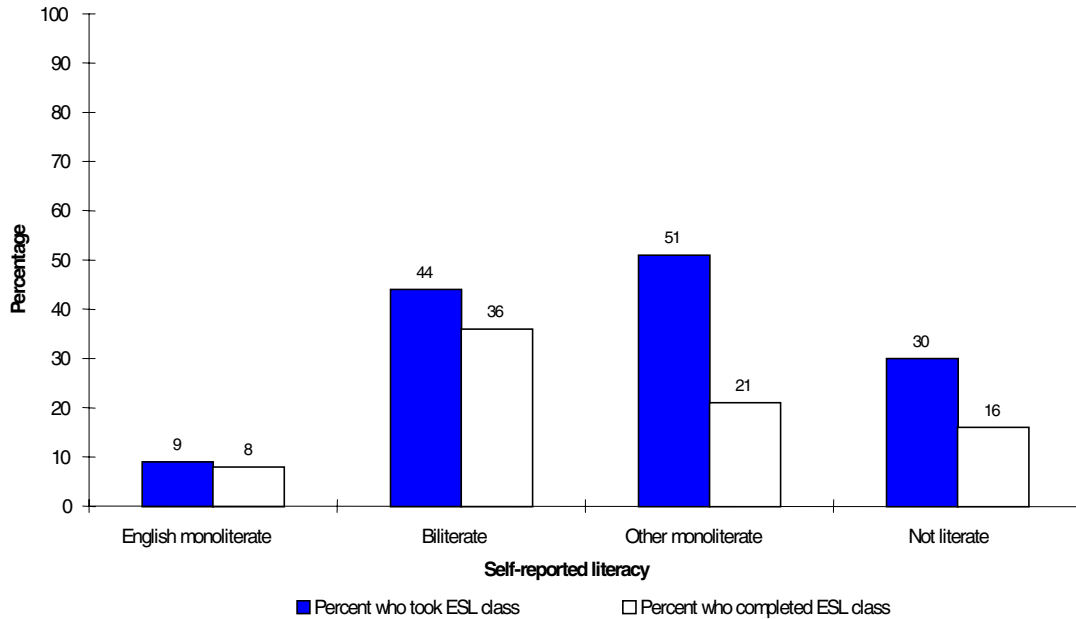


Respondents who reported that they spoke only English before starting school were coded English monolingual, even if they learned to speak another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

percent), individuals who were bilingual or biliterate were more likely to have completed an ESL course (28 percent versus 19 percent and 36 percent versus 21 percent) (Figures 3.20 and 3.21). While information concerning ESL experiences was only solicited from individuals who indicated that they learned a non-English language prior to attending school, data on taking basic skills courses were available for the entire survey sample.

Figure 3.21: Participation in ESL classes by self-reported literacy among adults who learned a non-English language before starting school



Respondents who reported that they spoke only English before starting school and who reported that they read or wrote English well or very well were coded English monoliterate, even if they learned to read or write another language in school or as an adult. Respondents who spoke a language other than English before starting school and who read or wrote both that language and English well or very well as adults were coded biliterate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Participation in Basic Skills Classes

The background questionnaire for the household sample asked all respondents: “Are you currently enrolled in or have you ever taken part in a program other than in regular school in order to improve your basic skills, that is, basic reading, writing, and arithmetic skills?” Incarcerated individuals were asked three questions: “Since your current admission to prison, have you ever been in any education program, excluding vocational training?” and, if yes, “What kind of program was that--basic classes up to the 9th grade, high school classes to get a diploma or GED, or college level classes? (check all that apply).” They were also asked a question similar to the one asked the household sample, referring to any basic skill training received prior to their current incarceration. We coded members of the prison population as participants in basic skills classes if they had participated in a prison program involving curriculum up to the 9th grade

or if they answered yes to the question about taking basic skills classes before incarceration.

Relatively few U.S. adults (9 percent) had taken basic skills courses outside of their regular schooling. While only 12 percent of individuals who learned a language other than English prior to starting school reported receiving such training, this was a significantly greater number than the 8 percent of individuals with English only language backgrounds (Table 3.3).

There was a significant relationship between reported participation in basic skills classes and the age at which the respondent learned English (Figure 3.22). One in five adults who had learned English after reaching 16 years of age had taken a basic skills class outside of regular school, nearly twice the rate of individuals who had learned English during childhood.

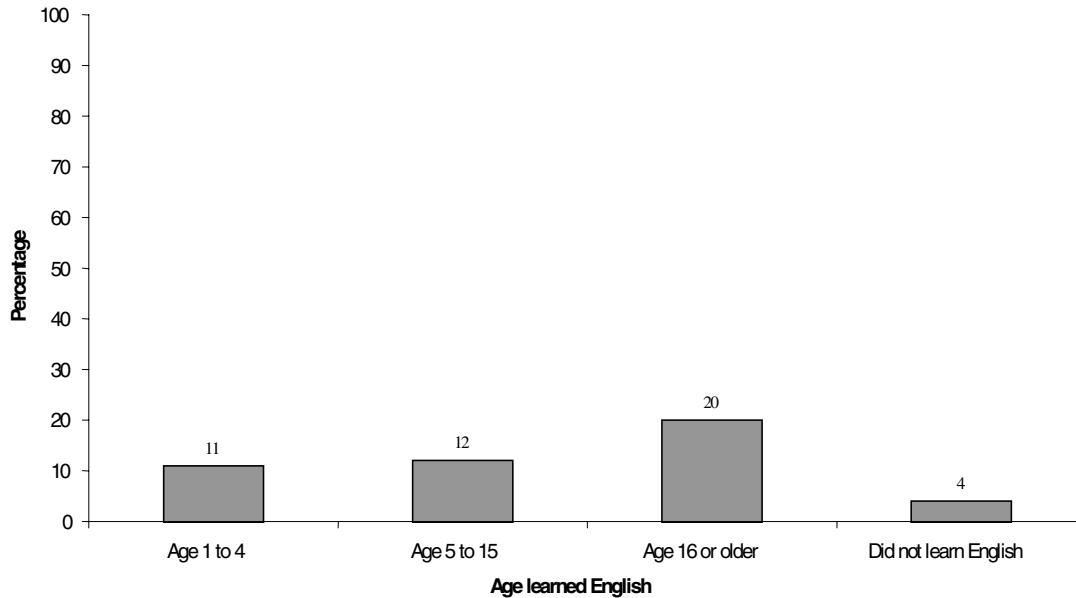
Table 3.3: Participation in basic skills classes

Percent (s.e.)	Sample size	Population /1000	Percent who took basic skills class
Total	26,034	190,787	9 (0.3)
All adults who learned a non-English language before school	4,057	28,922	12 (0.7)
All adults who learned only English before school	21,946	161,682	8 (0.3)

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Only 4 percent of people who did not learn English participated in a basic skills class (Figure 3.22). While 35 percent of this group reported starting an ESL class, only 9 percent report finishing (Figure 3.19). These low participation and completion rates for non-English-speaking adults suggest a need to re-evaluate the adequacy of current supplemental educational resources that provide English language training. The approximately 3.5 million adults in this country who reported that they knew little or no English, had low levels of formal schooling and apparently tenuous connections to the English supplemental educational services that might help develop their literacy skills.

Figure 3.22: Participation in basic skills classes by age learned English among those who learned a non-English language before starting school



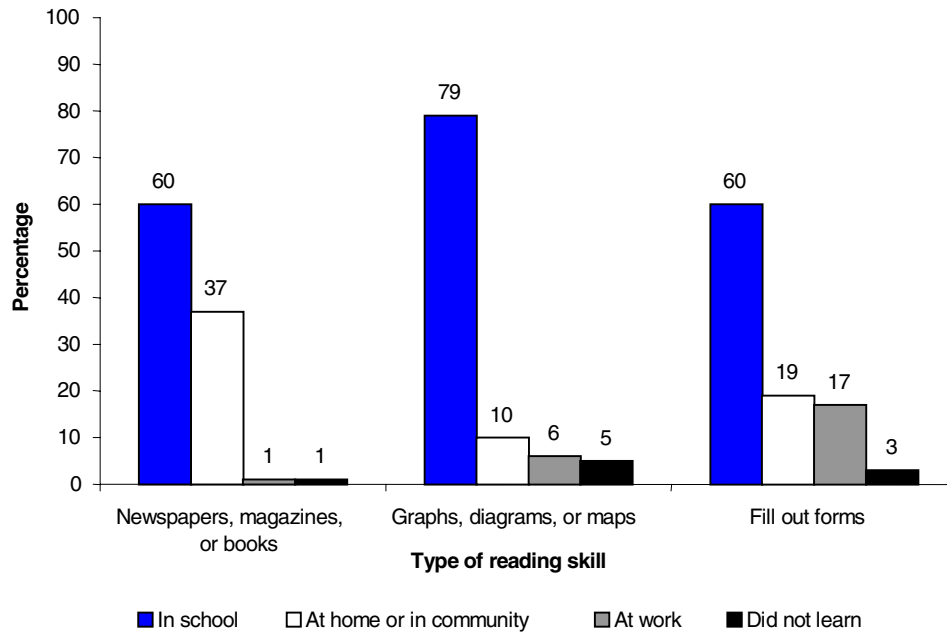
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Where Literacy Skills Were Learned

The importance of formal education in attaining literacy was further demonstrated when we examined how individuals learned various types of reading skills. A substantial majority of all groups examined in this chapter reported learning a variety of specific reading skills in school. All respondents were asked, “Where did you primarily learn to read newspapers, magazines, or books?” The background questionnaire also gathered information about where they had learned to read graphs, diagrams, or maps and where they learned to fill out forms. For these three items respondents were given the following choices: in school, at home or in the community, at work, or did not learn.

All three types of reading skills were learned primarily in school. This was particularly the case for learning to read graphs, diagrams, and maps, the types of reading skills measured by the quantitative literacy scale. U.S. adults were significantly more likely to indicate that they learned quantitative reading skills in school than they were to reply that they learned document or prose reading skills in school (Figure 3.23).

Figure 3.23: Location learned specific types of reading skills



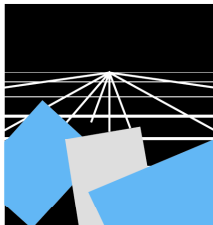
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Summary

The analyses of the National Adult Literacy Study presented in this chapter demonstrated the fundamental relationship between formal education and English literacy. Both data from the background questionnaire and the three literacy scales supported this connection. The three literacy scales exhibited a consistently positive relationship with education level. When asked where they learned various types of reading skills, respondents overwhelmingly identified school as the locale of learning.

An especially important finding concerns the role education received in native countries plays in current language use among the foreign-born. Bilingual and biliterate individuals tended to have received a substantial level of formal education in their native country before immigrating to the United States. Immigrants who arrived in this country with little or no formal education tended to either completely adopt English or retain exclusive use of their native language. The age at arrival in the United States was the primary predictor of which language

through the formal education they received in the United States. Those who arrived later in life, without the benefit of a substantial amount of education received in their native country, were the least likely to develop English language skills. The low participation and completion rates of those most in need of supplemental English language training and ESL and adult basic skills classes raise concerns. Social policy efforts to address these concerns face the challenge that many in need of ESL and basic skill training have had little or no formal education in any language.



CHAPTER 4

Employment and Earnings, Language Background, and Literacy Proficiency

In this chapter, we explore the relationship between employment and country of birth, language fluency and literacy. We show that fluency in English and literacy in any language are related to the probability that an individual is employed. We also show that there is a relationship between literacy in English and the probability that a person is employed in a high-paying occupation that is likely to offer continuous employment throughout the year.

Additionally, the data presented in this chapter show that although employed people who are bilingual have lower prose, document, and quantitative literacy scores than employed people who were raised in homes where only English was spoken or who speak only English now, this does not translate into lower earnings for people who are bilingual.

All analyses in this chapter are based only on the household sample, since prisoners are excluded from the labor force. Analyses are done separately for immigrants, most of whom are non-native English speakers and Hispanics, the racial/ethnic group with the largest number of non-native English speakers. The sample size for non-native English speakers was not large enough to present results for any racial/ethnic group other than Hispanics.

Employment Status by Country of Birth and Self-Reported Fluency and Literacy

According to the National Adult Literacy Survey, approximately 62 percent of the total population age 16 or older was employed in 1992, seven percent was unemployed, and 31 percent was out of the labor force (Table 4.1).¹ There was no significant variation in employment status

¹ This employment rate of 62 percent is consistent with the rate published by the Department of Labor of 61.5 percent for 1992. However, the National Adult Literacy Survey unemployment rate of seven percent for the total population age 16 or older translates into an unemployment rate of ten percent for the population in the labor force. This is higher than the Department of Labor estimate that 7.5 percent of people in the labor force were unemployed in 1992. The National Adult Literacy Survey estimates of the population not in the labor force are approximately three percentage points lower than the Department of Labor estimates of the percentage of the population not in the labor force in 1992. (continued on next page)

between immigrants and people born in the United States (Table 4.1). Among immigrants, there were no significant differences in employment status based on the language spoken in their country of birth (Table 4.1).

Differences in employment status did exist among people with different language fluency. As shown in Table 4.1, among the total population, 52 percent of people who spoke only a language other than English were employed, compared with 63 percent of people who were raised in homes where only English was spoken or who spoke only English fluently as adults. Non-English speakers were no more likely to be unemployed than English monolinguals. Rather, they were more likely to remain out of the labor force (Table 4.1). Some may have given up on finding a job, possibly because their English skills were lacking. Others may never have been motivated to learn English because they did not want or need to work.

(continued from previous page) The difference between Department of Labor estimate of the unemployment rate for 1992 and the National Adult Literacy Survey estimate of the unemployment rate in 1992 is caused by differences in the definitions of unemployed and out of the labor force between the National Adult Literacy Survey and the Department of Labor. The National Adult Literacy Survey asks people who are not currently employed whether or not they looked for a job at any time in the past four weeks. If they reply yes, they are considered to be in the labor force and unemployed. No follow up questions are asked.

The Department of Labor bases its estimates of unemployment on the monthly Current Population Survey. The Current Population Survey asks respondents about specific activities they have pursued while looking for a job, and only codes people who are determined to be actively seeking a job as unemployed. For example, people who read the employment ads in the paper one Sunday may reply that they have looked for a job during the past four weeks. Therefore, the National Adult Literacy Survey would code those people as unemployed. However, unless they did something more active than simply read employment ads, the Department of Labor would consider them out of the labor force rather than unemployed. In addition, the Current Population Survey asks respondents if they were available to work during the prior week. Respondents who answer no, even if they have actively looked for a job during the past four weeks, are coded as being out of the labor force. The National Adult Literacy Survey does not ask about availability for work during the past week.

Additionally, the Current Population Survey permits proxy responses by other members of the household, while the National Adult Literacy Survey requires a response from the person himself or herself.

Although the unemployment rates and labor force participation rates calculated from the National Adult Literacy Survey differ somewhat from the unemployment rates and labor force participation rates calculated by the Department of Labor, the coding for employment status is consistent for all respondents to the survey. Therefore, the pattern of differences across groups based on immigration and language status, which is the focus of this chapter, should not be affected by the fact that a somewhat different definition of employment status was used by the National Adult Literacy Survey than was used by the Current Population Survey. Additionally, all differences between the National Adult Literacy Survey and the Current Population Survey affect coding only for the categories unemployed and out of the labor force. The category employed includes the same population in each survey. (end of footnote)

Table 4.1: Employment status by country of birth and self-reported fluency

Row percent (s.e.)	Sample size	Population /1000	Employed	Unemployed	Not in the labor force
Total population	24,933	190,462	62 (0.4)	7 (0.2)	31 (0.4)
Country of birth					
United States	22,178	170,388	63 (0.4)	7 (0.3)	30 (0.4)
Spanish language	1,543	9,600	59 (2.1)	9 (1.0)	31 (2.1)
European language	506	4,817	57 (3.6)	6 (1.4)	37 (3.5)
Asian language	275	2,763	65 (3.8)	7 (1.7)	28 (4.0)
Other	431	2,896	64 (3.4)	7 (1.6)	28 (4.0)
Total population	24,933	190,462	62 (0.4)	7 (0.2)	31 (0.4)
Bilingual	2,655	19,937	56 (1.3)	8 (0.7)	37 (1.3)
English monolingual	21,450	164,782	63 (0.5)	7 (0.2)	30 (0.4)
Other monolingual	821	5,687	52 (2.9)	9 (2.9)	39 (3.1)
All immigrants	2,755	20,075	60 (1.7)	8 (0.7)	32 (1.8)
Bilingual	1,435	10,686	63 (2.1)	7 (0.9)	29 (2.3)
English monolingual	514	3,786	63 (2.6)	9 (1.4)	28 (2.7)
Other monolingual	802	5,559	53 (2.9)	9 (1.4)	38 (3.0)
All Hispanics	2,914	18,334	59 (1.4)	11 (1.1)	30 (1.2)
Bilingual	1,492	9,088	60 (1.6)	11 (1.3)	30 (1.6)
English monolingual	684	4,599	65 (2.3)	13 (2.4)	22 (2.0)
Spanish monolingual	734	4,628	52 (3.0)	9 (1.2)	39 (3.2)
Total Population	24,933	190,462	62 (0.4)	7 (0.2)	31 (0.4)
Biliterate	1,761	12,781	62 (1.3)	7 (0.8)	31 (1.4)
English monoliterate	22,073	169,812	63 (0.4)	7 (0.2)	30 (0.4)
Other monoliterate	895	6,335	55 (3.1)	10 (1.6)	36 (2.8)
Not literate	202	1,491	36 (4.5)	6 (1.6)	58 (5.1)
All Immigrants	2,755	20,075	60 (1.7)	8 (0.7)	32 (1.8)
Biliterate	1,145	8,393	65 (2.0)	6 (0.8)	29 (2.1)
English monoliterate	617	4,625	61 (2.4)	8 (1.4)	31 (2.8)
Other monoliterate	864	6,084	56 (3.2)	10 (1.6)	34 (2.8)
Not literate	129	972	44 (5.2)	7 (1.9)	49 (5.5)
All Hispanics	2,914	18,334	59 (1.4)	11 (1.1)	30 (1.2)
Biliterate	1,029	6,371	62 (1.6)	10 (1.1)	28 (1.4)
English monoliterate	944	6,035	62 (1.9)	13 (1.9)	25 (2.0)
Other monoliterate	780	4,884	55 (3.1)	10 (1.7)	35 (2.9)
Not literate	161	1,043	39 (4.4)	9 (2.1)	52 (4.9)

Respondents who reported that they spoke only English before starting school were coded English monolingual and English monoliterate, even if they learned to speak and/or read another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual. Respondents who spoke a language other than English before starting school and who read or wrote both that language and English well or very well as adults were coded biliterate.

Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Hispanics and other racial/ethnic groups may not be accurate, since the samples are not comparable for these populations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.



This pattern was also found among Hispanics. Fifty-two percent of Hispanics who spoke only Spanish were employed, compared with 65 percent of Hispanics who were raised in homes where only English was spoken or who were fluent only in English as adults (Table 4.1). The difference between the two groups was not due to higher unemployment among Spanish-speaking Hispanics, but rather was caused by the fact that 39 percent of Hispanics who spoke only Spanish were not in the labor force, compared with 22 percent of Hispanics who were raised in homes where only English was spoken or who spoke only English as adults (Table 4.1). Although it looks as though the same pattern applied to all immigrants, the differences in employment status among immigrants with different oral language fluency were small enough that they could have occurred by chance.

As shown in Table 4.1, people who were not literate in any language had the lowest employment rates of all (36 percent). Again, these people were not more likely to be unemployed. Only six percent of people who reported they were not literate in any language were not employed and had looked for work during the past four weeks, the criteria for being classified as unemployed. Fully 58 percent of not literate people were not in the labor force at all. They had either given up looking for a job, or never looked in the first place. Although it looks as though people who were literate only in a language other than English had lower rates of employment than people who were literate in English, the difference between the two groups was not any larger than could have occurred by chance.

Hispanics followed the same employment patterns with regard to literacy as the general population. Hispanics who were not literate in any language were less likely to be employed and more likely to be out of the labor force than Hispanics who read either Spanish or English or both languages (Table 4.1). Among immigrants, those who were not literate were less likely to be employed than those who were literate, only in English or in English and another language.

Thus, people who were able to read only a language other than English were just as likely to be employed as people who read English exclusively or as their native language. People who did not speak English were less likely to be employed than people who spoke English exclusively or as their native language. This was probably because people who were unable to communicate verbally in English could not have done the vast majority of jobs in the United States in 1992. Apparently, relatively fewer jobs required that incumbents read and write English.

Not being literate in any language is a barrier to employment. Illiteracy is often an indication that an individual's education was extremely limited or non-existent. Schooling is important as more than just as a source of literacy training. Schools teach discipline, organization, and other skills that are necessary in the work place. Therefore, not being literate at all is an indicator that a person may lack other skills necessary to be successful in a job, even a job that does not require literacy. This may explain why it is more important that a person be literate in any language when they are looking for employment in the United States, than that they be literate in English. However, as we discuss later in this chapter, literacy in English does have an effect on the type of job an individual is able to obtain.

Continuity of Employment by Country of Birth and Self-Reported Fluency and Literacy

National Adult Literacy Survey data indicate that although 62 percent of the adult population of the United States was employed at some time in 1992, only 53 percent of the adult population worked for 40 or more weeks during the year (Table 4.2). Since some people, such as school employees, are seasonal workers who nonetheless have stable long-term jobs, we chose 40 weeks rather than 52 weeks as a cut-off point to indicate stable employment. Seventeen percent of the adult population worked 39 or fewer weeks, and 30 percent of the population, approximately the same percentage as indicated that they were not employed and not looking for a job, did not work at all (Table 4.2). No significant relationship existed between country of birth and an individual's continuity of employment.

Oral language ability is related to an individual's continuity of employment. As illustrated in Table 4.2, 42 percent of people who spoke only a language other than English were employed for 40 or more weeks during the past year compared with 54 percent of people who spoke only English. People who spoke only a language other than English were more likely not to work at all than people who spoke only English (39 percent versus 29 percent). Hispanics who spoke only English were less likely to be unemployed during the entire year than Hispanics who spoke only Spanish (26 percent versus 39 percent). However, although Hispanics who spoke only English appear to be somewhat more likely to have worked for 40 or more weeks during the year than Hispanics who

Table 4.2: Weeks worked during past year by country of birth and self-reported fluency

Row percent (s.e.)	Sample size	Population /1000	0 weeks	1 to 39 weeks	40 or more weeks
Total population	24,944	190,524	30 (0.4)	17 (0.3)	53 (0.4)
Country of birth					
United States	22,187	170,434	30 (0.4)	17 (0.3)	53 (0.4)
Spanish language	1,544	9,613	33 (1.8)	19 (1.4)	48 (1.7)
European language	507	4,818	36 (3.1)	18 (2.0)	46 (3.2)
Asian language	275	2,763	27 (3.4)	15 (2.2)	58 (3.6)
Other	431	2,896	28 (3.3)	21 (2.6)	52 (2.7)
Total population	24,944	190,524	30 (0.4)	17 (0.3)	53 (0.4)
Bilingual	2,655	19,937	37 (1.3)	17 (1.0)	47 (1.3)
English monolingual	21,456	64,805	29 (0.5)	17 (0.3)	54 (0.5)
Other monolingual	822	5,700	39 (2.6)	20 (2.0)	42 (2.1)
All immigrants	2,757	20,090	32 (1.4)	18 (1.1)	49 (1.4)
Bilingual	1,435	10,686	31 (1.9)	18 (1.3)	52 (2.2)
English monolingual	515	3,787	29 (2.6)	18 (2.1)	54 (3.3)
Other monolingual	803	5,573	38 (2.5)	20 (2.1)	43 (2.1)
All Hispanics	2,915	18,347	32 (1.2)	20 (1.1)	47 (1.3)
Bilingual	1,492	9,088	32 (1.7)	18 (1.5)	50 (1.8)
English monolingual	684	4,599	26 (2.1)	25 (2.5)	49 (2.8)
Spanish monolingual	735	4,641	39 (2.6)	20 (2.1)	41 (2.0)
Total population	24,944	190,524	30 (0.4)	17 (0.3)	53 (0.4)
Biliterate	1,761	12,781	32 (1.2)	17 (1.3)	51 (1.3)
English monoliterate	22,079	169,835	29 (0.4)	17 (0.3)	53 (0.4)
Other monoliterate	896	6,348	37 (2.5)	18 (1.7)	45 (2.8)
Not literate	202	1,491	56 (5.1)	14 (2.7)	30 (3.9)
All immigrants	2,757	20,090	32 (1.4)	18 (1.1)	49 (1.4)
Biliterate	1,145	8,393	30 (1.7)	17 (1.5)	53 (2.0)
English monoliterate	618	4,627	30 (2.2)	19 (2.3)	50 (2.5)
Other monoliterate	865	6,098	35 (2.5)	18 (1.7)	46 (2.8)
Not literate	129	972	46 (5.6)	20 (3.6)	34 (4.8)
All Hispanics	2,915	18,347	32 (1.2)	20 (1.1)	47 (1.3)
Biliterate	1,029	6,371	30 (1.6)	18 (1.5)	51 (1.8)
English monoliterate	944	6,035	28 (1.7)	25 (2.0)	48 (2.3)
Other monoliterate	781	4,898	36 (2.4)	19 (1.9)	45 (2.1)
Not literate	161	1,043	52 (5.0)	14 (2.5)	34 (4.4)

Respondents who reported that they spoke only English before starting school were coded English monolingual and English monoliterate, even if they learned to speak and/or read another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual. Respondents who spoke a language other than English before starting school and who read or wrote both that language and English well or very well as adults were coded biliterate.

People not in the labor force were included in this table.

Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Hispanics and other racial/ethnic groups may not be accurate, since the samples are not comparable for these populations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.



spoke only Spanish, the difference is not statistically significant. Among immigrants, none of the differences in employment categories based on self-reported fluency are statistically significant.

Fewer than one-third of people who were not literate reported that they worked 40 or more weeks during the previous year, while approximately half the literate population worked 40 or more weeks (Table 4.2). Over half of people who were not literate did not work at all during the previous year, substantially more than the 32 percent of the biliterate and 29 percent of the English monoliterate population that did not work during the previous year (Table 4.2). Among immigrants, people who were not literate were less likely to have worked 40 or more weeks during the previous year than people who were literate only in English or people who were biliterate (Table 4.2). The differences in employment continuity between Hispanics who were not literate and Hispanics who were literate only in English were within the survey's margin of error. The difference in continuous employment (40 or more weeks during the year) between Hispanics or immigrants who were not literate and those who were literate only in a language other than English was not bigger than could have occurred by chance.

Hispanics who were not literate were less likely than Hispanics who were literate only in English to have worked intermittently, 1 to 39 weeks, during the previous year (14 percent versus 25 percent, Table 4.2). However, this difference could be attributed to the fact that 52 percent of Hispanics who were not literate did not work at all during the previous year, compared with only 30 percent of Hispanics who were biliterate and 28 percent of Hispanics who were English monoliterate (Table 4.2).

Thus, people who were fluent in English were more likely to have been continuously employed (40 or more weeks) during the previous year and more likely to have been employed at any one point in time than people who were not fluent in English. People who were not literate were less likely to have been continuously employed (40 or more weeks) during the previous year and more likely not to have been employed at any point during the year than people who were literate in any language. However, when we looked only at Hispanics, literacy in English seemed to be somewhat more important than in the population as a whole. Hispanics who were literate only in Spanish were not more likely to have been employed continuously during the previous year than Hispanics who were not literate. Hispanics who were literate in English

were more likely to have been employed continuously during the previous year than Hispanics who were not literate.

Occupation by Country of Birth and Self-Reported Fluency and Literacy

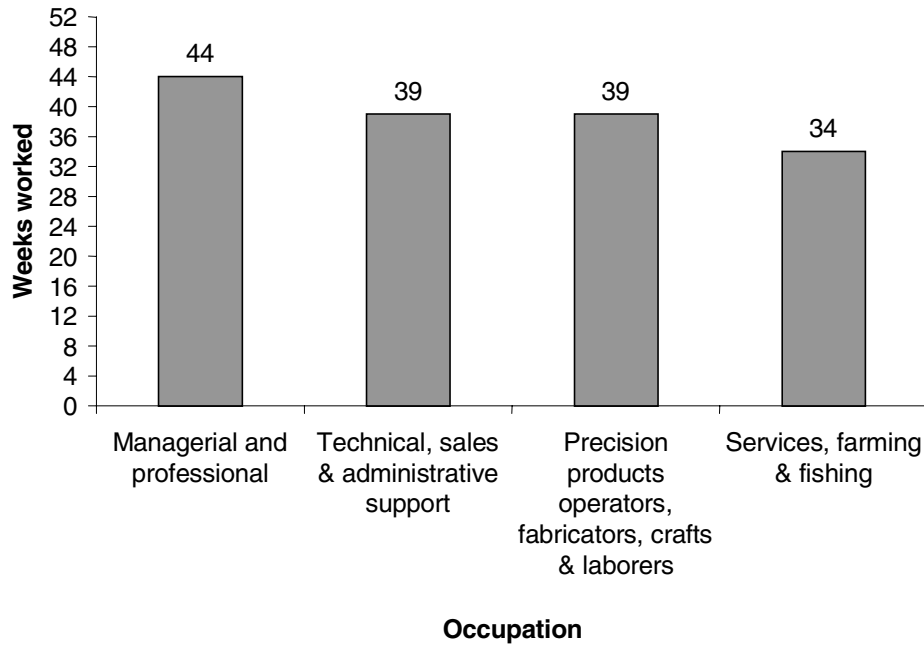
Although being employed on a regular schedule is important, some jobs are more desirable than others. We divided occupations into four categories: (1) managerial and professional; (2) technical, sales and administrative support; (3) precision product operators, fabricators, crafts and laborers (referred to as blue collar for the remainder of this report); and (4) services, farming and fishing. (See Appendix D for a discussion of how these categories were constructed.) As illustrated in Figure 4.1, people who worked in services, farming, and fishing were employed, on average, the least number of weeks, only 34 weeks during the previous year. People who worked in managerial and professional occupations were employed the greatest number of weeks, 44 weeks during the year prior to the survey. Therefore, in terms of employment continuity, managerial and professional jobs were the most desirable, and services, farming and fishing jobs were the least desirable. The other two job categories fell in the middle with regard to employment continuity.

As illustrated in Figure 4.2, people in managerial and professional jobs also had the highest average salaries. The average salary of a manager or a professional in the National Adult Literacy Survey was \$39,791 during the previous year, more than double the approximately \$18,000 earned by technical, sales, and administrative support workers or blue collar workers, and almost four times as much as the \$10,566 earned by people who worked in services, farming, and fishing occupations (Figure 4.2). Therefore, in terms of both salary and employment continuity, managerial and professional jobs were the most desirable and services, farming, and fishing jobs were the least desirable.

Slightly over one fifth of adults who were employed during the three years before they answered the National Adult Literacy Survey in 1992 worked in managerial and professional positions; 32 percent worked in technical, sales and administrative support; 26 percent worked in blue collar occupations; and 22 percent worked in services, farming and fishing (Table 4.3). Immigrants were less likely to be employed in managerial and professional positions than the average worker born in the United States. Only 16 percent of immigrants were employed as managers or professionals (Table 4.3). Only six percent of people born in

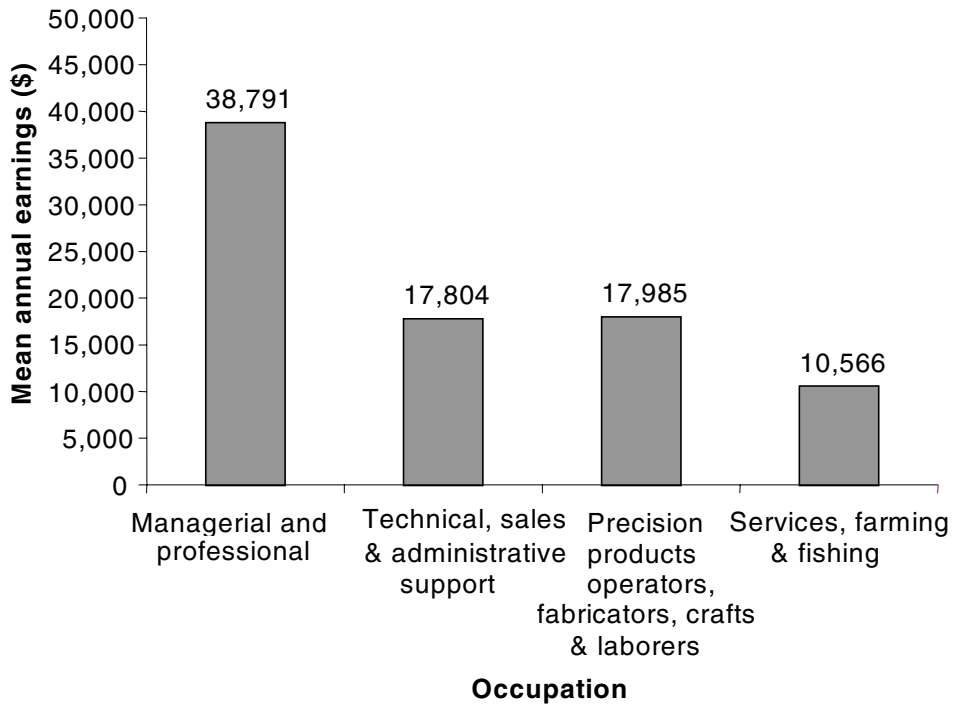


Figure 4.1: Mean weeks worked by occupation among people who worked for pay during the past 12 months



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Figure 4.2: Mean annual earnings by occupation among people who worked for pay during the past 12 months



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Spanish language countries and nine percent of all Hispanics were employed as managers or professionals (Table 4.3). However, immigrants born in European, Asian or other countries were as likely to be managers or professionals as people born in the United States, so the preponderance of Hispanics among the immigrant population might explain why immigrants were less likely than people born in the United States to be managers or professionals (Table 4.3). (The difference in employment patterns between immigrants from Spanish language countries and immigrants from other countries may be due at least partially to the fact that the background questionnaire was only available in English and Spanish, so the samples are not comparable.)

Hispanics were somewhat more likely to be employed in the lowest paying occupations of services, farming and fishing, than the average person born in the United States (Table 4.3). Only 21 percent of people born in the United States were employed in these occupations, compared with 29 percent of Hispanics. Just over one-fourth of immigrants were employed in services, farming, and fishing (Table 4.3).

Self-reported fluency was related to occupation (Table 4.3). As discussed above, people who spoke only a language other than English were more likely not to be employed than people who spoke English, and if they were employed they were more likely to be employed for only part of the year than their English-speaking counterparts. This same group, the people who spoke only a language other than English, was generally employed in the occupations that were least desirable in terms of continuity of employment and salary when they did find work. Almost 40 percent of people who spoke only a language other than English were employed in services, farming, and fishing, the least desirable occupations in terms of continuity of employment and salary, while 22 percent of the total population was employed in these occupations (Table 4.3). Only two percent of non-English speakers were employed in managerial and professional jobs, the most desirable occupations in terms of continuity of employment and salary (Table 4.3). People who reported they were fluent in both English and their native language (bilinguals) did not differ in their occupational distribution from native English speakers (English monolinguals). English language fluency was also important for employment in technical, sales, and administrative support jobs. Only nine percent of the population who was not fluent in English worked in these jobs, compared with 32 percent of the population that did speak English (Table 4.3). However, English fluency was less necessary for blue collar jobs. About half of the

Table 4.3: Occupation by country of birth and self-reported fluency among people who have held a paying job within the last three years

Row percent (s.e.)	Sample size	Population /1000	Managerial & Professional	Technical, sales & admin. support	Prec. Prod., operators, fabricators, craft, laborers	Services, farming & fishing
Total population	19,985	146,423	21 (0.3)	32 (0.5)	26 (0.6)	22 (0.4)
Country of birth						
United States	17,853	131,327	21 (0.3)	32 (0.5)	25 (0.6)	21 (0.4)
Spanish language	1,140	7,145	6 (1.0)	21 (1.5)	40 (2.1)	32 (2.3)
European language	394	3,337	29 (2.5)	26 (2.2)	29 (2.5)	16 (1.9)
Asian language	236	2,277	21 (3.4)	32 (3.6)	24 (4.7)	24 (4.9)
Other	362	2,337	24 (2.9)	37 (3.5)	16 (2.1)	22 (2.6)
Total population	19,985	146,423	21 (0.3)	32 (0.5)	26 (0.6)	22 (0.4)
Bilingual	2,032	14,269	20 (1.2)	32 (1.2)	26 (1.3)	23 (1.3)
English monolingual	17,403	128,272	21 (0.3)	32 (0.5)	25 (0.6)	21 (0.4)
Other monolingual	548	3,869	2 (0.8)	9 (1.4)	50 (3.0)	39 (3.3)
All immigrants	2,132	15,096	16 (1.2)	26 (1.2)	32 (1.4)	26 (1.5)
Bilingual	1,161	8,321	20 (1.8)	31 (1.6)	28 (1.7)	21 (1.7)
English monolingual	426	2,920	24 (2.6)	35 (3.4)	18 (2.1)	23 (3.0)
Other monolingual	544	3,850	2 (0.8)	9 (1.4)	50 (3.0)	39 (3.3)
All Hispanics	2,207	13,892	9 (0.8)	29 (1.2)	33 (1.4)	29 (1.5)
Bilingual	1,154	6,987	10 (1.1)	33 (1.9)	31 (2.0)	26 (1.7)
English monolingual	565	3,777	14 (2.1)	38 (2.4)	25 (2.4)	23 (2.6)
Spanish monolingual	486	3,115	2 (0.8)	9 (1.7)	48 (3.4)	41 (3.6)
Total population	19,985	146,423	21 (0.3)	32 (0.5)	26 (0.6)	22 (0.4)
Biliterate	1,390	9,754	23 (1.7)	35 (1.5)	22 (1.5)	20 (1.5)
English monoliterate	17,841	131,462	21 (0.3)	32 (0.5)	25 (0.6)	21 (0.4)
Other monoliterate	641	4,468	2 (0.5)	9 (1.2)	52 (2.6)	37 (2.5)
Not literate	113	738	3 (1.9)	9 (3.4)	48 (5.2)	40 (5.9)
All imigrants	2,132	15,096	16 (1.2)	26 (1.2)	32 (1.4)	26 (1.5)
Biliterate	914	6,593	23 (2.2)	34 (2.0)	24 (1.9)	20 (1.9)
English monoliterate	510	3,553	23 (2.2)	37 (2.9)	18 (2.1)	21 (2.7)
Other monoliterate	626	4,382	2 (0.5)	9 (1.2)	52 (2.6)	37 (2.6)
Not literate	82	568	4 (2.5)	9 (4.3)	47 (6.5)	41 (7.1)
All Hispanics	2,207	13,892	9 (0.8)	29 (1.2)	33 (1.4)	29 (1.5)
Biliterate	801	4,974	12 (1.9)	38 (2.6)	26 (2.2)	24 (2.1)
English monoliterate	760	4,853	13 (1.7)	37 (2.1)	25 (2.0)	25 (2.1)
Other monoliterate	555	3,493	2 (0.5)	9 (1.4)	51 (3.1)	38 (3.0)
Not literate	91	572	1 (1.2)	4 (1.7)	52 (6.6)	43 (7.3)

Respondents who reported that they spoke only English before starting school were coded English monolingual and English monoliterate, even if they learned to speak and/or read another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual. Respondents who spoke a language other than English before starting school and who read or wrote both that language and English well or very well as adults were coded biliterate.

Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Hispanics and other racial/ethnic groups may not be accurate, since the samples are not comparable for these populations.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

population that was not fluent in English was employed in these jobs, significantly more than the 26 percent of the population that was bilingual and 25 percent of the population that was English monolingual (Table 4.3). These jobs fell in the middle of our four categories in terms of salary and continuity of employment.

The same pattern held true for Hispanics and immigrants. Hispanics and immigrants who were fluent only in a language other than English were less likely to be employed as managers or professionals than Hispanics and immigrants who were bilingual or fluent only in English (Table 4.3). Hispanics and immigrants who did not speak English well were more likely to be employed in services, farming, and fishing than Hispanics and immigrants who were fluent in English (Table 4.3). Hispanics and immigrants who did not speak English were less likely than the general population to be employed in technical, sales, and administrative support jobs, and more likely to be employed in blue collar occupations (Table 4.3).

Although, as we discussed earlier in this chapter, people who were literate only in a language other than English were no less likely to be employed than people who were literate only in English, they were less likely to be employed in certain occupations. Although people who were literate only in a language other than English were more likely to be employed than people who were not literate in any language, when they were employed their occupational patterns were similar. Very few people who were not literate in English (including people who were not literate in any language) were employed in managerial and professional occupations, and approximately 40 percent were employed in service, farming, and fishing occupations (Table 4.3). People who were not literate in any language and people who were literate in a language other than English were more likely to be employed in blue collar occupations than people who were biliterate or literate only in English, and they were less likely to be employed in technical, sales, and administrative support occupations (Table 4.3).

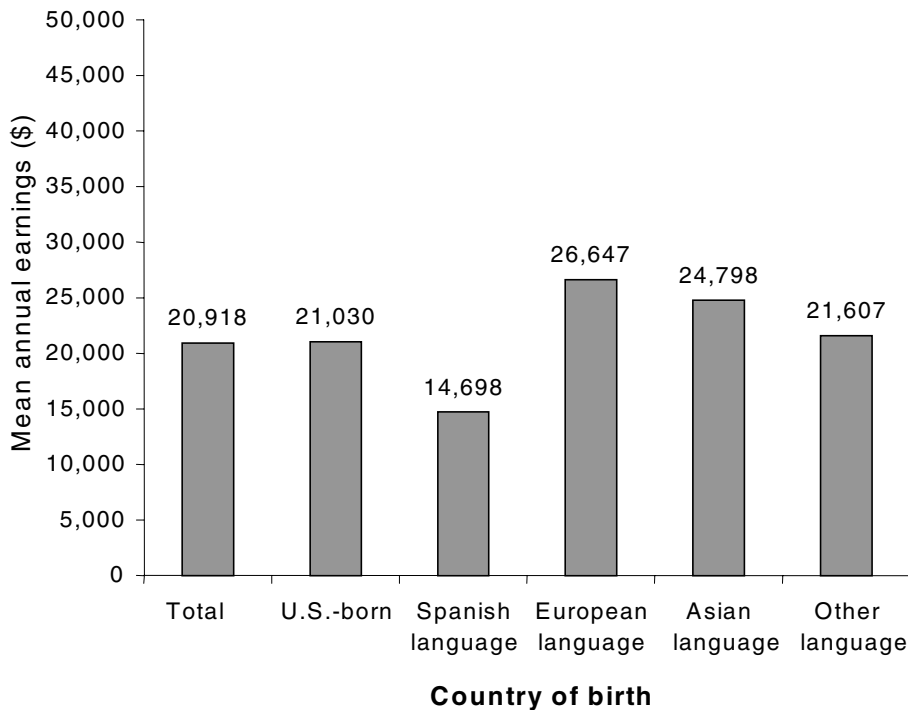
Thus, although being literate in any language indicated that a person was as likely as someone who was literate in English to obtain continuous employment throughout the year, people who were literate only in a language other than English were less likely to obtain the best paying, most secure jobs, and they were more likely to obtain lower paying, less secure jobs. People who were not literate in any language were even more disadvantaged. They were less likely to obtain employment than people who were literate, and when they were employed, they also were less likely to have high-paying, secure jobs.

People who were not fluent in English were also doubly disadvantaged. People who were fluent only in a language other than English were less likely to be employed than people who were fluent in English, and they were also less likely to be employed for 40 or more weeks during the year. When they were employed, they were less likely than people who were fluent in English to be employed in the highest paying jobs, and more likely to be employed in the lowest paying, least secure jobs.

Mean Annual Earnings by Country of Birth and Self-Reported Fluency

The mean annual earnings of the population that was employed at any time during 1992 was \$20,918 (Figure 4.3). Immigrants from European language countries other than Spanish-speaking countries had average annual earned incomes of \$26,647 in 1992, which was higher than the \$21,030 average earned incomes of people born in the United States (Figure 4.3). People born in Spanish language countries had average annual earned incomes of \$14,698 in 1992, which was lower than the

Figure 4.3: Mean annual earnings by country of birth among people who worked for pay during the past 12 months



Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Spanish-speaking and other non-English-speaking adults may not be accurate, since the samples are not comparable for these populations

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

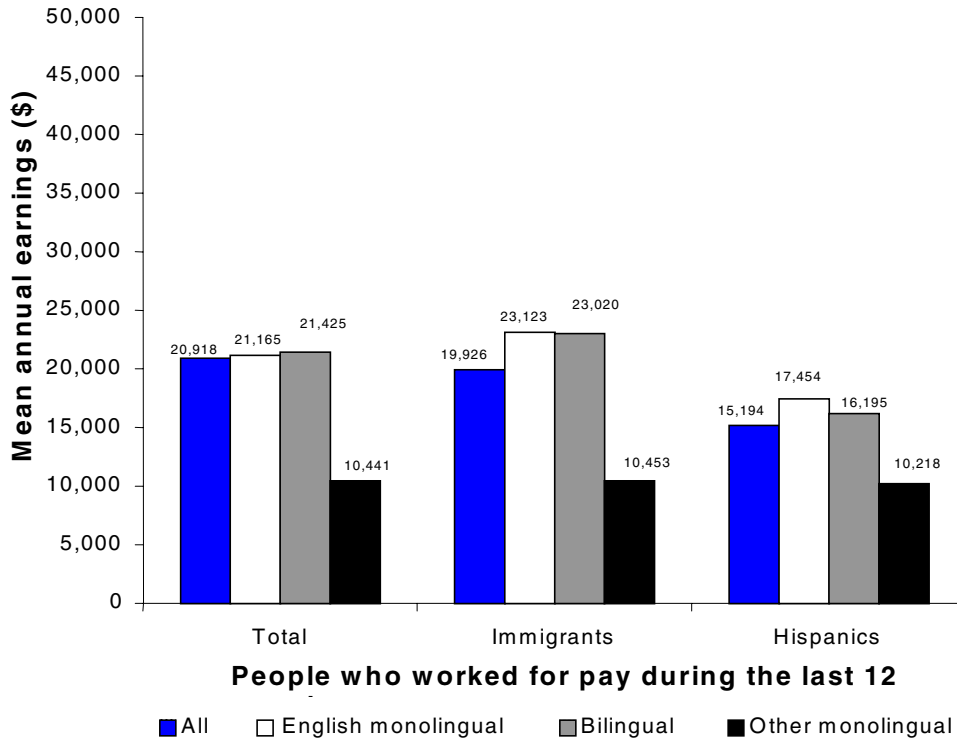
average earned incomes of people born in the United States (Figure 4.3). It was not unexpected that Spanish language immigrants had lower earnings, since, as discussed earlier in this chapter, immigrants from Spanish language countries were more likely than people born in the United States to work in low-paying occupations (services, farming and fishing) and less likely to work in high-paying occupations (managerial and professional). Also, since the background questionnaire was available in Spanish, the sample of Spanish-speaking immigrants included people with lower levels of English literacy than the samples of other immigrant groups.

The average earned income of all immigrants was not statistically different from the earned income of people born in the United States (Figure 4.4). Hispanics did have somewhat lower average annual earned incomes, \$14,698, than the earned incomes of the total population, \$20,918 (Figure 4.4).

Self-reported fluency was an important predictor of earnings. We have already discussed the fact that people who were not fluent in English were less likely to be employed continuously throughout the year than people who spoke English, and when they were employed they were less likely to be employed in high paying occupations than people who spoke English. Therefore, we expected their average earnings for the year to be lower than the average earnings of English speakers, even though we excluded from our calculations the average income of people who did not work at all during the previous year. In fact, the average earnings of people who were not fluent in English were only \$10,441 during 1992, approximately half the average earnings of the total population (Figure 4.4). People who were bilingual had earnings almost identical to the earnings of people who spoke only English (Figure 4.4).

This same pattern also applied to immigrants and Hispanics. As illustrated in Figure 4.4, people in those two groups who were fluent only in a language other than English earned significantly less than people who were fluent in English. There was no difference in earnings between people who were bilingual and people who spoke only English (Figure 4.4). However, Hispanics who were bilingual earned less, on average, than all immigrants who were bilingual (Figure 4.4). Some of this difference was probably due to the fact that while 20 percent of bilingual immigrants were employed in managerial and professional occupations, only ten percent of bilingual Hispanics were employed in these occupations (Table 4.3).

Figure 4.4: Mean annual earnings by self-reported fluency among people who worked for pay during past 12 months



Respondents who reported that they spoke only English before starting school were coded English monolingual, even if they learned to speak another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual.

Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Hispanics and other racial/ethnic groups may not be accurate, since the samples are not comparable for these populations

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

As we discussed above, although people who were literate in English were no more likely to be employed continuously during the year than people who were literate only in a language other than English, people who were literate only in a language other than English were unlikely to have managerial and professional jobs, the highest paying occupations. Therefore, it was not unexpected that people who were literate only in a language other than English had earned incomes of only \$11,911 in 1992 (Figure 4.5). People who were not literate in any language also had very low earned incomes, \$10,081 (Figure 4.5). The average earned incomes of people who were biliterate and people who were literate only in English did not differ much from each other (Figure 4.5).

When we looked at Hispanics and all immigrants separately, the same pattern was evident. Hispanics and immigrants who were not literate, or who were literate only in a language other than English, had earned incomes lower than Hispanics and immigrants who were literate in English (Figure 4.5).

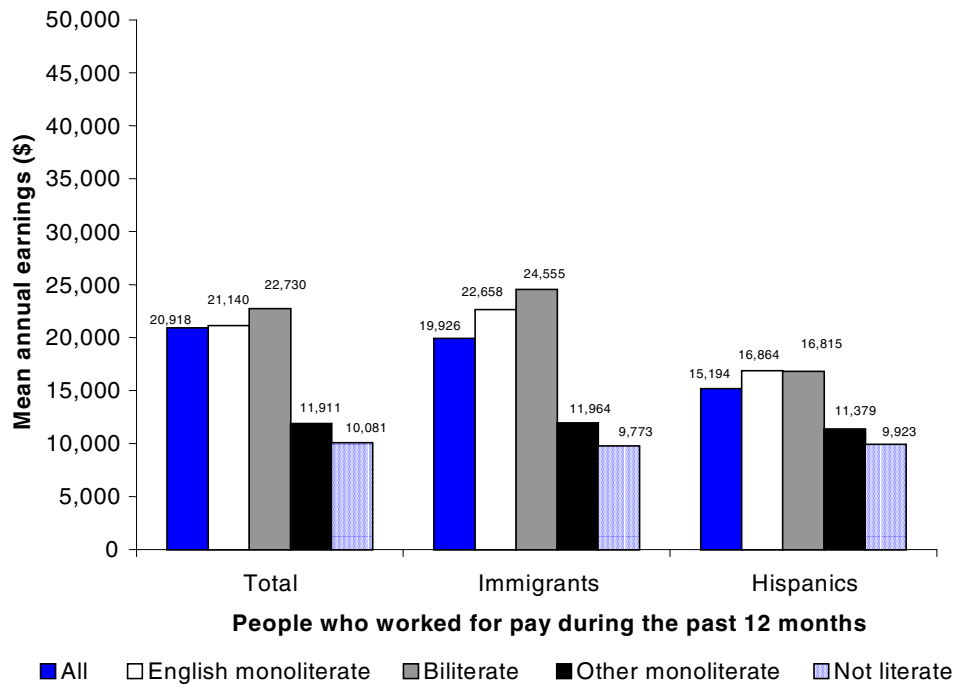
Average Literacy Proficiencies by Employment Status, Country of Birth and Self-Reported Fluency and Literacy

People who were employed had, on average, higher scores on all three National Adult Literacy Survey literacy scales than people who were unemployed; and people who were unemployed had, on average, higher scores on all three scales than people who were not in the labor force (Table 4.4). Although it looks as though this was also true of the various sub-groups of the population we analyzed, most of the differences within each sub-group in literacy between the employed, the unemployed and people not in the labor force were within the survey's margin of error.

Among the employed, those people born in Spanish language countries had much lower average scores on all three scales than people born in the United States, or in European, Asian, or other countries (Table 4.4). These lower literacy scores may have been at least part of the cause of the lower earnings among people born in Spanish language countries that we discussed earlier in this chapter. These lower literacy scores among employed immigrants from Spanish language countries may have also provided at least part of the explanation of why immigrants from Spanish language countries were less likely to be employed as managers and professionals than immigrants from other countries, and more likely to be employed in low paying service, farming and fishing occupations. (The difference in literacy scores between immigrants from Spanish language countries and immigrants from other countries may be due at least partially to the fact that the background questionnaire was only available in English and Spanish, so the samples are not comparable.)

Employed people who were bilingual had lower literacy scores on all three scales than employed people who were fluent only in English (Table 4.4). Interestingly, as we have seen, this did not translate into lower earnings for people who were bilingual.

Figure 4.5: Mean annual earnings by self-reported literacy among people who worked for pay during the past 12 months



Respondents who reported that they spoke only English before starting school and who reported that they read or wrote English well or very well were coded English monoliterate, even if they learned to read or write another language in school or as an adult. Respondents who spoke a language other than English before starting school and who read or wrote both that language and English well or very well as adults were coded biliterate.

Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Hispanics and other racial/ethnic groups may not be accurate, since the samples are not comparable for these populations

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Average Literacy Proficiencies by Continuity of Employment and Self-Reported Fluency and Literacy

People who worked 40 or more weeks during the previous year had somewhat higher scores on all three literacy scales than people who worked 1 to 39 weeks (Table 4.5). People who did not work at all during the previous year had much lower scores on all three literacy scales than people who worked either 1 to 39 or 40 or more weeks (Table 4.5). Among people who worked 40 or more weeks during the previous year, those people born in Spanish language countries had lower scores on all three literacy scales than people born in the United States or

Table 4.4: Average literacy proficiencies by employment status, country of birth, and self-reported fluency

Average proficiency (s.e.)	Sample size	Population /1000	Prose		
			Employed	Unemployed	Not in labor force
Total population	24,933	190,462	287 (0.7)	260 (2.1)	246 (1.1)
All immigrants	2,755	20,075	223 (2.8)	204 (7.1)	192 (4.0)
All Hispanics	2,914	18,334	227 (2.7)	225 (5.9)	190 (4.0)
Country of birth					
United States	22,178	170,388	295 (0.9)	267 (2.2)	252 (1.1)
Spanish language	1,543	9,600	186 (3.6)	178 (8.7)	160 (4.4)
European language	506	4,817	270 (5.0)	---	227 (7.9)
Asian language	275	2,763	241 (10.0)	---	187 (18.0)
Other	431	2,896	250 (4.9)	---	241 (8.7)
Total population					
Bilingual	2,655	19,937	253 (2.3)	241 (6.1)	221 (3.6)
English monolingual	21,450	164,782	295 (0.9)	268 (2.2)	255 (1.1)
All immigrants					
Bilingual	1,435	10,686	239 (2.8)	224 (8.4)	217 (5.1)
English monolingual	514	3,786	293 (4.0)	266 (14.4)	259 (6.1)
All Hispanics					
Bilingual	1,492	9,088	239 (3.0)	236 (6.7)	210 (4.3)
English monolingual	684	4,599	283 (3.0)	272 (7.8)	253(5.5)
Total population					
Biliterate	1,761	12,781	261 (2.3)	248 (6.4)	231 (3.2)
English monoliterate	22,073	169,812	295 (0.8)	268 (2.2)	254 (1.1)
All immigrants					
Biliterate	1,145	8,393	251 (3.0)	231 (8.4)	226 (4.5)
English monoliterate	617	4,625	290 (3.7)	268 (13.0)	255 (6.1)
All Hispanics					
Biliterate	1,029	6,371	253 (3.1)	249 (6.9)	222 (4.5)
English monoliterate	944	6,035	277 (2.7)	264 (6.8)	244 (4.5)

Respondents who reported that they spoke only English before starting school were coded English monolingual and English monoliterate, even if they learned to speak and/or read another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual. Respondents who spoke a language other than English before starting school and who read or wrote both that language and English well or very well as adults were coded biliterate.

Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Hispanics and other racial/ethnic groups, and comparisons between Spanish-speaking and other non-English-speaking groups may not be accurate, since the samples are not comparable for these populations.

--- Sample size is too small to provide a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Literacy Survey, 1992.

Table 4.4: Average literacy proficiencies by employment status, country of birth, and self-reported fluency (Continued)

Document			Quantitative		
Employed	Unemployed	Not in labor force	Employed	Unemployed	Not in labor force
283 (0.8)	257 (1.7)	237(1.3)	288 (0.7)	256 (1.9)	241 (1.6)
224 (2.9)	203 (7.1)	189 (3.6)	229 (3.2)	205 (8.5)	187 (4.7)
227 (2.9)	223 (6.6)	184 (4.0)	227 (2.9)	218 (7.1)	180 (4.2)
289 (0.8)	264 (1.7)	243 (1.3)	295 (0.8)	262 (1.7)	248 (1.5)
188 (3.9)	177 (8.7)	150 (4.4)	190 (4.2)	178 (10.1)	146 (4.6)
266 (4.5)	---	226 (7.3)	274 (4.3)	---	225 (10.3)
249 (8.4)	---	200 (15.6)	258 (10.0)	---	206 (19.0)
247 (5.2)	---	238 (11.0)	255 (4.5)	---	239 (10.3)
254 (2.3)	241 (6.1)	216 (3.2)	260 (2.2)	239 (7.1)	220 (4.9)
290 (0.9)	265 (1.8)	246 (1.3)	295 (0.8)	263 (1.8)	251 (1.5)
244 (3.0)	227 (8.4)	218 (4.7)	251 (2.8)	231 (10.3)	219 (6.6)
283 (3.9)	253 (13.3)	248 (6.9)	287 (3.5)	251 (14.6)	254 (8.0)
242 (3.0)	236 (6.5)	208 (4.7)	243 (3.0)	232 (7.0)	209 (4.9)
280 (3.2)	269 (7.6)	250 (5.7)	280 (3.9)	259 (7.5)	244 (5.4)
263 (2.3)	246 (6.9)	225 (3.4)	269 (2.5)	251 (7.2)	230 (4.5)
289 (0.8)	264 (1.7)	245 (1.3)	295 (0.7)	262 (1.7)	250 (1.5)
255 (3.2)	232 (9.9)	226 (4.6)	263 (3.4)	242 (10.3)	230 (5.6)
281 (3.6)	257 (11.8)	247 (6.4)	285 (3.3)	256 (12.8)	251 (7.2)
255 (2.7)	248 (6.8)	217 (5.4)	256 (3.1)	250 (7.2)	221 (5.1)
273 (3.0)	262 (5.8)	241 (4.6)	273 (3.6)	251 (6.6)	237 (4.3)

Table 4.5: Average literacy proficiencies by weeks employed in the past 12 months, country of birth, and self-reported fluency

Average proficiency (s.e.)	Sample size	Population /1000	Prose			Document			Quantitative		
			0 weeks	1 to 39 weeks	40 or more weeks	0 weeks	1 to 30 weeks	40 or more weeks	0 weeks	1 to 30 weeks	40 or more weeks
Total population	24,944	190,524	241 (1.1)	276 (1.5)	289 (0.8)	233 (1.3)	273 (1.4)	284 (0.8)	237 (1.7)	274 (1.5)	290 (0.8)
All immigrants	2,757	20,090	191 (3.7)	215 (5.3)	224 (3.1)	187 (3.4)	216 (5.1)	225 (3.0)	186 (4.5)	220 (5.9)	230 (3.1)
All Hispanics	2,915	18,347	193 (2.9)	222 (5.2)	227 (2.7)	187 (3.5)	221 (5.3)	228 (3.0)	184 (3.5)	218 (5.5)	229 (2.9)
Country of birth											
United States	22,187	170,434	248 (1.1)	284 (1.3)	296 (0.9)	239 (1.3)	280 (1.4)	291 (0.9)	243 (1.6)	281 (1.3)	297 (0.9)
Spanish Language	1,544	9,613	164 (4.1)	174 (6.6)	187 (4.0)	155 (4.7)	175 (6.2)	190 (4.2)	152 (5.0)	173 (7.0)	193 (4.3)
European Language	507	4,818	224 (8.4)	262 (11.6)	271 (4.6)	222 (6.9)	263 (9.2)	266 (3.8)	223 (10.9)	272 (9.9)	272 (3.8)
Asian Language	275	2,763	185 (18.7)	241 (16.3)	239 (12.0)	197 (16.6)	249 (13.7)	247 (10.2)	203 (19.0)	267 (13.9)	253 (12.5)
Other	431	2,896	231 (7.4)	249 (11.5)	254 (6.5)	226 (7.3)	251 (11.3)	251 (6.4)	230 (8.1)	253 (10.7)	258 (5.8)
Total population											
Bilingual	2,655	19,937	217 (3.5)	249 (4.3)	255 (2.6)	212 (3.2)	252 (4.5)	256 (2.6)	216 (4.7)	254 (4.5)	262 (2.5)
English monolingual	21,456	164,805	251 (1.1)	285 (1.4)	297 (0.9)	241 (1.3)	281 (1.4)	292 (0.9)	246 (1.5)	283 (1.4)	297 (0.9)
Immigrants											
Bilingual	1,435	10,686	214 (5.5)	238 (6.0)	240 (3.2)	215 (4.8)	245 (5.9)	243 (3.3)	218 (6.4)	251 (5.6)	250 (3.2)
English monolingual	515	3,787	253 (6.8)	286 (4.5)	294 (4.6)	241 (7.3)	279 (4.8)	284 (3.6)	248 (8.9)	282 (4.8)	286 (3.7)
Hispanics											
Bilingual	1,492	9,088	209 (4.6)	238 (5.6)	241 (3.5)	208 (4.9)	239 (5.4)	244 (3.5)	209 (4.9)	237 (6.1)	244 (3.2)
English monolingual	684	4,599	258 (5.9)	276 (4.8)	283 (3.4)	253 (6.2)	274 (5.4)	280 (3.8)	247 (6.0)	269 (5.6)	282 (4.1)
Total Population											
Biliterate	1,761	12,781	229 (3.5)	254 (5.3)	263 (2.5)	222 (3.5)	257 (5.5)	265 (2.6)	229 (4.6)	261 (4.8)	270 (2.8)
English monoliterate	22,079	169,835	250 (1.1)	284 (1.3)	297 (0.9)	241 (1.3)	280 (1.4)	291 (0.9)	245 (1.6)	282 (1.4)	297 (0.8)
Immigrants											
Biliterate	1,145	8,393	224 (5.1)	244 (6.6)	253 (3.1)	223 (4.8)	251 (6.7)	256 (3.4)	229 (5.9)	258 (6.2)	263 (3.7)
English monoliterate	618	4,627	250 (6.8)	281 (4.4)	293 (4.2)	239 (6.6)	275 (5.7)	284 (3.4)	245 (8.4)	279 (4.8)	286 (3.4)
Hispanics											
Biliterate	1,029	6,371	221 (4.6)	250 (7.8)	255 (2.9)	216 (5.2)	250 (7.0)	258 (2.8)	222 (5.1)	249 (8.0)	259 (3.1)
English monoliterate	944	6,035	249 (5.2)	266 (4.7)	277 (3.3)	245 (4.8)	263 (4.7)	275 (3.2)	240 (4.7)	258 (5.1)	276 (3.8)

Respondents who reported that they spoke only English before starting school were coded English monolingual and English monoliterate, even if they learned to speak and/or read another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual. Respondents who spoke a language other than English before starting school and who read or wrote both that language and English well or very well as adults were coded biliterate.

Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Hispanics and other racial/ethnic groups, and comparisons between Spanish-speaking and other non-English-speaking groups may not be accurate, since the samples are not comparable for these populations.

--- Sample size is too small to provide a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Literacy Survey, 1992.

in European, Asian, or other countries (Table 4.5). As we discussed above, people born in Spanish language countries also had lower earnings than people born in European, Asian, or other countries. Some of this difference may be due to sampling.

Whether we looked at the total population, all immigrants, or all Hispanics, people who were fluent or literate only in English and who were employed 40 or more weeks during the previous year, had higher literacy scores on all three scales than people who were bilingual or biliterate and were employed 40 or more weeks during the previous year (Table 4.5). As we discussed above, there was no difference in average earned income between the people who were biliterate and people who were literate only in English, and the bilingual and people who spoke only English.

Average Literacy Proficiencies by Occupation, Country of Birth and Self-Reported Fluency and Literacy

Managers and professionals had the highest average scores on all three literacy scales, followed by people employed in technical, sales, and administrative support occupations (Table 4.6). People employed in blue collar and service, farming and fishing occupations had the lowest scores (Table 4.6). As we discussed earlier, employment followed the same pattern. People who were not fluent or literate in English were most likely to be employed in blue collar or service, farming and fishing occupations and least likely to be employed in managerial and professional or technical, sales and administrative support occupations.

People born in Spanish language countries had lower average literacy scores on all three scales than people born in the United States, or people born in European, Asian, or other countries employed in the same occupational group (Table 4.6). Immigrants and Hispanics had lower scores on all three scales than people born in the United States who were employed in the same occupational group (Table 4.6). However, as shown in Table 4.6, the gap in literacy scores between immigrants and Hispanics, and people born in the United States, was bigger for the lowest paying occupations (services, farming and fishing), than it was for the highest paying occupations (managerial and professional).

This large gap in literacy scores between immigrants and non-immigrants who were employed in service, farming and fishing

Table 4.6: Average literacy proficiencies by occupation, country of birth, and self-reported fluency among people who held a paying job during the past 12 months

Average proficiency (s.e.)	Sample Size	Population /1000	Prose			
			Managerial & professional	Tech, sales, admin. support	Prec prod operators, fabricators, crafts, laborers	Services, farming & fishing
Total population	19,985	146,423	325 (1.2)	295 (1.0)	257 (1.3)	260 (1.3)
All immigrants	2,132	15,096	293 (4.6)	257 (3.1)	182 (4.5)	185 (6.2)
All Hispanics	2,207	13,892	290 (5.5)	259 (3.5)	195 (4.2)	201 (5.9)
Country of birth						
United States	17,853	131,327	328 (1.1)	298 (1.0)	268 (1.4)	270 (1.2)
Spanish language	1,140	7,145	261 (9.6)	230 (5.8)	164 (4.8)	163 (6.4)
European language	394	3,337	316 (7.6)	285 (5.6)	216 (9.4)	242 (11.4)
Asian language	236	2,277	283 (8.8)	269 (6.8)	198 (21.9)	189 (22.5)
Other	362	2,337	288 (5.5)	266 (7.2)	211 (11.8)	219 (9.8)
Total population						
Bilingual	2,032	14,269	298 (3.8)	264 (3.0)	221 (3.8)	229 (5.7)
English monolingual	17,403	128,272	328 (1.2)	299 (1.0)	269 (1.4)	271 (1.1)
Immigrants						
Bilingual	1,161	8,321	287 (4.3)	256 (3.7)	208 (6.2)	206 (5.7)
English monolingual	426	2,920	318 (9.2)	297 (5.4)	262 (8.6)	266 (10.2)
Hispanics						
Bilingual	1,154	6,987	287 (8.1)	257 (3.7)	214 (4.7)	221 (6.0)
English monolingual	565	3,777	308 (9.4)	284 (4.3)	264 (6.7)	269 (4.6)
Total population						
Biliterate	1,390	9,754	296 (4.6)	265 (2.9)	232 (4.3)	232 (6.2)
English monoliterate	17,841	131,462	328 (1.2)	299 (1.0)	268 (1.4)	271 (1.1)
Immigrants						
Biliterate	914	6,593	288 (4.9)	257 (3.4)	225 (5.4)	216 (6.7)
English monoliterate	510	3,553	317 (8.1)	294 (4.6)	261 (8.2)	264 (9.9)
Hispanics						
Biliterate	801	4,974	291 (7.4)	261 (4.2)	235 (4.3)	231 (7.5)
English monoliterate	760	4,853	302 (7.9)	279 (4.2)	255 (5.7)	262 (4.5)

Respondents who reported that they spoke only English before starting school were coded English monolingual and English monoliterate, even if they learned to speak and/or read another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language and English well or very well as adults were coded bilingual. Respondents who spoke a language other than English before starting school and who read or wrote both that language and English well or very well as adults were coded biliterate.

Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Hispanics and other racial/ethnic groups, and comparisons between Spanish-speaking and other non-English-speaking groups may not be accurate, since the samples are not comparable for these populations.

--- Sample size is too small to provide a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Literacy Survey, 1992.

Table 4.6: Average literacy proficiencies by occupation, country of birth, and self-reported fluency among people who held a paying during the past 12 months (Continued)

Document				Quantitative			
Managerial & professional	Tech, sales, admin. Support	Precis prod, operators, fabricators, crafts, laborers	Services, farming & fishing	Managerial & professional	Tech, sales, admin. Support	Precis prod, operators, fabricators, crafts, laborers	Services, farming & fishing
317 (1.2)	290 (1.0)	255 (1.2)	257 (1.4)	325 (1.1)	294 (1.1)	261 (1.2)	257 (1.6)
288 (3.5)	257 (3.5)	185 (5.0)	187 (6.3)	301 (4.5)	263 (3.3)	188 (4.8)	186 (7.5)
285 (5.3)	259 (3.2)	198 (4.6)	200 (6.1)	292 (5.0)	259 (3.5)	198 (4.3)	196 (6.5)
319 (1.2)	293 (1.0)	266 (1.3)	267 (1.2)	327 (1.1)	297 (1.1)	272 (1.4)	267 (1.3)
258 (8.0)	234 (4.7)	167 (5.0)	163 (6.5)	271 (11.4)	239 (6.2)	169 (4.5)	160 (7.2)
305 (5.3)	281 (6.2)	220 (7.9)	240 (11.8)	315 (6.8)	285 (5.2)	227 (7.1)	246 (10.2)
289 (6.0)	268 (7.9)	201 (25.5)	207 (16.8)	305 (9.1)	281 (6.9)	203 (27.4)	212 (22.3)
283 (6.5)	265 (6.9)	208 (12.9)	216 (11.6)	298 (5.1)	269 (6.1)	216 (11.0)	216 (10.8)
295 (3.9)	264 (3.0)	226 (4.0)	231 (5.6)	308 (3.7)	368 (3.2)	230 (4.3)	232 (5.5)
319 (1.2)	294 (1.1)	266 (1.4)	267 (1.2)	327 (1.1)	298 (1.1)	273 (1.4)	268 (1.3)
285 (4.6)	259 (4.0)	217 (6.3)	213 (6.8)	302 (4.6)	264 (4.0)	220 (6.3)	217 (6.8)
308 (5.9)	290 (4.6)	251 (9.8)	258 (8.9)	312 (7.9)	294 (4.5)	258 (8.7)	253 (7.3)
284 (7.6)	256 (3.3)	221 (5.0)	223 (5.9)	292 (9.3)	258 (4.0)	221 (4.7)	220 (5.6)
302 (9.3)	283 (5.2)	263 (5.4)	262 (4.6)	308 (8.7)	280 (5.4)	263 (6.9)	258 (5.8)
292 (4.3)	265 (3.0)	238 (5.0)	235 (6.2)	306 (4.2)	269 (3.2)	241 (4.2)	237 (6.3)
319 (1.2)	293 (1.0)	266 (1.3)	267 (1.2)	326 (1.1)	297 (1.1)	272 (1.3)	268 (1.2)
286 (5.2)	260 (3.7)	232 (6.2)	224 (7.3)	302 (5.1)	266 (4.1)	236 (5.4)	229 (7.7)
307 (6.1)	287 (4.7)	253 (8.5)	255 (8.8)	312 (7.5)	292 (4.1)	261 (8.9)	250 (7.3)
286 (7.2)	260 (3.9)	242 (5.5)	233 (7.2)	295 (8.2)	262 (4.8)	244 (4.9)	230 (7.0)
297 (8.6)	277 (4.4)	254 (5.1)	258 (4.3)	302 (8.3)	275 (4.9)	252 (6.2)	253 (5.1)

occupations was caused by the fact that, as discussed in Chapter 2 of this report, a much larger proportion of immigrants than non-immigrants had very low English literacy. The immigrants with very low English literacy clustered in the occupations that required the least English literacy. The gap was not as large in occupations requiring high literacy, because immigrants with few or no English literacy skills were not employed in those occupations.

Mean Annual Earnings by Literacy Levels

The National Adult Literacy Survey classified respondents performance on the literacy tasks that made up the assessment into five levels for each scale: *Level 1* (0 to 225), *Level 2* (226 to 275), *Level 3* (276 to 325), *Level 4* (326 to 375), and *Level 5* (376 to 500). Performance in Level 1 on the prose scale indicates the individual could, at most, locate a single piece of information in a relatively short text written in English that did not include any distracting incorrect information located near the correct information. Performance in Level 5 on the prose scale indicates that the individual was able to search for information in a dense text written in English, which contained a number of plausible distractors. The individual was able to make high-level inferences, use specialized background knowledge, and contrast complex information presented in English. Performance at each level indicates greater proficiency than performance at the previous level. (See Appendix A for a complete discussion of the levels on all five scales.)

For the total population, an increase from one level to the next on the prose scale correlated with an increase in average salary (Table 4.7).² People at Level 1 who worked at some point during the year before they answered the National Adult Literacy Survey earned an average of \$12,815 during the year. People at Level 2 earned \$15,989, people at Level 3 earned \$20,669, people at Level 4 earned \$28,045, and people at Level 5 earned \$38,215. The survey's sampling error was too large to say whether or not people born in countries other than the United States earned more at each increasing literacy level.

Although people born in Spanish language countries had lower average earned incomes than people born in other countries, immigrants from Spanish language countries who scored at Level 3 on the prose literacy scale had incomes that were not statistically different from those

² The discussion in this section focuses on the prose scale. However, the findings are nearly identical if either of the other two scales is substituted for the prose scale.

Table 4.7: Mean annual earnings by country of birth and prose literacy level among people who worked for pay during the past 12 months

Annual earnings (s.e.)	Sample size	Population /1000	Level 1	Level 2	Level 3	Level 4	Level 5	All
Total population	16,916	123,638	\$12,815 (449)	\$15,989 (531)	\$20,669 (517)	\$28,045 (675)	\$38,215 (2,327)	\$20,918 (207)
All immigrants	1,789	12,551	\$12,596 (881)	\$21,202 (2,869)	\$27,166 (3,484)	\$32,156 (4,486)	---	\$19,926 (940)
All Hispanics	1,839	11,624	\$11,054 (515)	\$15,217 (1,235)	\$19,661 (2,452)	\$24,141 (3,705)	---	\$15,194 (604)
Country of birth								
United States	15,127	111,087	\$12,940 (647)	\$15,424 (517)	\$20,295 (469)	\$27,870 (618)	\$37,404 (2,168)	\$21,030 (215)
Spanish language	953	5,953	\$11,153 (400)	\$16,169 (1,911)	\$29,140 (7,647)	---	---	\$14,698 (835)
European language	326	2,795	\$16,420 (3,533)	\$23,679 (4,776)	\$25,928 (3,930)	\$32,223 (5,537)	---	\$26,647 (1,957)
Asian language	200	1,863	\$16,470 (4,542)	\$29,277 (12,530)	\$33,312 (13,935)	---	---	\$24,798 (4,386)
Other	310	1,940	\$13,658 (3,863)	\$22,304 (6,363)	\$21,994 (4,021)	---	---	\$21,607 (2,243)
Total population								
Bilingual	1,686	11,749	\$14,078 (1,490)	\$19,898 (2,105)	\$25,586 (3,061)	\$31,886 (3,526)	---	\$21,425 (1,099)
English monolingual	14,777	108,756	\$13,151 (637)	\$15,448 (511)	\$20,312 (493)	\$27,838 (657)	\$37,987 (2,265)	\$21,165 (242)
Other monolingual	451	3,120	---	---	---	---	---	\$10,441 (401)
Immigrants								
Bilingual	968	6,916	\$14,904 (1,856)	\$22,995 (3,665)	\$30,648 (5,536)	\$36,505 (7,598)	---	\$23,020 (1,635)
English monolingual	371	2,521	---	\$16,084 (1,937)	\$22,247 (5,093)	\$27,678 (4,393)	---	\$23,133 (2,485)
Other monolingual	449	3,109	---	---	---	---	---	\$10,453 (401)
Hispanics								
Bilingual	954	5,732	\$12,622 (1,001)	\$15,436 (1,408)	\$19,766 (2,629)	\$26,271 (6,148)	---	\$16,195 (906)
English monolingual	476	3,256	\$8,879 (1,745)	\$14,904 (1,702)	\$19,650 (4,282)	\$22,333 (3,330)	---	\$17,454 (1,847)
Other monolingual	407	2,623	---	---	---	---	---	\$10,218 (370)
Total population								
Biliterate	1,155	8,117	\$14,854 (2,288)	\$21,130 (2,623)	\$26,766 (3,862)	\$31,332 (4,345)	---	\$22,730 (1,335)
English monoliterate	15,136	111,270	\$13,048 (596)	\$15,486 (511)	\$20,332 (492)	\$27,917 (643)	\$38,050 (2,234)	\$21,140 (233)
Other monoliterate	532	3,635	---	---	---	---	---	\$11,911 (729)
Not literate	93	617	---	---	---	---	---	\$10,081 (735)
Immigrants								
Biliterate	759	5,452	\$15,439 (2,753)	\$24,206 (4,109)	\$30,790 (5,715)	\$36,387 (7,752)	---	\$24,555 (1,812)
English monoliterate	438	3,026	\$14,284 (2,050)	\$15,550 (1,972)	\$22,269 (4,429)	\$28,890 (4,362)	---	\$22,658 (2,120)
Other monoliterate	523	3,585	---	---	---	---	---	\$11,964 (740)
Not literate	69	489	---	---	---	---	---	\$9,773 (743)
Hispanics								
Biliterate	659	4,087	\$13,049 (1,602)	\$15,584 (1,652)	\$18,782 (3,219)	\$27,437 (6,384)	---	\$16,815 (1,102)
English monoliterate	639	4,157	\$10,071 (1,473)	\$14,856 (1,260)	\$19,463 (3,732)	\$21,859 (3,292)	---	\$16,864 (1,517)
Other monoliterate	468	2,921	---	---	---	---	---	\$11,379 (695)
Not literate	73	459	---	---	---	---	---	\$9,923 (651)

Respondents who reported that they spoke only English before starting school and who read English materials at least once a week were coded as regularly reading only English, even if they learned to read another language in school or as an adult and read that language regularly.

Respondents who spoke a language other than English before starting school and who regularly read both that language and English were coded as regularly reading two languages.

Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Hispanics and other racial/ethnic groups, and comparisons between Spanish-speaking and other non-English-speaking groups may not be accurate, since the samples are not comparable for these populations.

--- Sample size is too small to provide a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.



of people born in the United States who score at Level 3 on the prose literacy scale (Table 4.7). Hispanics' incomes at each of the five prose levels were comparable to the incomes of the total population at each level, indicating that Hispanics' lower average earnings and concentration in less desirable jobs may have been related to their low English literacy levels (Table 4.7). (Hispanics' low average literacy levels are attributable, at least in part, to the fact that Spanish was the only language other than English in which the background questionnaire was administered.) Immigrants' incomes at each level were also comparable to the income of people born in the United States (Table 4.7). Being bilingual or biliterate was not correlated with any measurable difference in an individual's income at any of the five prose levels.

Summary

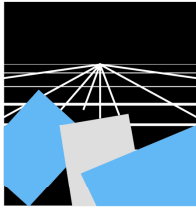
There was a positive relationship between literacy proficiency and earnings in 1992. Employed individuals who were raised in homes where a language other than English was spoken and who currently speak both that language and English scored lower on all three literacy scales of the National Adult Literacy Survey than employed individuals who were raised in homes where only English was spoken and people who speak only English now. Therefore, we would expect people who were bilingual to have had lower average earnings than people who spoke only English as children and people who spoke only English as adults in 1992. However, the lower literacy scores of the bilingual population did not translate into lower average earnings. The bilingual population may have been providing employers with other important skills that compensated for their lower measured English literacy proficiency.

We have no data that allow us to measure what skills other than literacy the bilingual population brings to the work place. It is possible that people in some occupations in the United States were economically rewarded for knowing two languages, and it is also possible that the skills and attitudes necessary to learn to speak two languages well translated into other skills and attitudes necessary for succeeding at work. This is an interesting topic for future research.

Although the job market did not penalize the bilingual population for their lower English literacy levels, people who did not speak English or who spoke English poorly were less likely to be employed and more likely to be completely out of the labor force than people who were fluent in English. People who did not speak English well were also less likely to

have been employed 40 or more weeks during the previous year than other people living in the United States. When they were employed, people who spoke English poorly or not at all earned less money than people who were fluent in English. Blue collar jobs, and service, fishing, and farming jobs provided the majority of employment opportunities for people who were not fluent in English.

Interestingly, although people who were not literate were less likely to be employed than people who were literate, people who were literate only in a language other than English were no less likely to be employed than people who were literate in English. However, people who were literate only in a language other than English earned less money than people who were literate in English, and they were more likely to be employed intermittently during the year.



CHAPTER 5

Conclusion

Most adults living in the United States, including adults who were raised in non-English-speaking homes, are fluent and literate in English. However, a small minority of adults who were raised in non-English-speaking homes never develop fluency and literacy in English, even after many years of residence in the United States.

The research presented in Chapters 2 and 3 of this report shows that certain demographic factors are highly correlated with the probability that an individual living in the United States will not develop English language skills. Virtually everyone who was born in the United States or immigrated to the United States before age 12 is fluent and literate in English as an adult. Adults living in the United States who cannot read or speak English are primarily immigrants who arrived in the United States after age 12 with low levels of formal education.

The research presented in Chapter 4 of this report shows that adults living in the United States who do not become fluent and literate in English face substantial obstacles to integration into the economy of the United States. On average, they tend to be employed irregularly in low paying jobs.

Importance of Formal Education in the Acquisition of English Language Skills

Formal education in school plays an important role in the acquisition of English fluency and literacy for individuals who were raised in non-English-speaking homes, regardless of whether they are immigrants or native born. When asked where they learned various types of reading skills, National Adult Literacy Survey respondents overwhelmingly identified school as the locale of their learning. Among immigrants who arrived in the United States before age 12, almost all of whom are fluent and literate in English as adults, the education they received in American schools played a primary role in their development of English language skills. Many immigrants who arrived in the United States before age 12

completely adopted English and abandoned the use of their native language.

For adults who arrived in the United States at age 12 or older, the level of formal education they obtained in their native country is highly correlated with whether or not they adopted English as a second language. Immigrants who arrived in the United States at age 12 or older with little or no formal education were the least likely group to have or develop English language skills. However, immigrants who arrived in the United States at age 12 or older with high levels of formal education tended to learn English and also retain fluency and literacy in their native language.

Importance of Learning English for Economic Success in the United States

Proficiency in English is an important prerequisite for successful integration into the economy of the United States. Adults living in the United States who are not fluent and literate in English, primarily immigrants who arrived after age 12 with little or no formal education, face extra challenges in their day-to-day lives. They are less likely to be employed, and when they are employed they earn lower wages than individuals who are fluent and literate in English.

However, fluency in English at the level of a native speaker is not necessary for successful integration into the American economy. The average income and continuity of employment of individuals who learned English as their second language do not differ from the average income and continuity of employment of individuals who were raised in English-speaking homes.

Despite the successful integration of English as a second language learners into the U.S. economy, important differences do remain between native and non-native English speakers. Bilingual and biliterate individuals who learn English after having first learned another language have lower average levels of English literacy, as measured by the National Adult Literacy Survey, than native English speakers, despite the fact that they have higher average levels of education. They may bring other skills to the workplace that compensate for their lower levels of English literacy and allow them to have employment patterns and earnings comparable to native English speakers, despite their lower levels of literacy.



Summary and Implications

Overall, the findings in this report highlight the importance of formal education in the development of English fluency and literacy among non-native English speakers. Non-native English speakers who were born in the United States or arrived in this country as young children are almost indistinguishable from native English speakers in terms of measured English literacy levels. These individuals completed most of their formal education in American schools. Many individuals in this group are fluent and literate only in English as adults and have dropped all use of their native language.

Non-native English speakers who immigrated to the United States as teenagers or adults, but who completed at least high school in their native countries, have lower levels of English literacy than native English speakers. However, on average they were able to master enough English to have earnings and employment patterns comparable to native English speakers. Almost all individuals in this group retained their fluency and literacy in their native language.

It is primarily non-native English speakers with low levels of formal education who are truly disadvantaged by their lack of native English language skills. Non-native English speakers with little or no education do not, on average, acquire high enough levels of English fluency and literacy to be able to obtain high paying managerial and professional occupations, or even to obtain jobs with regular hours and paychecks.

Thus, the language in which education is received does not appear to be particularly important in determining whether or not non-native English speakers achieve economic success and at least a minimal mastery of the English language. Rather, what is critical for non-native English speakers is completing more than a few years of formal education in any language. That background of formal education appears to give non-native English speakers the necessary learning skills to acquire English language fluency and literacy when it is necessary for their well-being.