

English Literacy and Language Minorities in the United States

Results from the National Adult Literacy Survey

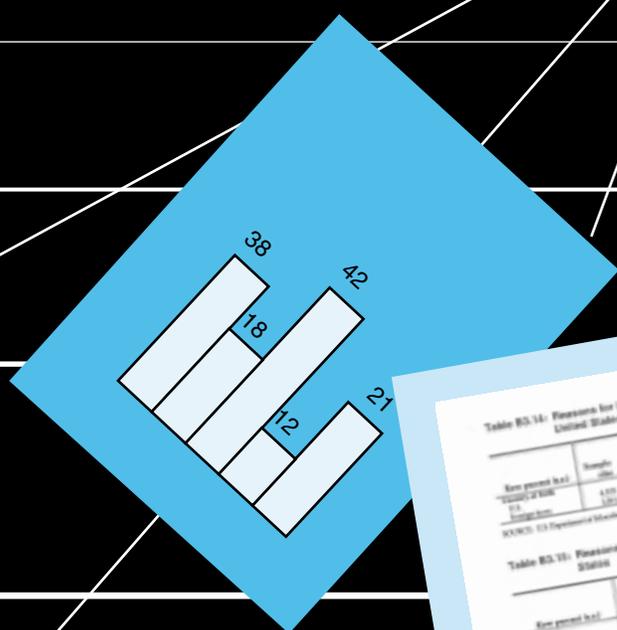


Table B3.14: Reasons for high school noncompletion among those born in the United States and immigrants

Reason	U.S. born	Immigrants
Not ready	12.0	10.0
Financial problems	18.0	15.0
Family problems	22.0	20.0
Health problems	15.0	12.0
Other	33.0	43.0

Table B3.15: Reasons for high school noncompletion by age of arrival in the United States

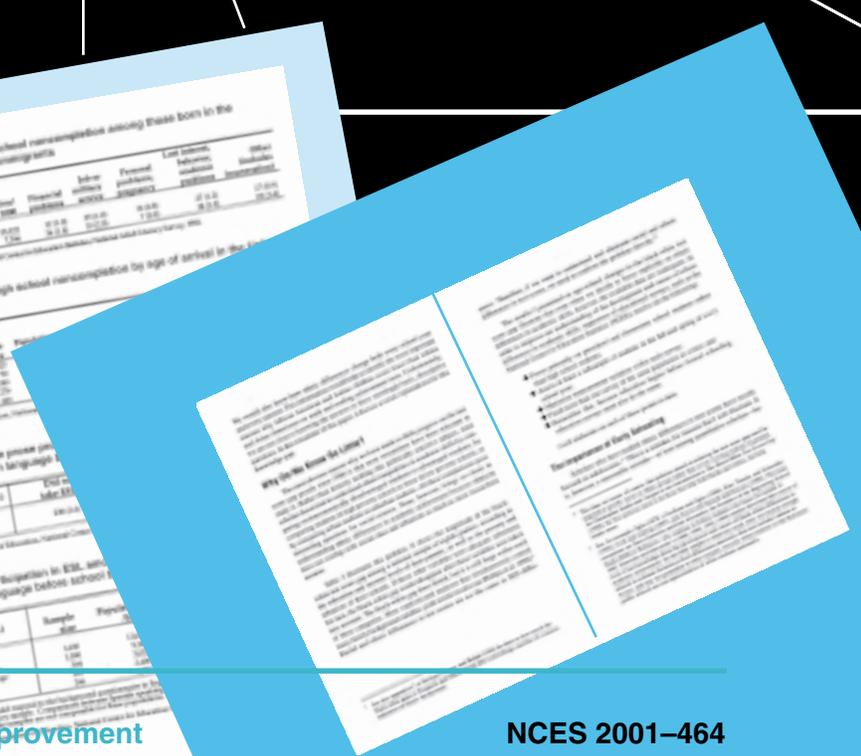
Reason	U.S. born	Immigrants
Not ready	12.0	10.0
Financial problems	18.0	15.0
Family problems	22.0	20.0
Health problems	15.0	12.0
Other	33.0	43.0

Table B3.16: Average grade point average (GPA) by English language proficiency

English language proficiency	Average GPA
Highly proficient	3.0
Proficient	2.5
Intermediate	2.0
Low intermediate	1.5
Beginner	1.0

Table B3.17: Participation in ESL and language before school

Participation	Sample size	Percentage
Participated	100	100%
Did not participate	0	0%



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English Literacy and Language Minorities in the United States

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**U.S. Department of Education
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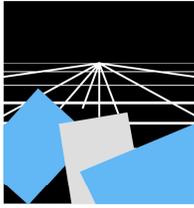
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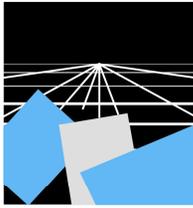
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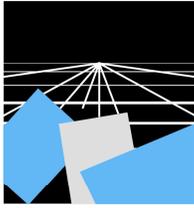


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EXECUTIVE SUMMARY

English Literacy and Language Minorities in the United States

English literacy and Language Minorities in the United States is one report in a series of U.S. Department of Education publications based on the 1992 National Adult Literacy Survey. Previously released reports in this series include *Adult Literacy in America*, *Literacy of Older Adults in America*, *Literacy Behind Prison Walls*, and *Literacy in the Labor Force*.

The increase in immigration to the United States in the 1970s and 1980s raised concerns among policymakers, researchers, and members of the public about how well immigrants were being integrated into the society and economy of the United States. This report addresses these concerns by providing an in-depth look at adult residents of the United States who were either born in other countries or were born in the United States but spoke a language other than English as young children. The report explores the English fluency and literacy of this population, their fluency and literacy in their native non-English languages, and their employment patterns and earnings.

Survey Purpose. The 1992 National Adult Literacy Survey provides the most detailed portrait ever of the English literacy abilities of adults living in the United States. The survey sought to avoid previous characterizations of all adults as either “literate” or “illiterate.” Instead, it profiled the literacy abilities of adults based on their performance on a wide array of tasks that reflect the types of materials and demands they encounter in their daily lives (e.g., interpreting instructions from a warranty, reading maps, balancing a checkbook, or figuring out a tip).

Survey Methodology. Survey data were gathered in 1992 by trained staff who interviewed over 13,600 adults residing in U.S. households. The adults were randomly selected to represent the adult population of the country as a whole. In addition, 1,000 adults were interviewed in each of 11 states that chose to participate in a concurrent survey designed to provide results comparable to the national data. Finally, 1,150 inmates in 80 state and federal prisons were surveyed. The prisons were randomly selected to represent prisons across the country,

and the inmates themselves were randomly selected from each prison. In total, 26,000 adults participated in the survey.

Interviewers administered an extensive background questionnaire that collected information about respondents' language background, demographic characteristics, educational background, reading practices, workforce participation, and other areas related to literacy. Each survey participant also responded to a set of diverse literacy tasks. As a result of their responses to the literacy tasks, adult participants received proficiency scores on three scales that capture increasing degrees of difficulty in English prose, document, and quantitative literacy. Data from the background questionnaires, along with the English literacy proficiency scores, produced a wealth of information about the characteristics of people with different literacy skills.

Major Findings

Age Matters. Analyses presented in Chapter 2, "Language Background and Literacy Proficiency," show that the age at which an individual learned to speak English was related to his or her English literacy proficiency as an adult. On average, individuals who entered the United States before age 12 had English literacy skills as adults comparable to members of racial and ethnic groups who were born in the United States. Virtually everyone who was born in the United States or who immigrated to the United States before age 12 was fluent in English as an adult.

Many of the differences in English literacy proficiency between various racial or ethnic groups were due to differences in language backgrounds among the groups. Asian/Pacific Islander and Hispanic adults were more likely than whites to have been born in a country other than the United States, or to have been raised in homes where a language other than English was spoken. When we accounted for the differences in language background of members of these racial and ethnic groups, the English literacy skills of Asians/Pacific Islanders were comparable to those of whites and the English literacy skills of Hispanics were slightly lower than those of whites. However, on average blacks had lower English literacy proficiency than whites, and differences in language background did not explain these differences in English literacy proficiency between blacks and whites.

There were racial and ethnic group differences in fluency and literacy in languages other than English among adults raised in homes

where a language other than English was spoken. Individuals who grew up in homes where Spanish or an Asian language was spoken were more likely to report that they spoke that language as adults than were respondents who grew up in a home where a European language other than Spanish was spoken.

Schooling Enhances Literacy. Analyses presented in Chapter 3, “Schooling, Language Background, and Literacy Proficiency,” show that formal education played a fundamental role in the acquisition of English language fluency and literacy for individuals who were raised in non-English-speaking homes, regardless of whether they were immigrants or native born. In particular, among immigrants who arrived in the United States at age 12 or older, level of formal education was related to English language fluency and literacy. Immigrants who arrived in the United States at age 12 or older, without the benefit of a substantial amount of formal education received in their native country, were the least likely to develop English language skills. Immigrants who arrived at age 12 or older with a substantial level of formal education obtained in their native country, were likely to be biliterate and bilingual in English and their native language.

Immigrants who arrived in the United States at age 12 or older with low levels of formal education had very low participation rates in English as a second language and adult basic skills training classes that might have improved their English language skills. This indicates that an important population, that is not currently being served, could benefit from these classes.

Literacy Pays. Analyses presented in Chapter 4, “Employment and Earnings, Language Background, and Literacy Proficiency,” show that adults living in the United States who were not fluent in English, primarily immigrants who arrived at age 12 or older with low levels of formal education, were less likely to be employed, and earn lower wages when they are employed, than individuals who were fluent and literate in English. However, fluency and literacy in English at the level of a native speaker was not necessary for successful integration into the American economy. Although individuals who learned English as their second language had lower English literacy—as measured by the National Adult Literacy Survey—than individuals who were raised in English-speaking homes, their average income and continuity of employment did not differ from that of native English speakers. They may have brought other skills to the workplace that compensated for

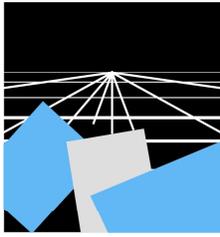


their lower levels of English literacy. Additionally, the earnings differential between Hispanics and the total population of the United States disappeared when differences in Hispanic literacy levels were taken into account.

Conclusion

Only non-native English speakers with low levels of formal education were truly disadvantaged in the labor market by their lack of native English language skills. Most members of this disadvantaged group were not being reached by existing English as a second language and basic skills classes.

Other non-native English speakers and immigrants, even those with low levels of English literacy as measured by the 1992 National Adult Literacy Survey, were generally able to learn enough English to exhibit employment patterns and earnings comparable to native English speakers.

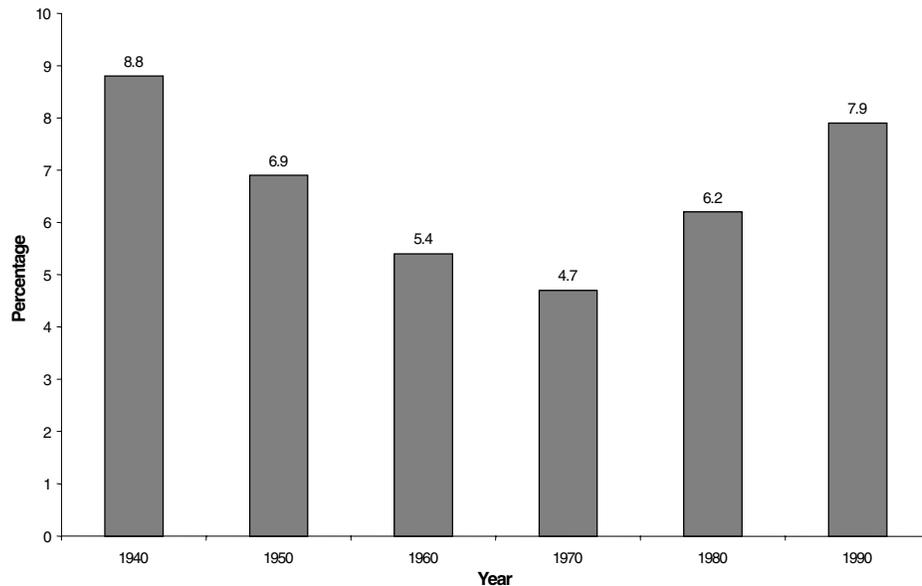


CHAPTER 1

Introduction

In 1990, 7.9 percent of the population of the United States was foreign-born, the highest percentage in 50 years (Figure 1.1). That same year, the total number of people living in the United States, but born abroad, was the highest it had been since the United States began keeping records.¹

Figure 1.1: Foreign-born as percentage of U.S. population

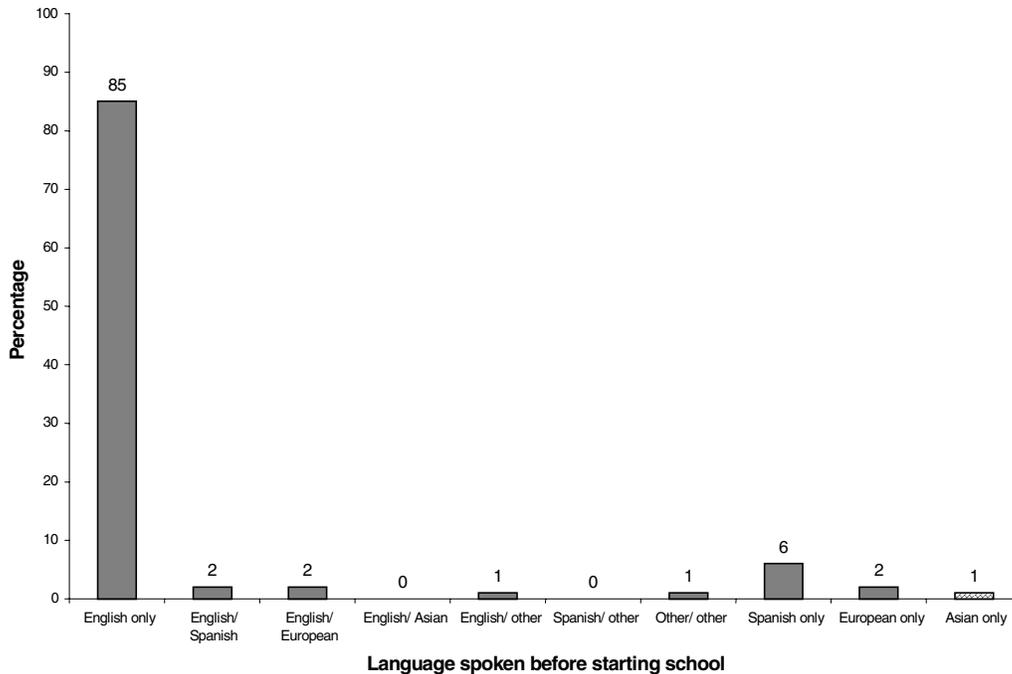


SOURCE: U.S. Bureau of the Census, Internet release date March 9, 1999, Table 1: Nativity of the Population and Place of Birth of the Native Population: 1850 to 1990.

Although the Census Bureau does not keep statistics on the percentage of the population that is not native English speaking, that percentage probably rose along with the percentage of immigrants. In 1992, 10 percent of the adult population spoke no English at all before

¹ U.S. Bureau of the Census, Internet release date March 9, 1999, Table 1: Nativity of the Population and Place of Birth of the Native Population: 1950 to 1990.

Figure 1.2: Percentage of adult population speaking English and non-English languages 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.

Percentages below 0.5 were rounded to 0.

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

starting school (Figure 1.2).² Another 5 percent of the adult population spoke another language in addition to English before starting school.

The large number of immigrants and non-native English speakers living in the United States in the early 1990s led policymakers, researchers, and members of the public to ask questions about the extent to which these immigrants and non-native English speakers were integrated into the culture, society, and economy of the United States. Studies showed that immigrants were somewhat more likely to be unemployed than native-born workers and identified differences in English language skills and education between immigrants and non-

² Unless explicitly noted in the text, throughout this report adults are defined as people age 16 or older.

immigrants as the cause for much of this disparity.³ One of these studies (Meisenheimer) advocated adding English fluency to the traditional list of human capital characteristics that are linked to labor force status and earnings.

Researchers were not able to explain all the differences in earnings between immigrants and non-immigrants by controlling for differences in English language skills and education. Economists reported that the earnings of Hispanic immigrants continued to lag behind those of the rest of the population, even after many years of living in the United States and after adjusting for educational attainment.⁴ However, the same economists reported that the earnings of Asian and European immigrants were comparable to those of the native-born population after a few years.

This report confirms many of the findings of these researchers. Chapter 3 shows that English literacy is related to educational attainment, and immigrants from Spanish language countries have, on average, lower levels of educational attainment than immigrants from other countries. Chapter 4 shows that once immigrants reach a minimal level of English literacy, their employment histories and earnings are similar to those of people born in the United States. This report also confirms the findings that Hispanics and immigrants from Spanish language countries have, on average, lower earnings than immigrants from other countries.⁵

However, authors of the studies cited above had no objective measurements of the skills, including literacy skills, immigrants and non-native English speakers bring to the work place. Although educational attainment is related to literacy, results from the National Adult Literacy Survey show that adults with similar levels of education can have quite different levels of literacy.⁶ This report incorporates English literacy, as measured by the National Adult Literacy Survey, as well as self-reported

³ J. Meisenheimer (1992). "How Do Immigrants Fare in the U.S. Labor Market?" *Monthly Labor Review* 115, pp. 3-19 and M. Enchautegui (1997). "Immigration and Wage Changes of High School Dropouts." *Monthly Labor Review* 120, pp. 3-8.

⁴ R. Schoeni, F. McCarthy, and G. Vernez (1996). *The Mixed Economic Progress of Immigrants*, RAND, MR-763-IF/FF and R. Schoeni (1997). *New Evidence of the Economic Progress of Foreign-Born Men in the 1970s and 1980s*, RAND, RP-665.

⁵ As discussed in the section of this chapter "About This Report," the National Adult Literacy Survey background questionnaire was available only in English and Spanish. Therefore, the Hispanic sample includes adults who have lower levels of English fluency than adults in other racial/ethnic groups in the sample. This affects comparisons between Hispanics and non-Hispanics.

⁶ I. Kirsch, A. Jungeblut, L. Jenkins, and A. Kolstad (1993). *Adult Literacy in American: A First Look at the Results of the National Adult Literacy Survey*, Office of Educational Research and Improvement, U.S. Department of Education.

educational attainment, to help explain the difference in labor force status and earnings among different groups of immigrants.

Using literacy as measured by the National Adult Literacy Survey, this report contributes to the analysis of low earnings among Hispanics and immigrants from Spanish-speaking countries. Chapter 4 of the report goes beyond the work of other researchers and shows that Hispanics' incomes at each of the five prose levels of the National Adult Literacy Survey were comparable to the incomes of the total population at each level, indicating that Hispanics' lower average earnings may have been related to their low English literacy levels. Chapter 4 also shows that people born in Spanish language countries who scored at Level 3 (the middle level) on the prose literacy scale had incomes comparable to people born in the United States who scored at the same level.

Thus, the results of this report indicate that English literacy ability is a better predictor of earnings than educational attainment. Although English literacy ability and educational attainment are related to each other, one is not an exact proxy for the other.

This finding focuses attention on the importance of understanding how non-native English speakers become fluent and literate in English. The National Adult Literacy Survey data, upon which this report is based, is cross-sectional, rather than longitudinal. People were surveyed, and their literacy was assessed, at one point in time, 1992. Therefore, it is not possible to trace the events in each person's life that led to his or her level of English literacy. However, it is possible to use the data to explore which demographic attributes are related to the attainment of high levels of English fluency and literacy among non-native English speakers.

Chapter 2 shows that there is a strong relationship between age at immigration and the English literacy of adults as measured by the National Adult Literacy Survey. This finding supports other research which shows that, although it is never impossible to learn a new language, after puberty it becomes extremely difficult, or impossible, for a non-native speaker to acquire native-like pronunciation and syntactic competence in a new language.⁷

However, the research on second language acquisition indicates that literacy in a second language is somewhat easier to acquire after puberty than native-like pronunciation and syntax. Specifically, reading

⁷ B. Harley and W. Wang (1997). "The Critical Period Hypothesis: Where Are We Now?" In A.M.B. de Groot, J.F. Kroll, et al (eds.), *Tutorials in Bilingualism: Psycholinguistic Perspectives* (pp. 255-276). Mahwah, NJ: Lawrence Erlbaum Associates, Inc., Publishers.

involves many skills that are not language specific, and older second language learners, who are already literate in their first language, may be able to transfer many of the skills involved in reading their first language to reading their second language.⁸ These transferable skills may include conceptual knowledge and rhetorical devices,⁹ cognates and idioms,¹⁰ and metacognitive strategies such as an understanding of how to learn to read.¹¹ Research showing that an adult's literacy level in a first language is a good predictor of the literacy level he or she will acquire in a second language helps to underscore the importance of education level prior to immigration.¹²

On average, as shown in Chapter 3, Hispanic immigrants arrived in the United States with lower levels of education than immigrants from Asian language countries, and therefore may have developed fewer reading skills in their native language which they could transfer to English. Although the data set used in this report is too small to explore the relationship between education prior to immigration, English literacy, and country of origin, the findings in Chapter 3 do suggest that adults who arrive in the United States with high levels of education are more likely to have high scores on the prose literacy scale than adults who arrive with low levels of education.

The National Adult Literacy Survey

This large-scale survey, conducted in 1992, grew out of the Adult Education Amendments of 1988, in which the U.S. Congress called upon

⁸ J. Cummins (1981). "The Role of Primary Language Development in Promoting Educational Success for Language Minority Students." In California State Department of Education (ed.), *Schooling and Language Minority Students: A Theoretical Framework*. Los Angeles: Evaluation, Dissemination, and Assessment Center.

⁹ P. Carrell (1984). "The Effects of Rhetorical Organization on ESL Readers." *TESOL Quarterly*, 18, pp. 441-469 and S. Goldman, M. Reyes, and C. Varnhagen (1984). "Understanding Fables in First and Second Languages." *NABE Journal*, 8, pp. 835-866 and J. Langer, L. Bartolome, O. Vasquez, and T. Lucas (1990). "Meaning Construction in School Literacy Tasks: A Study of Bilingual Students." *American Educational Research Journal*, 27, pp. 427-471.

¹⁰ G. Garcia and W. Nagy (1993). "Latino Students' Concept of Cognates." In D. Leu & C. Kinzer (eds.), *Examining Central Issues in Literacy Research Theory and Practice*, pp. 367-374. Chicago: National Reading Conference and S. Irujo (1986). "Don't Put Your Leg in Your Mouth: Transfer in the Acquisition of Idioms in a Second Language." *TESOL Quarterly*, 20, pp. 287-304.

¹¹ R. Pritchard (1990, December). *Reading in Spanish and English: A Comparative Study of Processing Strategies*. Paper presented at the Annual Meeting of Teachers of English to Speakers of Other Languages, Chicago, IL.

¹² K. Perkins, S. Brutton, and J. Pohlmann (1988, March 8-13). *First and Second Language Reading Comprehension*. Paper presented at the Annual Meeting of Teachers of English to Speakers of Other Languages, Chicago, IL and J. Fitzgerald (1995). "English-as-a-Second-Language Learners' Cognitive Reading Processes: A Review of Research in the United States." *Review of Educational Research*, 65, pp. 145-190.

the Department of Education to report on the definition of literacy and on the nature and extent of literacy among adults in the nation. In response, the Department's National Center for Education Statistics (NCES) and the Division of Adult Education and Literacy planned a national household survey of adult literacy.

The plan for developing and conducting the National Adult Literacy Survey was guided by a panel of experts from business and industry, labor, government, research, and adult education. This Literacy Definition Committee worked with Educational Testing Service staff to prepare a definition of literacy that would guide the development of the assessment objectives as well as the construction and selection of assessment tasks. A second panel, the Technical Review Committee, was formed to help ensure the soundness of the assessment design, the quality of the data collected, the integrity of the analyses conducted, and the appropriateness of the interpretations of the results.

NCES and the Literacy Definition Committee envisioned the National Adult Literacy Survey as more than just an assessment of literacy skills. They constructed an extensive background questionnaire that would also survey adults' literacy activities and practices, educational experiences, and workforce participation. They included a separate section on language environments, language acquisition, and current language usage in the survey questionnaire for respondents who spoke a language other than English before starting school. This background questionnaire allows us to link people's immigration histories and early language experiences with their English literacy levels as adults. Because minorities were over-sampled in the survey, we are able to provide information in this report on the literacy of some racial and ethnic groups living in the United States. The number of Hispanics who completed the survey was large enough that we were sometimes able to report results for Hispanic subgroups defined by country of origin. In most cases, we could report on Asians and Pacific Islanders as one group.

This introductory chapter summarizes the discussions that led to the adoption of a definition of literacy for the National Adult Literacy Survey, the framework used in designing the survey instruments, the populations assessed, the survey administration, the methods used for reporting results, and the issues covered in this report.

Defining and Measuring Literacy

The National Adult Literacy Survey is the third and largest assessment of adult literacy funded by the Federal government and conducted by ETS. The two previous efforts included a 1985 household survey of the literacy skills of 21 to 25-year-olds, funded by the U.S. Department of Education, and a 1989-90 survey of the literacy proficiencies of job seekers, funded by the U.S. Department of Labor.¹³ The definition of literacy that guided the National Adult Literacy Survey was rooted in these preceding studies.

Building on earlier work in large-scale literacy assessment, the 1985 young adult survey attempted to extend the concept of literacy, to take into account some of the criticisms of previous surveys, and to benefit from advances in educational assessment methodology. The national panel of experts that was assembled to construct a definition of literacy for this survey rejected the types of arbitrary standards—such as signing one’s name, completing five years of school, or scoring at a particular grade level on a school-based measure of reading achievement—that have long been used to make judgments about adults’ literacy skills. Through a consensus process, this panel drafted the following definition of literacy, which helped set the framework for the young adult survey:

*Using printed and written information to function in society, to achieve one’s goals, and to develop one’s knowledge and potential.*¹⁴

Unlike traditional definitions of literacy, which focused on decoding and comprehension, this definition encompasses a broad range of skills that adults use in accomplishing the many different types of literacy tasks associated with work, home, and community contexts. This perspective is shaping not only adult literacy assessment, but policy as well—as seen in the National Literacy Act of 1991, which defined literacy as “an individual’s ability to read, write, and speak in English and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one’s goals, and to develop one’s knowledge and potential.”

¹³ I.S. Kirsh and A. Jungeblut (1986). *Literacy: Profiles of America’s Young Adults*. Princeton, NJ: Educational Testing Service. I.S. Kirsh, A. Jungeblut, and A. Campbell (1992). *Beyond the School Doors: The Literacy Needs of Job Seekers Served by the U.S. Department of Labor*. Princeton, NJ: Educational Testing Service.

¹⁴ This definition of literacy does not include speaking or understanding.

The definition of literacy from the 1985 young adult literacy assessment was adopted by the panel that guided the development of the 1989-90 survey of job seekers, and it also provided the starting point for the discussions of the NALS Literacy Definition Committee. In addition, while the committee recognized the importance of teamwork skills, interpersonal skills, and communication skills for functioning in various contexts, such as the work place, it decided that these areas would not be addressed in this survey.

Further, the committee endorsed the notion that literacy is neither a single skill suited to all types of texts, nor an infinite number of skills, each associated with a given type of text or material. Rather, as suggested by the results of the young adult and job-seeker surveys, an ordered set of skills appears to be called into play to accomplish diverse types of tasks.¹⁵ Given this perspective, the NALS committee agreed to adopt not only the definition of literacy that was used in the previous surveys, but also the three scales developed as part of those efforts:

Prose literacy—the knowledge and skills needed to understand and use information from texts that include editorials, news stories, poems, and fiction; for example, finding a piece of information in a newspaper article, interpreting instructions from a warranty, inferring a theme from a poem, or contrasting views expressed in an editorial.

Document literacy—the knowledge and skills required to locate and use information contained in materials that include job applications, payroll forms, transportation schedules, maps, tables, and graphs; for example, locating a particular intersection on a street map, using a schedule to choose the appropriate bus, or entering information on an application form.

Quantitative literacy—the knowledge and skills required to apply arithmetic operations, either alone or sequentially, using numbers embedded in printed materials; for example, balancing a

¹⁵ By an “ordered set of skills,” we mean that there are four strategies that underlie most prose and document tasks. These strategies—locate, cycle, integrate, and generate—must be accomplished in this order. For more information, see P. Mosenthal and I. Kirsch (1991). “Toward an Explanatory Model of Document Literacy,” *Discourse Process*, 14, pp. 147-189.

checkbook, figuring out a tip, completing an order form, or determining the amount of interest from a loan advertisement.¹⁶

The literacy scales provide a useful way to organize a broad array of tasks and to report the assessment results. They represent a substantial improvement over traditional approaches to literacy assessment, which have tended to report on performance in terms of single tasks or to combine the results from diverse tasks into a single, conglomerate score. Such a score fosters the simplistic notion that “literate” and “illiterate” can be neatly distinguished from one another based on a single cutpoint on a single scale. The literacy scales, on the other hand, make it possible to profile the various types and levels of literacy among different subgroups in our society. In so doing, they help us to understand the diverse information-processing skills associated with the broad range of printed and written materials that adults read and their many purposes for reading them.

In adopting the three scales for use in this survey, the committee’s aim was not to establish a single national standard for literacy. Rather, it was to provide an interpretive scheme that would enable levels of prose, document, and quantitative performance to be identified and allow descriptions of the knowledge and skills associated with each level to be developed.

The prose, document, and quantitative scales were built initially to report on the results of the young adult survey and were augmented in the survey of job seekers. The NALS Literacy Definition Committee recommended that a new set of literacy tasks be developed to enhance the scales. These tasks would take into account the following, without losing the ability to compare the NALS results to the earlier surveys:

- continued use of open-ended simulation tasks;
- continued emphasis on tasks that measure a broad range of information-processing skills and cover a wide variety of contexts;
- increased emphasis on simulation tasks that require brief written and/or oral responses;

¹⁶ Quantitative literacy was measured using assessment questions written in English. Many non-native English speakers would have higher levels of quantitative literacy if assessed in their native language.

- increased emphasis on tasks that ask respondents to describe how they would set up and solve a problem; and
- the use of a simple, four-function calculator to solve selected quantitative problems.

Approximately 110 new assessment tasks were field tested, and 80 of these were selected for inclusion in the survey, in addition to 85 tasks that were administered in both the young adult and job-seeker assessments. By administering a common set of simulation tasks in each of the three literacy surveys, it is possible to compare results across time and across population groups.

A large number of tasks had to be administered in NALS to ensure that the survey would provide the broadest possible coverage of the literacy domains specified. Yet, no individual could be expected to respond to the entire set of 165 simulation tasks. Accordingly, the survey was designed to give each person participating in the study a subset of the total pool of literacy tasks, while at the same time ensuring that each of the 165 tasks was administered to a nationally representative sample of adults. Literacy tasks were included in sections that could be completed in about 15 minutes, and these sections were then compiled into booklets, each of which could be completed in about 45 minutes. During a personal interview, each survey respondent was asked to complete one booklet.

In addition to the time allocated for the literacy tasks, approximately 20 minutes were devoted to obtaining background and personal information from respondents. Two versions of the background questionnaire were administered, one in English and one in Spanish. Major areas explored included the following: *background and demographics*—country of birth, languages spoken or read, access to reading materials, size of household, educational attainment of parents, age, race/ethnicity, and marital status; *education*—highest grade completed in school, current aspirations, participation in adult education classes, and education received outside the country; *labor market experiences*—employment status, recent labor market experiences, and occupation; *income*—personal as well as household; and *activities*—voting behavior, hours spent watching television, frequency and content of newspaper reading, and use of literacy skills for work and leisure. These background data make it possible to gain an understanding of the



ways in which personal characteristics are associated with demonstrated performance on each of the three literacy scales.¹⁷

Conducting the Survey

NALS was conducted during the first eight months of 1992 with a nationally representative sample of some 13,600 adults. More than 400 trained interviewers, some of whom were bilingual in English and Spanish, visited nearly 27,000 addresses in the 50 states and the District of Columbia to select and interview adults aged 16 and older, each of whom was asked to provide personal and background information and to complete a booklet of literacy tasks.¹⁸ Black and Hispanic households were oversampled to ensure reliable estimates of literacy proficiencies and to permit analyses of the performance of these subpopulations. Adults living in the U.S. territories were not included in the sample. Consequently, all Puerto Ricans in the sample lived in one of the 50 states or the District of Columbia.

To give states an opportunity to explore the skill levels of their populations, each of the 50 states was invited to participate in a concurrent assessment. While many states expressed an interest, 11 elected to participate in the State Adult Literacy Survey. Approximately 1,000 adults aged 16 to 64 were surveyed in each of the following states:

California	Louisiana	Pennsylvania
Illinois	New Jersey	Texas
Indiana	New York	Washington
Iowa	Ohio	

To permit comparisons of the state and national results, the survey instruments administered to the state and national samples were identical, and the data were gathered at the same time. Florida also participated in the state survey, but its data collection was unavoidably delayed until 1993.

Finally, more than 1,100 inmates in some 80 Federal and state prisons were included in the survey. Their participation helped to provide better estimates of the literacy levels of the total population and

¹⁷ A more detailed description of the NALS design and framework can be found in an interim report: A. Campbell, I.S. Kirsch, and A. Kolstad. (1992, October). *Assessing Literacy: The Framework for the National Adult Literacy Survey*. Washington, DC: National Center for Education Statistics.

¹⁸ Procedures used to select households are explained in Appendix C.

make it possible to report on the literacy proficiencies of this important segment of society. To ensure comparability with the national survey, the simulation tasks given to the prison participants were the same as those given to the household survey population. However, to address issues of particular relevance to the prison population, a revised version of the background questionnaire was developed. This instrument drew questions from the 1991 Survey of Inmates of State Correctional Facilities sponsored by the Bureau of Justice Statistics of the U.S. Department of Justice. These included queries about current offences, criminal history, and prison work assignments, as well as about education and labor force experiences.

Responses from the national household, the state, and prison samples were combined to yield the best possible performance estimates. Unfortunately, because of the delayed administration, the results from the Florida state survey could not be included in the national estimates. In all, more than 26,000 adults gave, on average, more than an hour of their time to complete the literacy tasks and background questionnaires. Participants who completed as much of the assessment as their skills allowed were paid \$20 for their time. The demographic characteristics of the adults who participated in NALS are presented in Table 1.1.

Further information on the design of the sample, the survey administration, the statistical analyses and special studies that were conducted, and the validity of the literacy scales will be available in a forthcoming technical report.

Reporting the Results

The results of the National Adult Literacy Survey are reported using three scales, each ranging from 0 to 500: a prose scale, a document scale, and a quantitative scale. The scores on each scale represent degrees of proficiency along that particular dimension of literacy. For example, a low score (below 225) on the document scale indicates that an individual has very limited skills in processing information from tables, charts, graphs, maps, and the like (even those that are brief and uncomplicated). On the other hand, a high score (above 375) indicates advanced skills in performing a variety of tasks that involve the use of complex documents.

Survey participants received proficiency scores according to their performance on the survey tasks. A relatively small proportion of the respondents answered only a part of the survey, and an imputation

Table 1.1: The National Adult Literacy Survey sample

Total population	Sample size	Population /1000	National population (percent)
Total	26,091	191,289	100%
Sex			
Male	11,770	92,098	48
Female	14,279	98,901	52
Age			
16 to 18 years	1,237	10,424	5
19 to 24 years	3,344	24,515	13
25 to 39 years	10,050	63,278	33
40 to 54 years	6,310	43,794	23
55 to 64 years	2,924	19,503	10
65 years and older	2,214	29,735	16
Race/Ethnicity			
White	17,292	144,968	76
Black	4,963	21,192	11
Asian or Pacific Islander	438	4,116	2
American Indian or Alaskan Native	189	1,803	1
Other	83	729	0
Hispanic/Mexican	1,776	10,235	5
Hispanic/Puerto Rican	405	2,190	1
Hispanic/Cuban	147	928	0
Hispanic/Central or South American	424	2,608	1
Hispanic/Other	374	2,520	1

Prison population	Sample size	Population /1000	National population (percent)
Total	1,147	766	100%
Sex			
Male	1,076	723	94
Female	71	43	6
Race/Ethnicity			
White	417	266	35
Black	480	340	44
Asian or Pacific Islander	7	4	1
American Indian or Alaskan Native	27	18	2
Other	5	4	1
Hispanic groups	211	134	17

Note: The total population includes adults living in households and those in prison. The sample sizes for subpopulations may not add up to the total sample sizes due to missing data. The race/ethnicity categories are mutually exclusive. Some estimates for small subgroups of the national population may be slightly different from 1990 Census estimates due to the sampling procedures used.

Percentages below 0.5 are rounded to 0.

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

procedure was used to make the best possible estimates of their proficiencies. This procedure and related issues are detailed in the technical report.

Most respondents tended to receive similar, though not identical, scores on the three literacy scales. This does not mean, however, that the underlying skills involved in prose, document, and quantitative literacy are the same. Each scale provides some unique information, especially when comparisons are made across groups defined by variables such as race/ethnicity, education, and age.

The literacy scales allow us not only to summarize results for various subpopulations, but also to determine the relative difficulty of the literacy tasks included in the survey. In other words, just as individuals received scale scores according to their performance in the assessment, the literacy tasks received specific scale values according to their difficulty, as determined by the performance of the adults who participated in the survey. Previous research has shown that the difficulty of a literacy task, and therefore its placement on the literacy scale, is determined by three factors: the *structure of the material*—for example, exposition, narrative, table, graph, map, or advertisement; the *content* of the material and/or the *context* from which it is drawn—for example, home, work, or community; and the *nature of the task*—that is, what the individual is asked to do with the material, or his or her purpose for using it.¹⁹

The literacy tasks administered in NALS varied widely in terms of materials, content, and task requirements, and thus in terms of difficulty. This range is captured in Figure 1.3, which describes some of the literacy tasks and indicates their scale values.

Even a cursory review of this display reveals that tasks at the lower end of each scale differ from those at the high end. A more careful analysis of the range of tasks along each scale provides clear evidence of an ordered set of information-processing skills and strategies. On the prose scale, for example, tasks with low scale values ask readers to locate or identify information in brief, familiar, or uncomplicated materials, while those at the high end ask them to perform more demanding activities using materials that tend to be lengthy, unfamiliar, or complex. Similarly, on the document and quantitative scales, the tasks at the low

¹⁹ I.S. Kirsch and P.B. Mosenthal (1990). "Exploring Document Literacy: Variables Underlying the Performance of Young Adults," *Reading Research Quarterly*, 25, pp. 5-30.
P.B. Mosenthal and I.S. Kirsch (1992). "Defining the Constructs of Adult Literacy," paper presented at the National Reading Conference, San Antonio, Texas.

end of the scale differ from those at the high end in terms of the structure of the material, the content and context of the material, and the nature of the directive.

In an attempt to capture this progression of information-processing skills and strategies, each scale was divided into five levels: *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). The points and score ranges that separate these levels on each scale reflect shifts in the literacy skills and strategies required to perform increasingly complex tasks. The survey tasks were assigned to the appropriate scale based on their difficulty as reflected in the performance of the national representative sample of adults surveyed. Analyses of the types of material and demands that characterize each level reveal the progression of literacy demands along each scale (Figure 1.4).²⁰

While the literacy levels on each scale can be used to explore the range of literacy demands, these data do not reveal the types of literacy demands that are associated with particular contexts in this pluralistic society. That is, they do not enable us to say what specific level of prose, document, or quantitative skill is required to obtain, hold, or advance in a particular occupation, to manage a household, or to obtain legal or community services, for example. Nevertheless, the relationships among performance on the three scales and various social or economic indicators can provide valuable insights, and that is the goal of this report.

About This Report

This report examines the language and literacy skills of adults living in the United States in the context of their race and ethnicity, their country of birth, and the language(s) they spoke as young children. Chapter 2 of this report presents an overview of the oral and literacy proficiencies of adults living in the United States broken down by race and ethnicity, immigration status, and language(s) spoken while growing up. Chapter 3 examines the relationship between English literacy and formal education. Chapter 4 explores the relationship between employment and country of birth, language fluency and literacy. Chapter 5 summarizes the important findings of this report.

²⁰ Appendix A discusses the process followed to map individual respondents to the scales and literacy levels.

Figure 1.3: Difficulty values of selected tasks along the prose, document, and quantitative literacy scales

	Prose	Document	Quantitative
0	149 Identify country in short article	69 Sign your name	191 Total a bank deposit entry
	210 Locate one piece of information in sports article	170 Locate expiration date on driver's license	
	224 Underline sentence explaining action stated in short article	180 Locate time of meeting on a form	
225		214 Using pie graph, locate type of vehicle having specific sales	
	226 Underline meaning of a term given in government brochure on supplemental security income	230 Locate intersection on a street map	238 Calculate postage and fees for certified mail
		246 Locate eligibility from table of employee benefits	246 Determine difference in price between tickets for two shows
275	250 Locate two features of information in sport article	259 Identify and enter background information on application for social security card	270 Calculate total costs of purchase from an order form
	275 Interpret instructions from an appliance warranty		
	288 Write a brief letter explaining error on a credit card bill	277 Identify information from bar graph depicting source of energy and year	278 Using calculator, calculate difference between regular and sale price from an advertisement
325	304 Read a news article and identify a sentence that provides interpretation of a situation	298 Use sign out sheet to respond to call about resident	308 Using calculator, determine the discount from an oil bill if paid within 10 days
	316 Read lengthy article to identify two behaviors that meet a stated condition	314 Use bus schedule to determine appropriate bus for given set of conditions	321 Calculate miles per gallon using information given on mileage record chart
		323 Enter information given into an automobile maintenance record form	325 Plan travel arrangements for meeting using flight schedule
375	328 State in writing an argument made in lengthy newspaper article	342 Identify the correct percentage meeting specified conditions from a table of such information	331 Determine the correct change using information in a menu
	347 Explain difference between two types of employee benefits	352 Use bus schedule to determine appropriate bus for given set of conditions	350 Using information stated in news article, calculate amount of money that should go to raising a child
	359 Contrast views expressed in two editorials on technologies available to make fuel-efficient cars	352 Use table of information to determine pattern in oil exports across years	368 Using eligibility pamphlet, calculate the yearly amount a couple would receive for basic supplemental security income
500	362 Generate unfamiliar theme from short poems		
	374 Compare two metaphors used in poem		
	382 Compare approaches stated in narrative on growing up	378 Use information in table to complete a graph including labeling axes	382 Determine shipping and total costs on an order form for items in a catalog
	410 Summarize two ways lawyers may challenge prospective jurors	387 Use table in comparing credit cards. Identify the two categories used and write two differences between them	405 Using information in news article, calculate difference in times for completing a race
	423 Interpret a brief phrase from a lengthy news article	395 Using a table depicting information about parental involvement in school survey to write a paragraph summarizing extent to which parents and teachers agree	421 Using a calculator, determine the total cost of carpet to cover a room

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

Figure 1.4: Description of the prose, document, and quantitative literacy levels

	Prose	Document	Quantitative
LEVEL 1 0-225	Most of the tasks in this level require the reader to read relatively short text to locate a single piece of information which is identical to or synonymous with the information given in the question or directive. If plausible but incorrect information is present in the text, it tends not to be located near the correct information.	Tasks in this level tend to require the reader either to locate a piece of information based on a literal match or to enter information from personal knowledge on a document. Little, if any, distracting information is present.	Tasks in this level require readers to perform single, relatively simple arithmetic operations, such as addition. The numbers to be used are provided and the arithmetic operation to be performed is specified.
LEVEL 2 225-275	Some tasks in this level require readers to locate a single piece of information in the text; however, several distractors or plausible but incorrect pieces of information may be present, or low-level inferences may be required. Other tasks require the reader to integrate two or more pieces of information or to compare and contrast easily identifiable information based on a criterion provided in the question or directive.	Tasks in this level are more varied than those in Level 1. Some require the readers to match a single piece of information; however, several distractors may be present, or the match may require low-level inferences. Tasks in this level may also ask the reader to cycle through information in a document or to integrate information from various parts of a document.	Tasks in this level typically require readers to perform a single operation using numbers that are either stated in the task or easily located in the material. The operation to be performed may be stated in the question or easily determined from the format of the material (for example, an order form).
LEVEL 3 276-325	Tasks in this level tend to require readers to make literal or synonymous matches between text and information given in the task, or to make matches that require low-level inferences. Other tasks ask readers to integrate information from dense or lengthy text that contains no organizational aids such as headings. Readers may also be asked to generate a response based on information that can be easily identified in the text. Distracting information is present but is not located near the correct information.	Some tasks in this level require the reader to integrate multiple pieces of information from one or more documents. Others ask readers to cycle through rather complex tables or graphs which contain information that is irrelevant or inappropriate to the task.	In tasks in this level, two or more numbers are typically needed to solve the problem, and these must be found in the material. The operation(s) needed can be determined from the arithmetic relation terms used in the question or directive.
LEVEL 4 326-375	These tasks require readers to perform multiple-feature matches and to integrate or synthesize information from complex or lengthy passages. More complex inferences are needed to perform successfully. Conditional information is frequently present in tasks at this level and must be taken into consideration by the reader.	Tasks in this level, like those at the previous levels, ask readers to perform multiple-feature matches, cycle through documents, and integrate information; however, they require a greater degree of inferencing. Many of these tasks require readers to provide numerous responses but do not designate how many responses are needed. Conditional information is also present in the document tasks at this level and must be taken into account by the reader.	These tasks tend to require readers to perform two or more sequential operations or a single operation in which the quantities are found in different types of displays, or the operations must be inferred from semantic information given or drawn from prior knowledge.
LEVEL 5 376-500	Some tasks in this level require the reader to search for information in dense text which contains a number of plausible distractors. Others ask readers to make high-level inferences or use specialized background knowledge. Some tasks ask readers to contrast complex information.	Tasks in this level require the reader to search through complex displays that contain multiple distractors, to make high-level text-based inferences, and to use specialized knowledge.	These tasks require readers to perform multiple operations sequentially. They must disembed the features of the problem from text or rely on background knowledge to determine the quantities or operations needed.

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

This report, which focuses on language minorities in the United States, discusses two distinct population groups: Hispanics and immigrants. As discussed in Chapter 2, the Hispanic racial/ethnic group has larger numbers of non-native English speakers than any other racial/ethnic group in the United States. Many Hispanics, even those born in the United States, grew up in homes where a non-English language (Spanish) was spoken. Therefore, in order to provide as full a portrait as possible of language minorities in the United States, we present most analyses in this report separately for Hispanics (including those born in the United States) and for immigrants (including those born in Spanish-speaking countries).

The sample size for non-native English speakers in other racial/ethnic groups is not large enough to support detailed separate analyses for these groups. Chapter 2 provides an overview of the language skills of language minorities in all the major racial/ethnic groups, in order to allow comparisons with Hispanics. However, the sample sizes of non-native English speakers in these groups do not permit analysis by education and employment level in Chapters 3 and 4.

Additionally, the background questionnaire for the National Adult Literacy Survey was only available in English and Spanish. Adults who were unable to complete the questionnaire in English or Spanish are not included in the sample analyzed in this report. Thus, when comparing Hispanics to other racial/ethnic groups, or comparing immigrants from Spanish-speaking countries to immigrants from non-Spanish-speaking countries, it is important to keep in mind that the Spanish-speaking sample includes people with lower levels of English fluency than the samples of other non-native English speakers. We tried to note in the text instances where this could lead the reader to draw false inferences about the comparative literacy ability of Hispanic and non-Hispanic adults.

In interpreting the results of this study, readers should bear in mind that the literacy tasks contained in this assessment and the adults invited to participate in the survey are samples drawn from their two respective universes. As such, the results are subject to both sampling and measurement error (as well as other sources of error). The sampling design and weighting procedures applied in this survey assure that participants' responses can be generalized to the populations of interest.

Discussions of differences between various subpopulations were based on statistical tests that consider the magnitude of the differences (for example, the difference in average prose proficiency between

immigrants and people born in the United States), the margin of error associated with the numbers being compared, and the number of comparisons being made. Only statistically significant differences (at the .05 level) are discussed in this report. Particularly because of the small sample size of some of the racial, ethnic, and immigrant groups discussed in this report, readers who are interested in making their own comparisons should take the survey error into account to distinguish real differences from those due to chance. Readers should also remember that the Hispanic sample includes adults who completed the Spanish language version of the background questionnaire.

Defining Terms Used Throughout This Report

We use the terms monolingual, bilingual, monoliterate, and biliterate extensively throughout this report. In this section we discuss how these terms are defined and what they mean in the context of this report.

The background questionnaire asked questions about fluency and literacy in English of all respondents, but questions about fluency and literacy in a language other than English were asked only of respondents who reported that they spoke a language other than English before starting school. The acquisition of a language other than English before starting school is one of the primary criteria for identifying the language-minority, non-English language background population in the United States. Growing up in a household where a language other than English is spoken, whether or not that person spoke it, is another such criterion.

Respondents who reported that they spoke a language other than English before starting school were asked, "...how well do you understand it?" "...how well do you speak it?" "...how well do you read it?" and "...how well do you write it?" As illustrated in Table 1.2, just over 4,000 respondents (representing approximately 29 million people) were asked these questions about fluency and literacy in a language other than English, while approximately 26,000 respondents (representing about 191 million people) answered a similar set of questions about fluency and literacy in English.

As illustrated in Table 1.2, over 65 percent of adults who spoke a language other than English before they started school reported that they still understood that language very well, and an additional 22 percent reported that they understood that language well but not very well in 1992. Over half of adults who spoke a language other than English before starting school reported that they still spoke that language very well as

adults, and 24 percent reported that they spoke the language well but not very well. We coded everyone who spoke or understood a language other than English well or very well as fluent in that language. Thus, the majority of people who spoke a language other than English before starting school are coded as being fluent in that language as adults.

Somewhat fewer people said they were literate in a language other than English that they spoke before starting school. As illustrated in Table 1.2, less than half of individuals who spoke a language other than English before starting school read that language very well as adults. Twenty percent read the language well but not very well. Just over 40 percent of individuals who spoke a language other than English before starting school write that language very well today, and 20 percent write that language well but not very well. We coded everyone who spoke a language other than English before starting school and currently reads or writes that language well or very well as being literate in that language. Thus, fewer people are coded literate in a non-English language than are coded fluent in that language.

We followed a similar coding strategy for fluency and literacy in English, except that the questions about English fluency and literacy were asked of all people, not just those people who spoke a language other than English before starting school. Individuals who spoke or understood English well or very well were coded as being fluent in English. Individuals who read or write English well or very well were coded as being literate in English.

Individuals who were coded as being fluent in English and another language were classified bilingual. Individuals who were coded as being literate in English and another language were classified biliterate. Because only people who spoke a language other than English before starting school were asked questions that allowed us to classify them as fluent or literate in a language other than English, the categories bilingual and biliterate include only individuals who speak a language other than English as a native language. People who learned a language other than English after starting school could not be classified as bilingual or biliterate, even if they attained high levels of proficiency in that language.

Table 1.2: Distribution of responses to questions about understanding, speaking, reading, and writing English and other languages

Row percent (s.e.)	Sample size	Population /1000	Very well	Well	Not well	Not at all
In non-English language, how well do you...						
Understand it?	4,028	28,703	67 (1.0)	22 (0.8)	10 (0.7)	2 (0.3)
Speak it?	4,021	28,645	57 (1.0)	24 (1.0)	15 (0.8)	4 (0.4)
Read it?	4,022	28,679	45 (1.3)	20 (1.0)	17 (0.8)	17 (1.1)
Write it?	4,024	28,690	41 (1.3)	20 (1.0)	17 (0.7)	23 (1.4)
In English, how well do you...						
Understand it?	26,076	191,205	81 (0.5)	15 (0.5)	3 (0.1)	1 (0.1)
Speak it?	26,068	191,081	72 (0.8)	24 (0.8)	3 (0.2)	1 (0.1)
Read it?	26,041	190,927	71 (0.7)	23 (0.6)	5 (0.2)	2 (0.1)
Write it?	25,999	190,648	64 (0.8)	27 (0.7)	7 (0.2)	3 (0.1)

Questions about understanding, speaking, reading, and writing a language other than English were asked only of immigrants and people raised in homes where a language other than English was spoken. Therefore the sample size for these questions is smaller than the sample size for the questions concerning English comprehension and usage.

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

Differences Between the Bilingual and Biliterate Categories

There was considerable overlap of responses between the biliterate and bilingual populations, but they were not identical. Thus, much analysis in this report is done separately using both the self-reported literacy and self-reported fluency categories. In the remainder of this section, we discuss how the bilingual and biliterate categories differ.

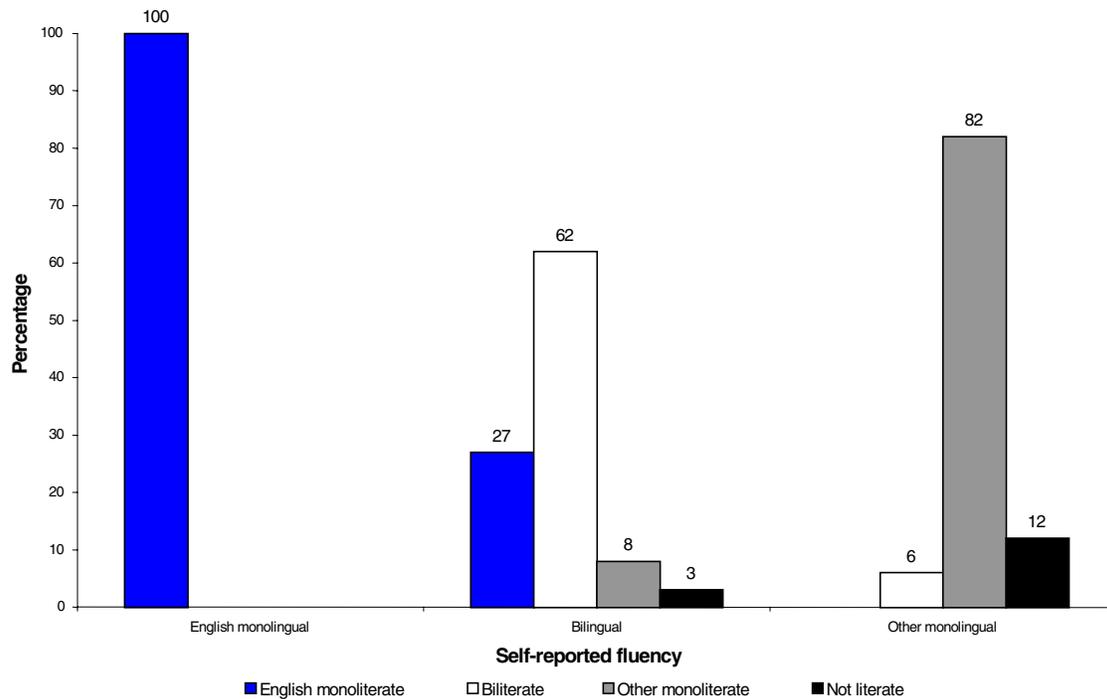
As illustrated in Figure 1.5, although the majority of people who were classified as bilingual were also biliterate, 27 percent of bilingual individuals were literate only in English and 8 percent were literate only in a language other than English, based on people's self-assessment of their reading and writing skills. Fewer than five percent reported being not literate at all.

However, 100 percent of people who were classified as English monolingual were also classified as English monoliterate based on their self-reported literacy. As we will discuss in more detail in Chapter 2, some of the people who were coded English monolingual were raised in homes where a language other than English was spoken, but learned to speak and write English at an early age and ceased speaking their native language. These respondents, non-native English speakers who learned

English at an early age and stopped speaking their native language, had English skills comparable to native English speakers. Most of the people in the English monolingual category were native English speakers who were not asked questions about fluency and literacy in a language other than English.

As illustrated in Figure 1.5, 12 percent of people who were not fluent in English (other monolinguals) were not literate in any language, based on people’s self-assessment of their reading and writing abilities. Just over 5 percent of people who were not fluent in English (other monolinguals) considered themselves biliterate: they read or wrote English well or very well even though they spoke and understood English poorly or not at all. As we would expect, over 80 percent of the people who were fluent only in a language other than English (other monolinguals) were also literate only in that language.

Figure 1.5: Self-reported literacy by self-reported fluency



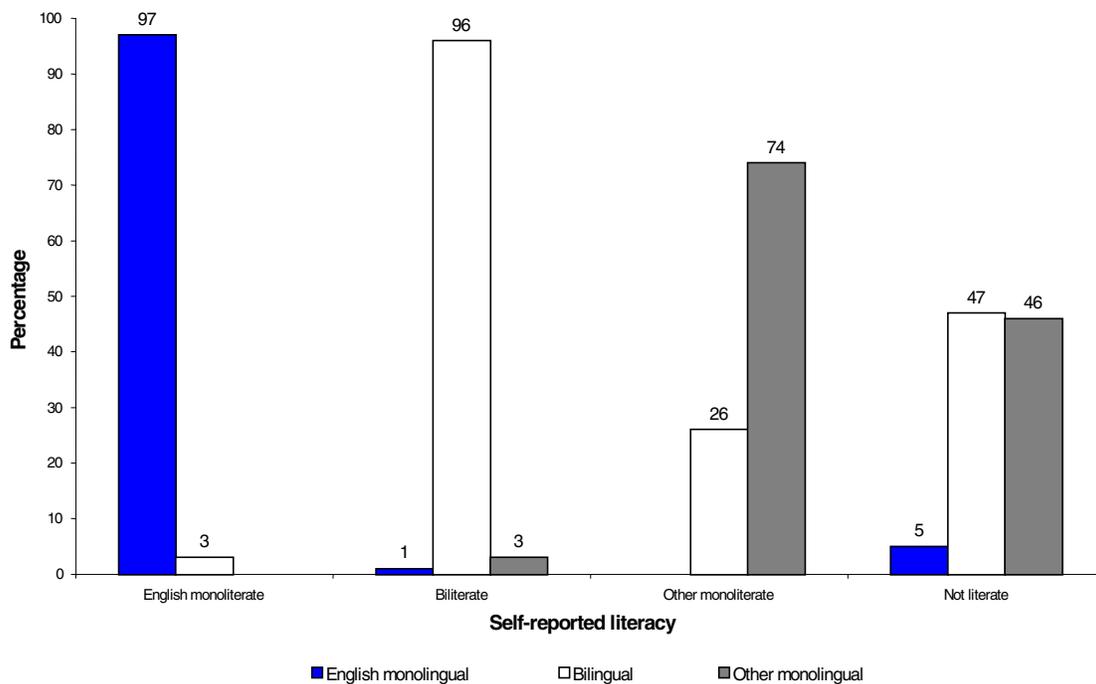
Respondents who reported that they spoke only English before starting school were coded English monolingual, even if they learned to speak another language in school or as an adult. Respondents who spoke a language other than English before starting school and who spoke or understood both that language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



Although, as illustrated in Figure 1.5 and discussed above, only 62 percent of people who were bilingual were also biliterate, 96 percent of people who were biliterate were bilingual (Figure 1.6). Thus, it was considerably more likely that someone who spoke a language was unable to read that language, than that someone who read a language was unable to speak that language. This is not surprising, since learning to read a language usually requires formal instruction. Many of the bilingual respondents in this survey were educated in schools in the United States where reading instruction was provided primarily in English. Thus, although they are fluent in a language other than English, they may never have had the opportunity to learn to read and write that language.

Figure 1.6: Self-reported fluency by self-reported literacy



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. Respondents who reported that they spoke only English before starting school and who reported that they read or write 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.

Almost all respondents who were English monoliterate were also English monolingual. However, approximately one fourth of people who were other monoliterate were also bilingual. These are people who spoke a language other than English before starting school and learned to speak English later in life, but never learned to read English.

The non-literate population is evenly split between people who were coded bilingual and people who were coded other monolingual, when we use people's own assessment of their reading and writing skills to define literacy (Figure 1.6). Only 5 percent of the non-literate population was coded English monolingual. This means that, when we defined literacy using people's self-assessment of their reading and writing skills, at least 95 percent of the non-literate population of the United States spoke a language other than English before starting school, since only respondents who spoke a language other than English before starting school were asked the questions that allowed us to classify them as bilingual or other monolingual.

A Note on Interpretations

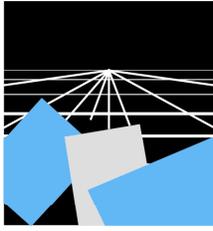
In reviewing the information contained in this report, readers should be aware that no single factor determines what an individual's literacy proficiencies will be. All of us develop our own unique repertoire of competencies depending on a wide array of conditions and circumstances, including our family backgrounds, educational attainments, interests and aspirations, economic resources, and employment experiences. Any single survey, this one included, can focus on only some of these variables.

Further, while the results revealed certain characteristics that are related to literacy, the nature of the survey makes it impossible to determine the direction of these relationships. In other words, it is impossible to identify the extent to which literacy shapes particular aspects of our lives or is, in turn, shaped by them. For example, there is a strong relationship between educational attainment and literacy proficiencies. On the one hand, it is likely that staying in school longer does strengthen an individual's literacy skills. On the other hand, it is also true that those with more advanced skills tend to remain in school longer. Other variables, as well, are likely to play a role in the relationship between literacy and education. In interpreting such relationships in this report, the authors strove to acknowledge the many factors involved.



A final note deserves emphasis. This report describes the literacy proficiencies of various subpopulations defined by characteristics such as race, ethnicity, country of origin, age of arrival in the United States, and educational background. While certain groups demonstrate lower literacy skills than others, on average, within every group there are some individuals who perform well and some who perform poorly. Accordingly, when one group is said to have lower average proficiencies than another, this does not imply that *all* adults in the first group perform worse than those in the second. Such statements are only intended to highlight general patterns of differences among various groups and, therefore, do not capture the variability within each group.





CHAPTER 2

Language Background and Literacy Proficiency

In this chapter, we examine the language and literacy skills of members of different racial and ethnic groups living in the United States in 1992. The analyses presented in this chapter will show that immigrants who entered the United States before age 12 had English literacy skills as adults comparable to members of the same racial and ethnic group who were born in the United States, and that virtually everyone born in the United States, or immigrating to the United States before age 12, spoke English fluently as an adult.

The analyses presented in this chapter will also show that people raised in homes where no English was spoken had English literacy levels as adults substantially lower than people raised in homes where English was spoken; people raised in homes where an Asian or European language was spoken in addition to English obtained English literacy proficiency as adults comparable to people who grew up in homes where only English was spoken; and people raised in homes where Spanish was spoken in addition to English obtained English literacy proficiency as adults slightly below that of people who grew up in homes where only English was spoken.

We will also show that the English literacy skills of Asians/Pacific Islanders were comparable to those of whites, and the English literacy skills of Hispanics were slightly lower than those of whites, when we accounted for the differences in language background of members of these racial and ethnic groups.

Defining Self-Reported Fluency and Literacy

As explained in Chapter 1, each individual who participated in the National Adult Literacy Survey was asked to complete a background questionnaire requesting demographic and other information, as well as a booklet of prose, document, and quantitative literacy tasks. The background questionnaire was orally administered in English or Spanish. Respondents who spoke a language other than English before starting school were asked questions about fluency and literacy in that language.

These respondents were also asked detailed questions about the languages they actually spoke as children, as well as questions about the languages spoken by other people living in their homes. Individuals not born in this country were asked how long they had lived here. From that information, we were able to determine each individual's approximate age when immigrating to the United States. This background information is used extensively in this chapter.

We determined each individual's fluency and literacy in English and his or her native language from his or her responses to the background questionnaire. 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 in that language. 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 in that language.

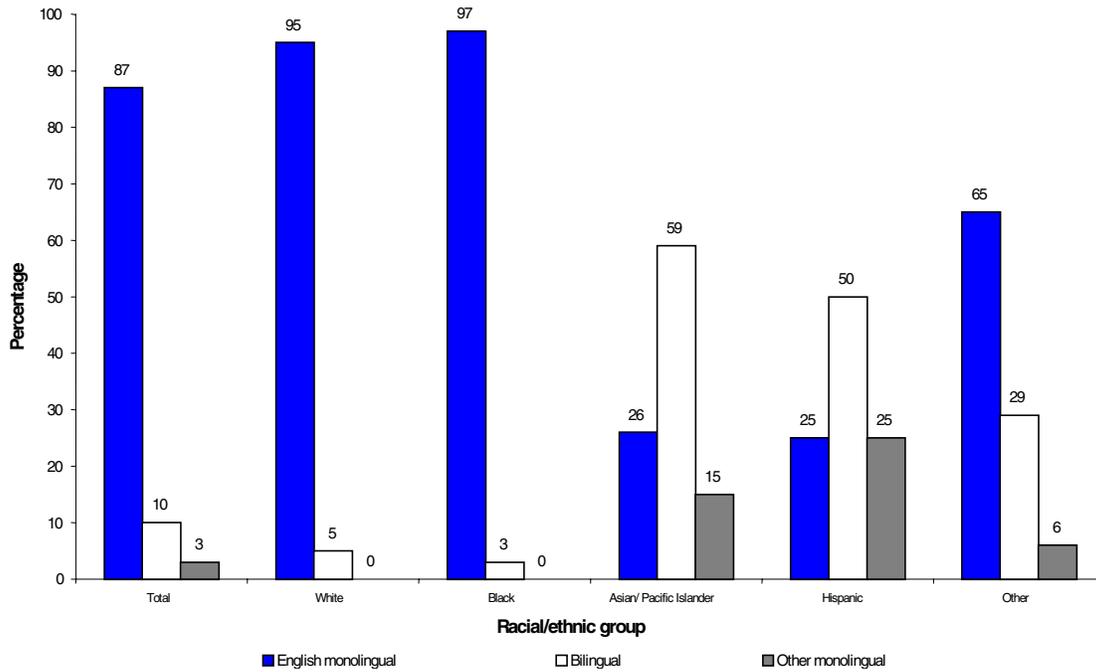
Because questions about fluency and literacy in a language other than English were asked only of respondents who spoke a language other than English before starting school, the biliterate and bilingual categories in this report refer only to native speakers of a language other than English.

People who learned a second language in school or as an adult were always coded monoliterate and English monolingual, because there was no way to identify them in the dataset.

Self-Reported Literacy and Fluency of the Adult Population

In 1992, approximately 10 percent of adults living in the United States spoke a language other than English before starting school and considered themselves bilingual in English and another language, while three percent of adults were fluent only in a language other than English (Figure 2.1). These numbers varied among racial and ethnic groups. In 1992, people who identified themselves as white or black were much more likely than members of other racial and ethnic groups to be English monolingual (Figure 2.1). Over half of Asian/Pacific Islanders and 50 percent of Hispanics were bilingual, while only 5 percent of whites and 3 percent of blacks fell into the bilingual category (Figure 2.1). One quarter

Figure 2.1: Self-reported fluency by racial/ethnic group



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.

Percentages below 0.5 are rounded to 0.

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

of Hispanics and 15 percent of Asians/Pacific Islanders reported they were fluent only in a language other than English, compared with less than 1 percent of whites and blacks (Figure 2.1).¹

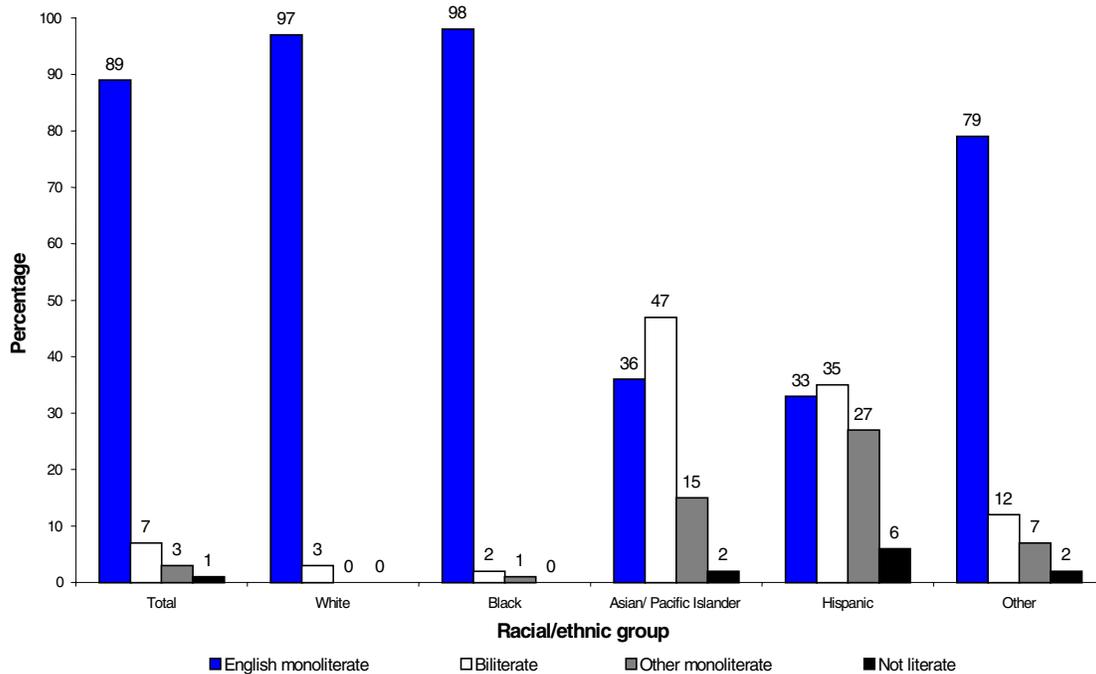
Most people also believed that they read and wrote English well or very well. Only 3 percent said that they were literate only in a language other than English, and 1 percent said that they were not literate in any language (Figure 2.2). Seven percent of people spoke a language other than English before starting school and as adults considered themselves to be biliterate (Figure 2.2).

Literacy in English and languages other than English also varied among racial and ethnic groups. As we discussed in Chapter 1, whites and blacks were much more likely than members of other racial and

¹ The fact that Hispanics could answer the background questionnaire in Spanish undoubtedly inflated the estimates for Hispanics compared to the other racial/ethnic groups.

ethnic groups to have spoken only English before starting school and therefore to have read English as their primary or only language. Just under one-half of Asian/Pacific Islanders and 35 percent of Hispanics were raised in homes where a language other than English was spoken and, as adults, considered themselves biliterate, while 15 percent of Asian/Pacific Islanders and 27 percent of Hispanics said that they were literate only in a language other than English (Figure 2.2). These numbers were lower for whites and blacks. Only 3 percent of whites and 2 percent of blacks considered themselves biliterate, and less than 1 percent of whites and blacks considered themselves literate only in a language other than English. Hispanics had higher rates of self-assessed illiteracy than whites, blacks, or Asian/Pacific Islanders; 6 percent answered that they did not read or write any language well (Figure 2.2).

Figure 2.2: Self-reported literacy by racial/ethnic group



Respondents who reported that they spoke only English before starting school and who reported that they read or write 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 are 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.

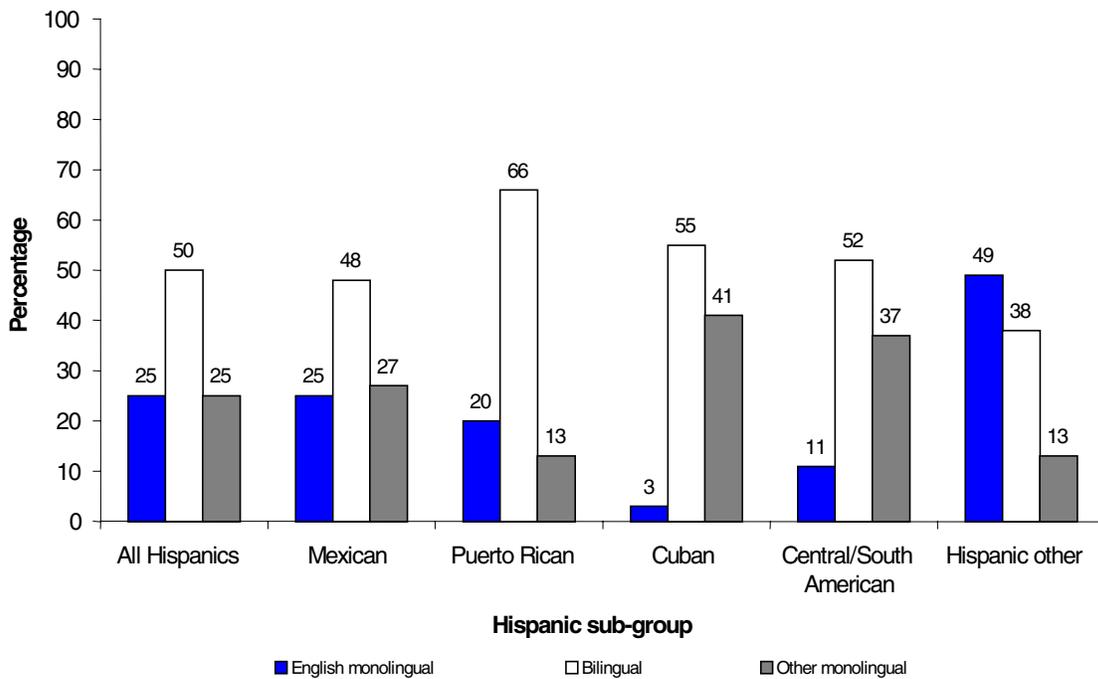
Percentages below 0.5 are rounded to 0.

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

Among Hispanics, there was significant variation in oral language and literacy ability based on country of origin. Hispanics of Mexican, Cuban, or Central/South American origin were more likely to speak only Spanish than Hispanics of Puerto Rican or other/not identified origin (Figure 2.3). Only 3 percent of Hispanics of Cuban origin answered that they spoke Spanish poorly or not at all (that is, they were English monolingual), a smaller percentage than any other Hispanic group except Hispanics of Central/South American origin (Figure 2.3). Hispanics of Mexican, Cuban, or Central/South American origin were also more likely to read only Spanish than Hispanics of Puerto Rican or other/not identified origin (Figure 2.4).

Approximately 15 percent of Hispanics of Puerto Rican and other/not identified origin reported that they read or wrote only Spanish well (that is, they were monolingual in a language other than English), compared with over 25 percent of the other Hispanic sub-groups (Figure 2.4).

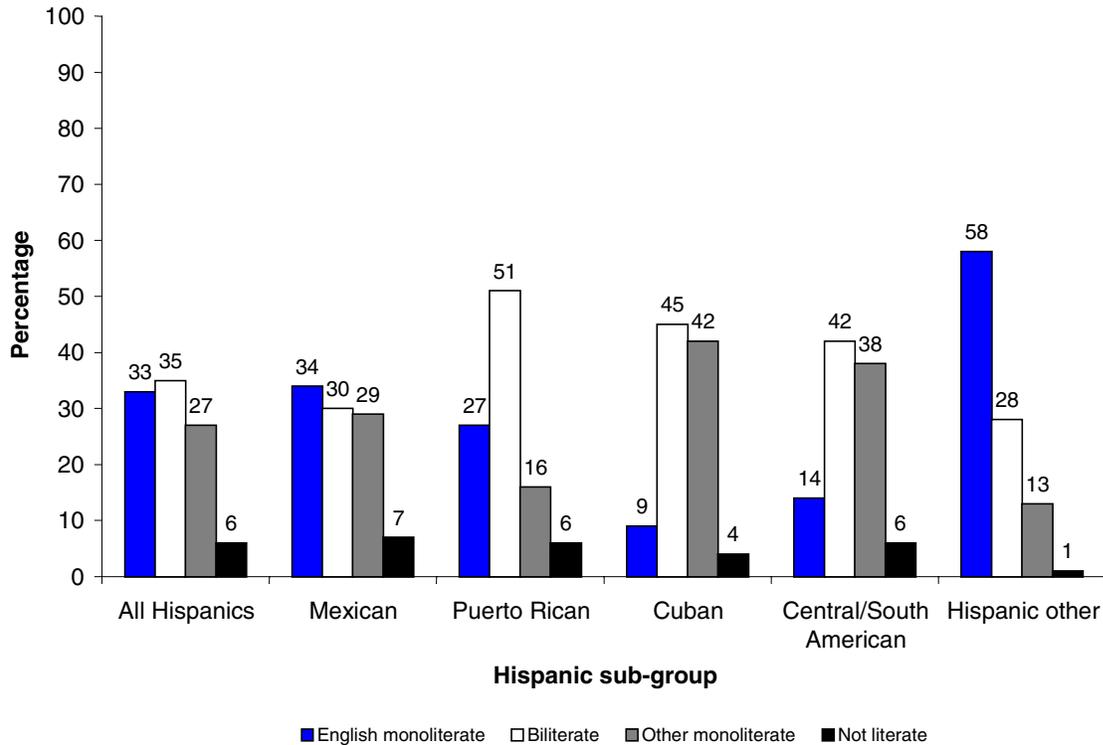
Figure 2.3: Self-reported fluency by Hispanic sub-group



Respondents who reported that they spoke only English before starting school and who reported that they read or write 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 are coded biliterate.

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

Figure 2.4: Self-reported literacy by Hispanic sub-group



Respondents who reported that they spoke only English before starting school and who reported that they read or write 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 are coded biliterate.
 SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Age of Arrival in the United States and Language Spoken in the Home While Growing Up

We divided the adult population into five categories based on how old each respondent was when he or she arrived in the United States. Those five categories are: (1) born in the United States, (2) arrived at age 1 to 11, (3) arrived at age 12 to 18, (4) arrived at age 19 to 24, and (5) arrived at age 25 or older.

Ninety percent of people born in the United States grew up in homes where only English was spoken (Table 2.1). However, Hispanics and Asians/Pacific Islanders born in the United States were much less likely than whites and blacks born in the United States to have grown up in homes where only English was spoken. Only 48 percent of

Asians/Pacific Islanders and 36 percent of Hispanics born in the United States were raised in homes where only English was spoken, compared with 92 percent of whites and 99 percent of blacks (Table 2.1).

A significant number of immigrants also grew up in homes where English was the only language spoken. Slightly over one-third of immigrants arriving in the United States before age 12 and approximately one-tenth of immigrants arriving in the United States after age 12 grew up in homes where only English was spoken (Table 2.1). Some of these people were immigrants from countries where English is the primary or secondary language, such as England and the Philippines. Others may have been children of American citizens who were living abroad at the time of their birth or they may have lived in families where a conscious decision was made to stop speaking a language other than English. The data available from the National Adult Literacy Survey background questionnaire did not allow us to distinguish accurately among these various groups.

Age of Arrival in the United States and Self-Reported Fluency and Literacy

Virtually everyone born in the United States, regardless of racial and ethnic group, reported that he or she was fluent (Table 2.2) and literate (Table 2.3) in English.² However, as discussed below, for people not born in the United States, their age of arrival in the United States was related to their fluency and literacy in English as adults.

As we discussed above, people who immigrated to the United States before age 12 were more likely to have been raised in homes where only English was spoken than were people who immigrated to the United States after age 12. These people were not asked questions about fluency and literacy in a language other than English, so we coded them monolingual and monoliterate English. Therefore, we expected that more people who arrived in the United States before age 12 would be coded as being fluent and literate in English only.

Additionally, individuals who immigrated to the United States before age 12 probably spent at least five years in an American school where instruction took place in English. Many schools offer special

² People who are coded bilingual or English monolingual answered that they spoke or understood English well or very well. People who are coded biliterate or English monoliterate answered that they read or wrote English well or very well.

Table 2.1: Language spoken in home while growing up by racial/ethnic group and age of arrival in the United States

Row percent (s.e.)	Sample size	Population /1000	English/ other	English only	Other only
Total population					
U.S.-born	23,160	170,823	8 (0.5)	90 (0.5)	2 (0.1)
Arrived U.S. age 1 to 11	519	3,389	22 (2.3)	35 (2.9)	42 (2.7)
Arrived U.S. age 12 to 18	599	3,830	5 (1.0)	10 (1.5)	84 (1.8)
Arrived U.S. age 19 to 24	666	4,497	4 (0.9)	12 (2.0)	84 (2.3)
Arrived U.S. age 25 or older	1,011	7,790	7 (1.1)	12 (1.2)	81 (1.4)
White					
U.S.-born	16,673	139,356	6 (0.4)	92 (0.4)	1 (0.1)
Arrived U.S. age 1 to 11	158	1,201	17 (4.1)	65 (5.3)	19 (4.0)
Arrived U.S. age 12 to 18	82	646	12 (3.6)	28 (6.6)	60 (7.4)
Arrived U.S. age 19 to 24	117	1,229	4 (2.3)	29 (5.0)	66 (6.2)
Arrived U.S. age 25 or older	197	2,107	7 (2.0)	25 (3.4)	67 (3.2)
Black					
U.S.-born	4,715	19,929	1 (0.2)	99 (0.2)	---
Arrived U.S. age 1 to 11	38	138	---	---	---
Arrived U.S. age 12 to 18	49	270	---	56 (6.9)	44 (6.9)
Arrived U.S. age 19 to 24	49	258	12 (4.3)	42 (9.8)	46 (10.8)
Arrived U.S. age 25 or older	86	472	8 (3.5)	50 (6.5)	42 (7.4)
Asian/Pacific Islander					
U.S.-born	86	851	33 (5.3)	48 (7.3)	19 (5.8)
Arrived U.S. age 1 to 11	53	504	22 (5.6)	33 (8.5)	45 (8.8)
Arrived U.S. age 12 to 18	60	464	10 (4.4)	8 (4.3)	82 (7.0)
Arrived U.S. age 19 to 24	73	604	12 (4.4)	10 (6.3)	78 (7.1)
Arrived U.S. age 25 or older	153	1,505	18 (4.6)	4 (2.0)	78 (4.6)
Total Hispanic					
U.S.-born	1,481	8,726	39 (2.4)	36 (1.8)	26 (1.9)
Arrived U.S. age 1 to 11	261	1,490	28 (2.8)	7 (2.3)	65 (3.1)
Arrived U.S. age 12 to 18	397	2,347	4 (1.2)	0 (0.3)	96 (1.3)
Arrived U.S. age 19 to 24	414	2,298	1 (0.4)	1 (0.5)	99 (0.6)
Arrived U.S. age 25 or older	546	3,459	3 (0.8)	1 (0.5)	96 (0.8)
Mexican					
U.S.-born	960	5,521	38 (2.7)	29 (1.9)	33 (2.7)
Arrived U.S. age 1 to 11	109	623	29 (5.0)	1 (1.1)	70 (5.1)
Arrived U.S. age 12 to 18	237	1,401	2 (1.9)	0 (0.3)	98 (1.9)
Arrived U.S. age 19 to 24	232	1,279	---	---	100 (0.0)
Arrived U.S. age 25 or older	225	1,332	1 (0.7)	1 (0.5)	98 (0.8)
Puerto Rican					
U.S.-born	175	898	43 (7.1)	34 (6.3)	23 (4.1)
Arrived U.S. age 1 to 11	64	313	37 (7.6)	5 (1.8)	59 (7.5)
Arrived U.S. age 12 to 18	57	330	6 (2.7)	1 (1.6)	93 (3.4)
Arrived U.S. age 19 to 24	55	249	2 (1.6)	0 (0.2)	98 (1.6)
Arrived U.S. age 25 or older	50	374	5 (2.7)	2 (1.4)	93 (3.2)
Cuban					
U.S.-born	21	100	---	---	---
Arrived U.S. age 1 to 11	26	171	---	---	---
Arrived U.S. age 12 to 18	17	119	---	---	---
Arrived U.S. age 19 to 24	9	66	---	---	---
Arrived U.S. age 25 or older	74	476	3 (1.7)	---	97 (1.7)
Central/South American					
U.S.-born	43	292	---	---	---
Arrived U.S. age 1 to 11	43	242	---	---	---
Arrived U.S. age 12 to 18	62	330	7 (3.8)	---	93 (3.8)
Arrived U.S. age 19 to 24	83	513	---	1 (0.7)	99 (0.7)
Arrived U.S. age 25 or older	147	912	5 (1.9)	2 (1.2)	93 (2.2)
Other Hispanic					
U.S.-born	282	1,916	38 (5.3)	53 (6.8)	9 (2.5)
Arrived U.S. age 1 to 11	19	142	---	---	---
Arrived U.S. age 12 to 18	24	168	---	---	---
Arrived U.S. age 19 to 24	35	191	---	---	---
Arrived U.S. age 25 or older	50	365	2 (2.1)	2 (2.2)	95 (2.9)
Other					
U.S.-born	204	1,961	29 (10.2)	65 (12.8)	6 (4.3)
Arrived U.S. age 1 to 11	9	56	---	---	---
Arrived U.S. age 12 to 18	11	103	---	---	---
Arrived U.S. age 19 to 24	13	108	---	---	---
Arrived U.S. age 25 or older	29	247	---	---	---

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.

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

Percentages below 0.5 are rounded to 0.

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

Table 2.2: Self-reported fluency by racial/ethnic group and age of arrival in the United States

Row percent (s.e.)	Sample size	Population /1000	Bilingual	English monolingual	Other monolingual
Total population					
U.S.-born	23,189	171,073	5 (0.4)	94 (0.4)	---
Arrived U.S. age 1 to 11	519	3,389	55 (3.0)	44 (2.9)	2 (0.65)
Arrived U.S. age 12 to 18	598	3,830	61 (2.6)	12 (2.0)	27 (2.6)
Arrived U.S. age 19 to 24	666	4,497	55 (2.8)	13 (2.3)	32 (2.3)
Arrived U.S. age 25 or older	1,007	7,746	48 (2.1)	13 (1.1)	38 (2.2)
White					
U.S.-born	16,693	138,554	3 (0.2)	97 (0.2)	---
Arrived U.S. age 1 to 11	158	1,201	29 (4.9)	71 (4.9)	---
Arrived U.S. age 12 to 18	82	646	67 (6.6)	30 (7.4)	3 (2.7)
Arrived U.S. age 19 to 24	117	1,229	62 (5.9)	33 (6.3)	5 (2.9)
Arrived U.S. age 25 or older	196	2,080	63 (3.3)	28 (3.3)	8 (3.2)
Black					
U.S.-born	4,726	19,991	1 (0.2)	99 (0.2)	---
Arrived U.S. age 1 to 11	38	138	---	---	---
Arrived U.S. age 12 to 18	49	270	42 (7.0)	58 (7.0)	---
Arrived U.S. age 19 to 24	49	258	58 (10.4)	39 (9.7)	3 (2.6)
Arrived U.S. age 25 or older	85	465	43 (5.5)	52 (6.5)	5 (3.7)
Asian/Pacific Islander					
U.S.-born	87	851	24 (6.1)	73 (4.9)	3 (2.8)
Arrived U.S. age 1 to 11	53	504	46 (8.3)	52 (8.5)	3 (0.5)
Arrived U.S. age 12 to 18	60	464	83 (6.0)	11 (4.4)	7 (4.3)
Arrived U.S. age 19 to 24	73	604	79 (6.1)	13 (6.7)	8 (3.6)
Arrived U.S. age 25 or older	153	1,505	65 (5.5)	5 (2.1)	30 (5.1)
Total Hispanic					
U.S.-born	1,479	8,716	50 (2.1)	49 (2.1)	1 (0.3)
Arrived U.S. age 1 to 11	261	1,490	84 (3.0)	13 (2.8)	3 (1.0)
Arrived U.S. age 12 to 18	396	2,347	57 (3.2)	2 (0.8)	41 (3.4)
Arrived U.S. age 19 to 24	414	2,298	43 (3.3)	1 (0.7)	56 (3.2)
Arrived U.S. age 25 or older	544	3,449	34 (2.5)	2 (0.5)	64 (2.5)
Mexican					
U.S.-born	958	5,511	54 (1.9)	44 (1.8)	2 (0.5)
Arrived U.S. age 1 to 11	109	623	85 (4.0)	10 (3.5)	6 (1.8)
Arrived U.S. age 12 to 18	236	1,401	47 (3.5)	2 (1.0)	51 (3.8)
Arrived U.S. age 19 to 24	232	1,279	31 (4.5)	1 (1.1)	68 (4.2)
Arrived U.S. age 25 or older	225	1,332	22 (2.7)	1 (0.8)	77 (2.6)
Puerto Rican					
U.S.-born	175	898	55 (6.3)	45 (6.3)	---
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Arrived U.S. age 25 or older	50	374	65 (7.0)	2 (1.4)	33 (6.6)
Cuban					
U.S.-born	21	100	---	---	---
Arrived U.S. age 1 to 11	26	171	---	---	---
Arrived U.S. age 12 to 18	17	119	---	---	---
Arrived U.S. age 19 to 24	9	66	---	---	---
Arrived U.S. age 25 or older	74	476	30 (4.8)	1 (1.0)	69 (4.9)
Central/South American					
U.S.-born	43	292	---	---	---
Arrived U.S. age 1 to 11	43	242	---	---	---
Arrived U.S. age 12 to 18	62	330	60 (6.9)	3 (1.9)	37 (7.0)
Arrived U.S. age 19 to 24	83	513	53 (7.3)	1 (0.7)	47 (7.5)
Arrived U.S. age 25 or older	145	902	44 (5.7)	3 (1.3)	53 (5.4)
Other Hispanic					
U.S.-born	282	1,916	33 (8.3)	67 (8.3)	---
Arrived U.S. age 1 to 11	19	142	---	---	---
Arrived U.S. age 12 to 18	24	168	---	---	---
Arrived U.S. age 19 to 24	35	191	---	---	---
Arrived U.S. age 25 or older	50	365	23 (10.5)	2 (2.2)	74 (10.7)
Other					
U.S.-born	204	1,961	23 (8.7)	76 (8.8)	0 (1.8)
Arrived U.S. age 1 to 11	9	56	---	---	---
Arrived U.S. age 12 to 18	11	103	---	---	---
Arrived U.S. age 19 to 24	13	108	---	---	---
Arrived U.S. age 25 or older	29	247	---	---	---

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.

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

Percentages below 0.5 are rounded to 0.

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



Table 2.3: Self-reported literacy by racial/ethnic group and age of arrival in the United States

Row percent (s.e.)	Sample size	Population /1000	Biliterate	English monoliterate	Other monoliterate	Not literate
Total population						
U.S.-born	23,190	171,042	3 (0.1)	97 (0.2)	---	0 (0.1)
Arrived U.S. age 1 to 11	519	3,389	37 (2.6)	58 (2.7)	3 (1.0)	3 (0.5)
Arrived U.S. age 12 to 18	599	3,830	48 (3.4)	14 (2.0)	35 (3.4)	3 (0.9)
Arrived U.S. age 19 to 24	666	4,497	46 (2.3)	15 (2.3)	34 (2.2)	5 (1.3)
Arrived U.S. age 25 or older	1,011	7,790	39 (2.1)	16 (1.2)	39 (2.0)	6 (0.9)
White						
U.S.-born	16,692	139,513	1 (0.1)	99 (0.1)	---	---
Arrived U.S. age 1 to 11	158	1,201	14 (3.9)	86 (3.9)	---	---
Arrived U.S. age 12 to 18	82	646	61 (6.9)	32 (7.4)	8 (5.2)	---
Arrived U.S. age 19 to 24	117	1,229	58 (5.3)	33 (6.2)	9 (4.1)	1 (0.6)
Arrived U.S. age 25 or older	197	2,107	48 (4.1)	34 (4.2)	15 (3.2)	4 (1.9)
Black						
U.S.-born	4,726	19,991	0 (0.2)	100 (0.2)	---	---
Arrived U.S. age 1 to 11	38	138	---	---	---	---
Arrived U.S. age 12 to 18	49	270	39 (7.7)	58 (7.0)	---	3 (3.3)
Arrived U.S. age 19 to 24	49	258	33 (6.2)	55 (7.4)	7 (3.7)	5 (4.2)
Arrived U.S. age 25 or older	86	472	20 (7.0)	59 (6.9)	20 (5.5)	1 (1.5)
Asian/Pacific Islander						
U.S.-born	87	851	8 (2.1)	89 (4.2)	3 (2.8)	0 (0.2)
Arrived U.S. age 1 to 11	53	504	19 (5.6)	72 (6.3)	3 (3.0)	6 (2.5)
Arrived U.S. age 12 to 18	60	464	69 (8.0)	23 (6.8)	6 (4.0)	2 (2.3)
Arrived U.S. age 19 to 24	73	604	66 (6.3)	18 (6.9)	12 (2.4)	5 (2.7)
Arrived U.S. age 25 or older	153	1,505	62 (6.4)	8 (2.3)	30 (5.7)	---
Total Hispanic						
U.S.-born	1,481	8,726	31 (1.9)	64 (2.0)	2 (0.4)	4 (0.7)
Arrived U.S. age 1 to 11	261	1,490	65 (2.9)	26 (2.9)	5 (1.4)	3 (1.1)
Arrived U.S. age 12 to 18	397	2,347	41 (4.1)	2 (0.6)	53 (4.5)	4 (1.1)
Arrived U.S. age 19 to 24	414	2,298	35 (3.5)	1 (0.7)	56 (3.3)	8 (2.1)
Arrived U.S. age 25 or older	546	3,459	26 (2.6)	2 (0.5)	61 (2.7)	11 (1.5)
Mexican						
U.S.-born	960	5,521	32 (2.2)	60 (2.3)	2 (0.6)	6 (1.1)
Arrived U.S. age 1 to 11	109	623	67 (5.1)	20 (4.1)	10 (2.9)	3 (1.6)
Arrived U.S. age 12 to 18	237	1,401	30 (3.5)	1 (0.9)	65 (4.2)	4 (1.5)
Arrived U.S. age 19 to 24	232	1,279	21 (4.0)	1 (1.1)	68 (4.3)	11 (3.0)
Arrived U.S. age 25 or older	225	1,332	15 (2.3)	1 (0.7)	70 (2.6)	14 (2.9)
Puerto Rican						
U.S.-born	175	898	41 (5.2)	55 (5.0)	0 (0.4)	3 (1.6)
Arrived U.S. age 1 to 11	64	313	56 (5.1)	29 (6.6)	5 (2.3)	10 (5.2)
Arrived U.S. age 12 to 18	57	330	63 (15.1)	1 (1.0)	33 (16.1)	4 (3.1)
Arrived U.S. age 19 to 24	55	249	53 (10.9)	0 (0.2)	44 (11.9)	2 (2.2)
Arrived U.S. age 25 or older	50	374	56 (8.3)	2 (1.4)	27 (7.6)	15 (6.0)
Cuban						
U.S.-born	21	100	---	---	---	---
Arrived U.S. age 1 to 11	26	171	---	---	---	---
Arrived U.S. age 12 to 18	17	119	---	---	---	---
Arrived U.S. age 19 to 24	9	66	---	---	---	---
Arrived U.S. age 25 or older	74	476	26 (5.6)	---	68 (6.5)	6 (1.9)
Central/South American						
U.S.-born	43	292	---	---	---	---
Arrived U.S. age 1 to 11	43	242	---	---	---	---
Arrived U.S. age 12 to 18	62	330	53 (7.7)	2 (1.9)	39 (7.1)	5 (2.7)
Arrived U.S. age 19 to 24	83	513	44 (5.9)	1 (0.7)	49 (5.9)	6 (2.9)
Arrived U.S. age 25 or older	147	912	33 (5.4)	4 (1.4)	52 (5.7)	11 (2.7)
Other Hispanic						
U.S.-born	282	1,916	20 (4.7)	79 (4.8)	0 (0.3)	0 (0.3)
Arrived U.S. age 1 to 11	19	142	---	---	---	---
Arrived U.S. age 12 to 18	24	168	---	---	---	---
Arrived U.S. age 19 to 24	35	191	---	---	---	---
Arrived U.S. age 25 or older	50	365	20 (9.7)	2 (2.2)	75 (10.0)	2 (1.4)
Other						
U.S.-born	204	1,961	5 (2.1)	94 (2.2)	1 (0.6)	0 (0.6)
Arrived U.S. age 1 to 11	9	56	---	---	---	---
Arrived U.S. age 12 to 18	11	103	---	---	---	---
Arrived U.S. age 19 to 24	13	108	---	---	---	---
Arrived U.S. age 25 or older	29	247	---	---	---	---

Respondents who reported that they spoke only English before starting school and who report that they read or write 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.

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

Percentages below 0.5 are rounded to 0.

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

classes in English as a second language. Therefore, even if a language other than English was spoken in their childhood home, we expected more of this population to have spoken and read English well or very well as adults in 1992.

Responses to the literacy and fluency questions on the National Adult Literacy Survey questionnaire indicate that people who immigrated to the United States at a young age considered themselves fluent and literate in English. Almost all respondents who arrived in the United States at age 11 or younger answered that they spoke or understood English well or very well (Table 2.2), and 94 percent answered that they read or wrote English well or very well (Table 2.3). Since, as shown in Table 2.1, 42 percent of people who arrived in the United States before age 12 reported growing up in homes where no English was spoken, these high figures for English fluency and literacy indicate that the majority of immigrants who came to the United States at a young age were learning English outside the home, probably in the public school system.

Most immigrants who arrived in this country as teenagers or young adults did not have the same opportunity to study English as immigrants who arrived as children. As we have discussed above, they were also less likely than immigrants who arrived as children to grow up in homes where English was spoken. This was reflected in their responses to questions about English fluency and literacy. They were more likely to answer that they did not speak or read English well than those who immigrated before age 12.

However, even when we limited our analysis to people who arrived in the United States as teenagers or adults, a majority had learned English somewhere other than in their childhood homes. Although, as shown in Table 2.1, 84 percent of immigrants who arrived in the United States at age 12 to 18 reported that no English was spoken in their childhood home, only 27 percent of the same group did not speak English well as adults and were coded other monolingual (Table 2.2).

Almost half of people who immigrated to the United States before age 12 did not speak or understand any language other than English well (Table 2.2), and over half of them did not read or write any language other than English well (Table 2.3). In comparison, fewer than 15 percent of people who immigrated to the United States after age 12 were not fluent in a language other than English (i.e., were English monolingual), and fewer than 20 percent of people who immigrated to the United States



after age 12 were not literate in a language other than English (i.e., were English monoliterate).

Hispanics were more likely than whites or Asian/Pacific Islanders to be fluent in a language other than English as adults when they immigrated to the United States as children younger than 12 (i.e., they were not English monolingual). Only 13 percent of Hispanic adults who immigrated to the United States between the ages of 1 and 11 were fluent only in English, compared with 71 percent of whites and 52 percent of Asians/Pacific Islanders (Table 2.2). This finding is not surprising since only 7 percent of Hispanics who immigrated to the United States before age 12 grew up in homes where only English was spoken, compared to 65 percent of whites and 33 percent of Asians/Pacific Islanders (Table 2.1).

A lower percentage of Hispanics who immigrated to the United States before age 12 was literate only in English than was the case with any other racial and ethnic group (Table 2.3). Just over 25 percent of Hispanic immigrants who arrived in the United States before age 12 reported that they read and wrote only English, a much lower percentage than the 86 percent of whites and 72 percent of Asians/Pacific Islanders who arrived in the United States at the same age and reported reading and writing only English (Table 2.3).

Our sample size was not large enough to determine whether or not English fluency and literacy varied among Hispanics with different countries of origin when we controlled for age of arrival in the United States.

Language Spoken in the Home While Growing Up, Language Spoken Before Starting School, and Language Usually Spoken Today

We have already seen that there are large differences between the racial and ethnic groups in terms of language background. As discussed above, Hispanics and Asians/Pacific Islanders born in the United States were less likely than whites and blacks born in the United States to grow up in homes where English was spoken. Hispanics who immigrated to the United States at a young age were more likely than members of other racial and ethnic groups who immigrated to the United States at the same age to speak a language other than English as adults.



In this section, we look in more detail at these differences in language background. We analyze whether or not people were likely to learn English and whether or not people were likely to maintain their knowledge of a language other than English, based on their exposure to English and other languages as young children. We show that although almost everyone who was raised in a home where a second language was spoken in addition to English was fluent in English as an adult, people raised in homes where Spanish or an Asian language was spoken in addition to English were more likely to continue to be bilingual as adults than people raised in homes where a European language was spoken, in addition to English.³

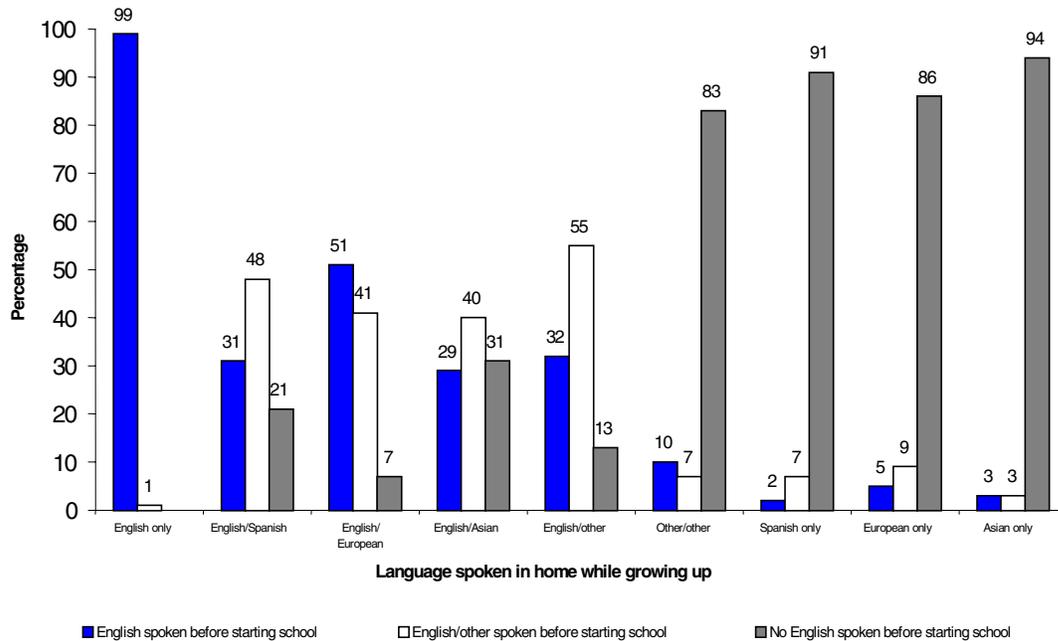
Not surprisingly, most people who grew up in homes where no English was spoken reported that they did not speak any English before starting school (Figure 2.5). Over 90 percent of respondents who grew up in homes where only Spanish or an Asian language was spoken, and over 80 percent of respondents who grew up in homes where only a European language was spoken, reported that they did not speak English before starting school (Figure 2.5).⁴

However, there was a lot of variation in the language experience of people who grew up in a home where English was spoken in addition to another language. Individuals who grew up in homes where English and a European language other than Spanish were spoken, were more likely to speak only English as children (51 percent) than were people who grew up in homes where Spanish (31 percent) or an Asian language (29 percent) was spoken in addition to English (Figure 2.5). Thus, even before they started school the majority of respondents who grew up in English/European language bilingual homes did not speak their household's non-English language, making it less likely that they would become biliterate or bilingual as adults than those who grew up in homes where English and Spanish or English and an Asian language were spoken.

³ In our increasingly global economy, speaking a second language in addition to English is generally acknowledged to be an important human capital asset. Thus, although the primary focus of this report is on English fluency and literacy, we do not want to diminish the importance of fluency and literacy in another language.

⁴ No follow-up questions were asked to allow us to determine how people who grew up in non-English speaking homes learned English before starting school. We assume that some of them were exposed to the English language through television, neighbors, baby-sitters, preschool or Head Start classes, and/or extended family members who spoke English. In addition, we do not know the preschool English proficiency of the respondents.

Figure 2.5: Language spoken before starting school by language spoken in home while growing up



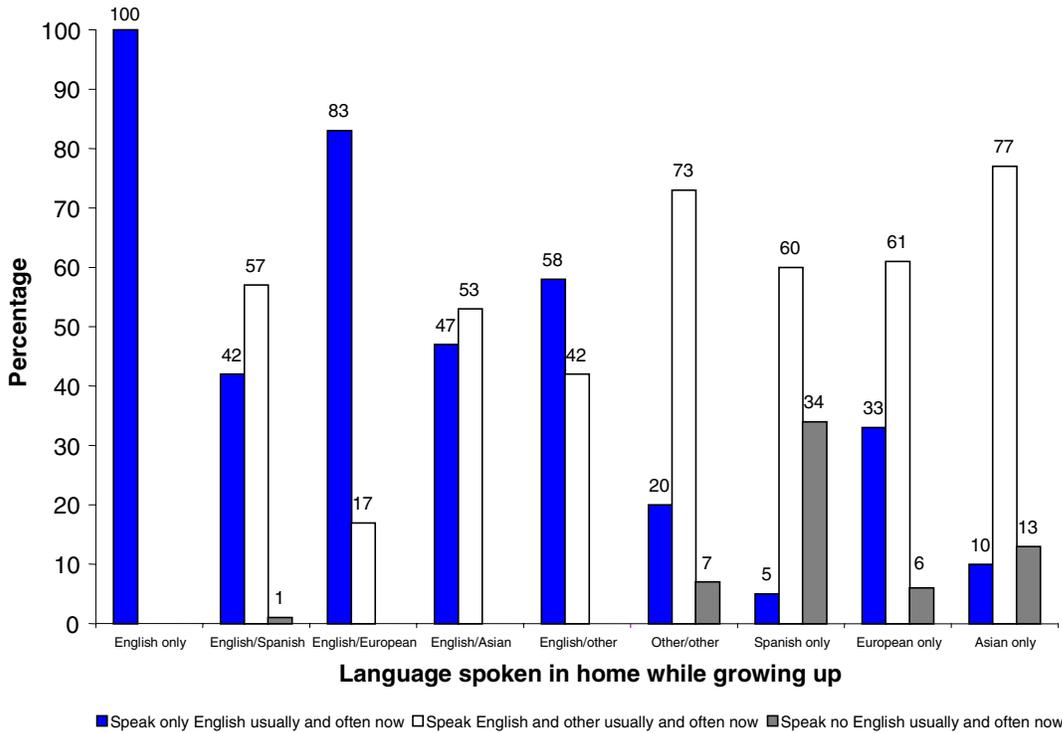
Only adults who could respond to the background questionnaire in English or Spanish are represented in the National Adult Literacy Survey sample. Comparisons between Spanish speaking and other non-English speaking adults may not be accurate, since the samples are not comparable for these populations.

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

This difference reappears when respondents were asked what language they usually and often speak now. While 42 percent of those who were raised in English/Spanish homes and 47 percent of those raised in English/Asian homes said English only, 83 percent of those raised in English/European homes replied English only (Figure 2.6).

Only 17 percent of those raised in English/European language speaking homes reported usually and often speaking two languages as adults, compared to 53 percent of those raised in English/Asian homes and 57 percent of those raised in English/Spanish homes (Figure 2.6). Almost no one who grew up in a home in which another language was spoken in addition to English did not usually and often speak English as an adult (Figure 2.6).

Figure 2.6: Language usually and often spoken now by language spoken in home while growing up



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.

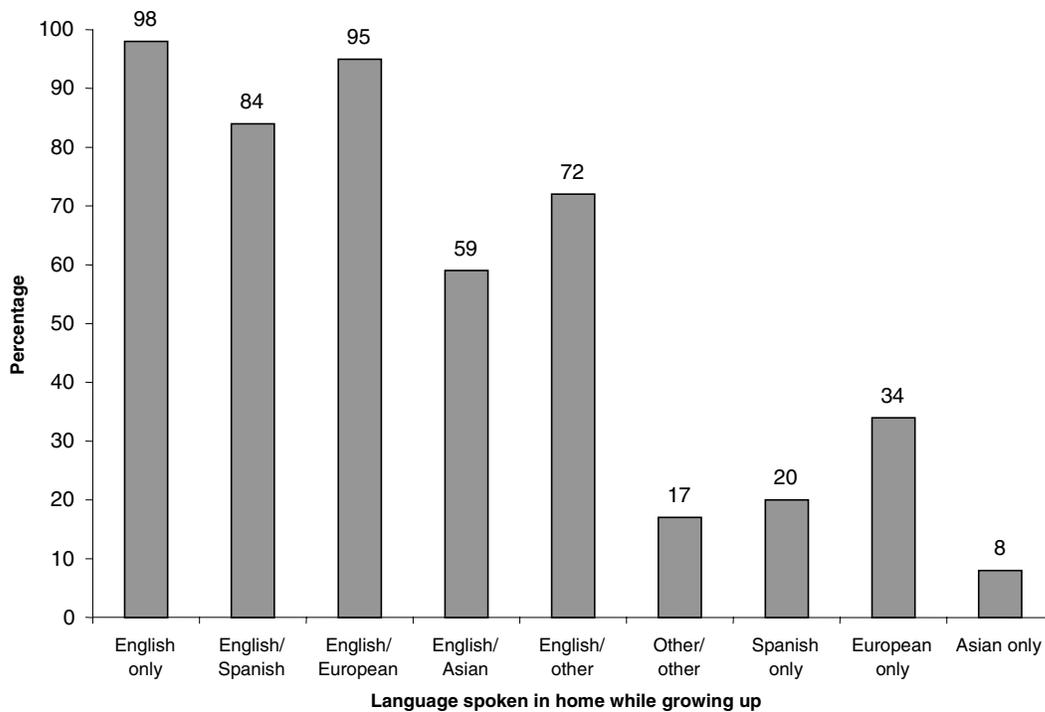
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

However, a significant minority of people raised in homes where no English was spoken, reported that they did not speak English as adults living in the United States. (Many of these people did not grow up in the United States, or attend school in the United States.) People raised in households where only Spanish was spoken were more likely as adults in 1992 to regularly speak only a language other than English (34 percent) than were people raised in households where only an Asian language (13 percent) or a European language (6 percent) was spoken (Figure 2.6). Some of this difference is undoubtedly attributable to the fact that there was a Spanish language background questionnaire.



The majority of people raised in homes where two languages were spoken were born in the United States, while less than half of those raised in homes where only a language other than English was spoken were born in this country (Figure 2.7). Thus, part of what we are seeing is a difference based on country of birth. As we discussed earlier, virtually everyone born in this country grew up speaking English. It follows that since most people who grew up in homes where two languages were spoken were born in this country, they regularly spoke English as adults. However, if they were from a Spanish or Asian language background, they were more likely as adults to also speak a language other than English than if they were from a European language background other than Spanish. Since most people who grew up in homes where only a

Figure 2.7: Percent of population born in the United States by language spoken in home while growing up



Respondents who reported that they spoke only English before starting school were not asked what language they usually and often speak now. They were coded as speaking only English.

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.

language other than English was spoken were not born in this country, it was not surprising that many of them did not regularly speak English as adults in 1992.

We still need to understand why people who grew up in Spanish/English or Asian/English speaking households were more likely to continue to be bilingual as adults than were people who grew up in households where English and a European language other than Spanish were spoken (Figure 2.6). Some of this difference between people of Spanish, Asian, and European language backgrounds may have resulted from differences in settlement patterns. The well defined European language communities that existed in most large American cities at the turn of the century had shrunk or vanished by 1992, making it unlikely that immigrants with European language backgrounds would live around other people with similar linguistic backgrounds. Many American communities in 1992 had neighborhoods with large Spanish or Asian language speaking populations, making immigrants' retention of their native language both easier and more useful.

Measuring English Literacy Using the National Adult Literacy Survey

Our discussion so far in this chapter has focused on self-assessed literacy and oral fluency. The National Adult Literacy Survey provides an objective measure of respondents' literacy in English. However, comparable data are not available on respondents' literacy in any other language.

As discussed in Chapter 1, the results of the National Adult Literacy Survey were reported using three scales, each ranging from 0 to 500: a prose literacy scale, a document literacy scale, and a quantitative literacy scale. The scores on each scale represent degrees of proficiency along that particular dimension of literacy.

In addition, 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 that the individual had limited or no skills reading texts written in English. For example, tasks at this level required the individual to 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. On the other hand, tasks at Level 5 on the prose scale required that the individual search for information in a dense text written in English which contained a number of plausible distractors. The individual had 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.

Performance in Level 1 on the document scale indicates very limited skills in processing information in English from tables, charts, graphs, maps and the like (even those that were brief and uncomplicated). On the other hand, performance in Level 5 on the document scale indicates advanced skills in performing a variety of tasks that involve the use of complex documents written in English. (See Appendix A for a complete discussion of the levels on all three scales.)

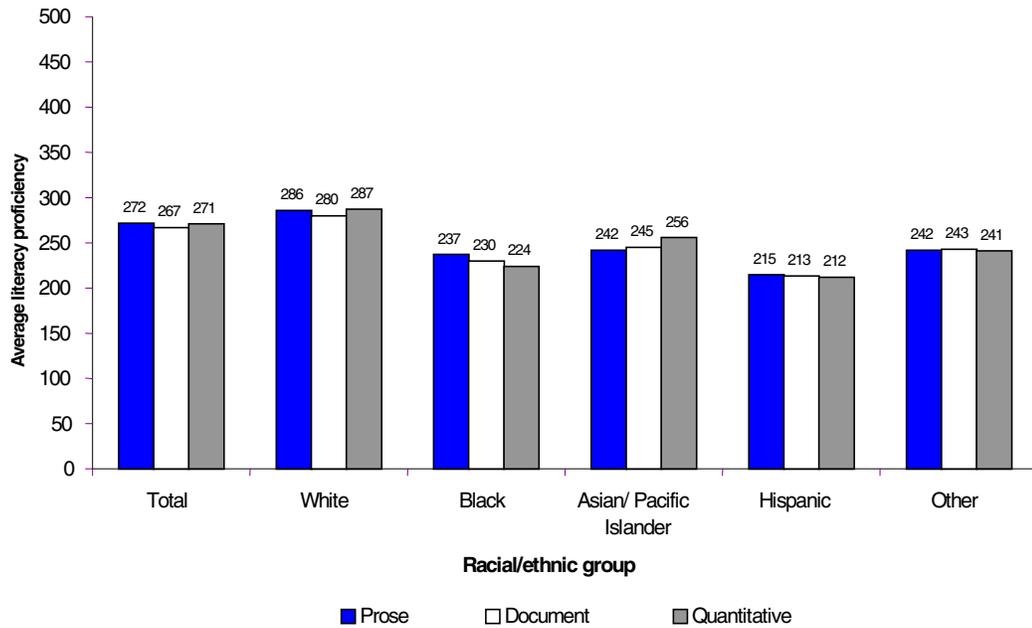
The Relationship Between Race/Ethnicity, Self-Reported Fluency and Literacy, and English Literacy Measured by the National Adult Literacy Survey

As illustrated in Figure 2.8, whites had higher mean scores than blacks, Hispanics, Asian/Pacific Islanders, or others on all three scales of the National Adult Literacy Survey. Whites were also less likely to be in Level 1, and more likely to be in Level 4 on the prose and document scales, than any of the other racial and ethnic groups. So few people were in Level 5, the highest level, that it was hard to measure differences between racial and ethnic groups at that level (Table 2.4).

Among Hispanics, people with backgrounds classified as other/not identified had higher mean proficiency scores than other Hispanic sub-groups (Figure 2.9). When we looked only at the population that was English monolingual (Table 2.5) or English monoliterate (Table 2.6), the difference between whites and the other ethnic/racial groups, with the exception of blacks, either narrowed or disappeared on all three literacy scales.⁵ People who were bilingual had lower scores on all three scales than people who were English monolingual (Table 2.5). Similarly, people who were biliterate had lower scores on all three scales than people who were English monoliterate (Table 2.6). All of the difference in mean prose scores

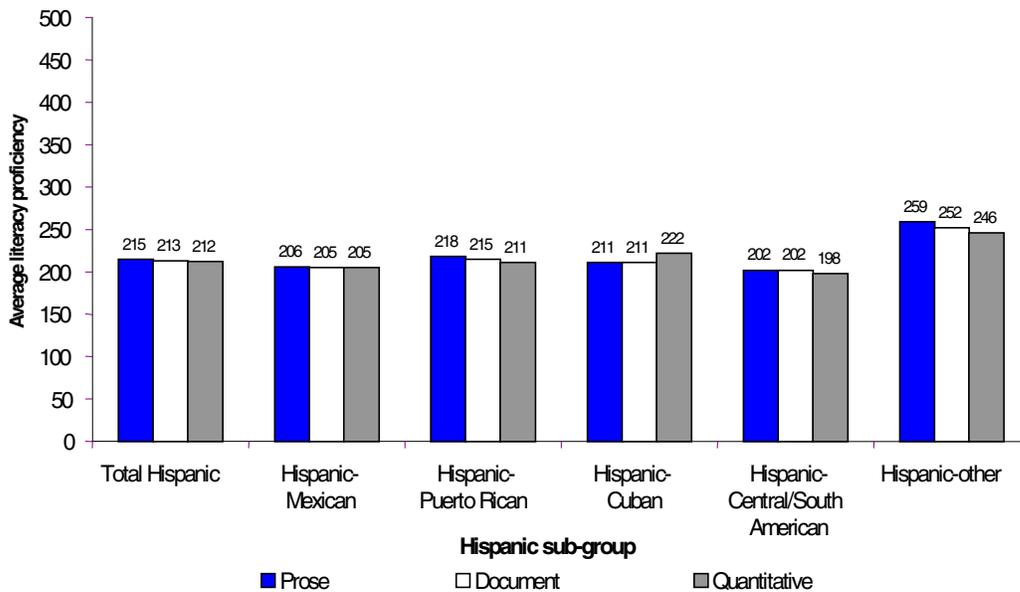
⁵ For a detailed discussion of the relationship between race/ethnicity and education, see I.S. Kirsch, A. Jungeblat, L. Jenkins, and A. Kolstad (1993). *Adult Literacy in America: A First Look at the Results of the National Adult Literacy Survey*. Washington, D.C.: National Center for Education Statistics.

Figure 2.8: Average literacy proficiencies by racial/ethnic group



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.

Figure 2.9: Average literacy proficiencies by Hispanic sub-group



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

Table 2.4: Average literacy proficiencies and literacy levels by racial/ethnic group

Row percent (s.e.)	Sample size	Population /1000	Level 1 225 or lower	Level 2 226 to 275	Level 3 276 to 325	Level 4 326 to 375	Level 5 376 or higher	Average proficiency
PROSE								
Total population	26,091	191,289	20 (0.4)	27 (0.6)	32 (0.7)	17 (0.4)	3 (0.2)	272 (0.6)
White	17,292	144,968	14 (0.4)	25 (0.7)	36 (0.8)	21 (0.5)	4 (0.3)	286 (0.7)
Black	4,963	21,192	37 (1.2)	37 (1.3)	21 (1.0)	4 (0.5)	0 (0.1)	237 (1.4)
Asian/Pacific Islander	438	4,116	36 (4.5)	26 (3.9)	25 (3.2)	12 (1.9)	2 (0.7)	242 (6.7)
Total Hispanic	3,126	18,481	49 (1.5)	26 (1.4)	19 (1.4)	6 (0.8)	1 (0.3)	215 (2.2)
Mexican	1,779	10,259	53 (1.8)	25 (1.6)	17 (1.3)	5 (0.7)	0 (0.3)	206 (3.2)
Puerto Rican	405	2,190	47 (4.7)	33 (5.3)	17 (3.6)	3 (1.8)	0 (0.3)	218 (6.1)
Cuban	148	936	53 (7.0)	24 (7.1)	16 (4.4)	6 (4.9)	1 (2.1)	211 (9.6)
Central/South American	380	2,297	59 (4.4)	22 (3.7)	16 (3.9)	3 (1.7)	0 (0.3)	202 (6.9)
Other Hispanic	414	2,799	26 (2.8)	26 (4.9)	33 (4.8)	13 (2.9)	2 (1.5)	259 (4.9)
Other	272	2,532	32 (5.6)	34 (6.0)	25 (7.3)	8 (2.2)	1 (1.0)	242 (7.0)
DOCUMENT								
Total population	26,091	191,289	23 (0.5)	28 (0.6)	31 (0.5)	16 (0.4)	3 (0.2)	267 (0.7)
White	17,292	144,968	16 (0.6)	27 (0.7)	34 (0.7)	19 (0.5)	3 (0.3)	280 (0.8)
Black	4,963	21,192	42 (1.0)	37 (1.2)	18 (0.9)	3 (0.4)	0 (0.1)	230 (1.2)
Asian/Pacific Islander	438	4,116	34 (3.6)	25 (3.7)	28 (3.6)	11 (2.3)	2 (0.9)	245 (5.6)
Total Hispanic	3,126	18,481	49 (1.7)	26 (1.7)	19 (1.4)	5 (0.8)	1 (0.3)	213 (2.5)
Mexican	1,779	10,259	54 (2.0)	26 (1.7)	16 (1.5)	4 (0.7)	0 (0.2)	205 (3.5)
Puerto Rican	405	2,190	48 (3.8)	30 (5.3)	18 (3.4)	4 (1.1)	0 (0.3)	215 (6.6)
Cuban	148	936	48 (8.4)	29 (6.9)	16 (3.9)	4 (3.6)	2 (1.3)	211 (12.0)
Central/South American	380	2,297	55 (4.4)	26 (4.1)	15 (3.3)	4 (1.5)	0 (0.5)	202 (6.7)
Other Hispanic	414	2,799	29 (2.8)	25 (3.4)	32 (3.6)	12 (3.6)	2 (1.5)	252 (5.0)
Other	272	2,532	33 (5.7)	34 (4.5)	25 (4.8)	7 (2.7)	1 (0.9)	243 (7.6)
QUANTITATIVE								
Total population	26,091	191,289	22 (0.5)	25 (0.5)	31 (0.5)	18 (0.3)	4 (0.2)	271 (0.7)
White	17,292	144,968	14 (0.5)	24 (0.6)	35 (0.6)	22 (0.4)	5 (0.2)	287 (0.8)
Black	4,963	21,192	45 (1.0)	34 (1.1)	17 (1.0)	3 (0.4)	0 (0.1)	224 (1.4)
Asian/Pacific Islander	438	4,116	30 (3.9)	23 (3.6)	28 (3.0)	16 (2.3)	4 (1.7)	256 (6.7)
Total Hispanic	3,126	18,481	49 (1.3)	25 (1.5)	20 (1.4)	5 (1.0)	1 (0.2)	212 (2.5)
Mexican	1,779	10,259	53 (1.7)	25 (2.2)	17 (2.0)	4 (0.7)	1 (0.3)	205 (3.6)
Puerto Rican	405	2,190	50 (3.7)	28 (5.3)	17 (3.2)	3 (1.3)	1 (0.4)	211 (7.2)
Cuban	148	936	46 (6.8)	20 (6.6)	25 (5.3)	5 (5.7)	4 (2.6)	222 (13.5)
Central/South American	380	2,297	55 (4.6)	27 (4.4)	16 (2.7)	3 (1.6)	0 (0.5)	198 (6.8)
Other Hispanic	414	2,799	32 (2.9)	24 (3.5)	33 (3.6)	11 (4.8)	1 (1.2)	246 (6.0)
Other	272	2,532	37 (4.9)	28 (5.0)	27 (4.6)	7 (3.0)	1 (0.8)	241 (5.5)

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.

Percentages below 0.5 are rounded to 0.

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

between whites and Asians/Pacific Islanders, and much of the difference in mean prose scores between whites and Hispanics, could be attributed to the fact that a much larger percentage of Hispanics and Asians/Pacific Islanders were bilingual or monolingual/monoliterate in a language other than English, than was the case for whites. The document and quantitative scores showed the same pattern (Tables 2.5 and 2.6).

All the people participating in the survey who were classified as bilingual spoke English as a second language. Thus, for most of them, their English was not as good as the English of native speakers, even



Table 2.5: Average literacy proficiencies by racial/ethnic group and self-reported fluency

Average proficiency (s.e.)	Sample size	Population /1000	Prose	Document	Quantitative
Total population					
Bilingual	2,789	20,021	240 (2.0)	239 (2.1)	244 (2.4)
English monolingual	22,421	165,454	281 (0.7)	275 (0.8)	280 (0.8)
White					
Bilingual	750	7,110	254 (3.8)	247 (3.7)	254 (4.7)
English monolingual	16,518	137,559	288 (0.8)	282 (0.9)	289 (0.9)
Black					
Bilingual	108	612	216 (8.3)	214 (13.5)	218 (9.4)
English monolingual	4,847	20,538	238 (1.4)	230 (1.2)	225 (1.4)
Asian/Pacific Islander					
Bilingual	272	2,426	248 (5.3)	254 (5.2)	269 (6.4)
English monolingual	117	1,085	290 (6.3)	285 (6.0)	287 (5.0)
Hispanic					
Bilingual	1,598	9,154	230 (2.5)	231 (2.7)	232 (2.5)
English monolingual	746	4,638	275 (2.3)	271 (2.7)	269 (3.2)
Mexican					
Bilingual	878	4,919	222 (4.1)	223 (4.1)	225 (3.6)
English monolingual	425	2,539	268 (2.7)	265 (2.7)	264 (3.2)
Puerto Rican					
Bilingual	283	1,448	226 (7.8)	222 (9.5)	220 (9.0)
English monolingual	77	448	263 (10.3)	264 (8.1)	263 (12.8)
Cuban					
Bilingual	77	516	255 (14.8)	257 (13.4)	271 (19.2)
English monolingual	11	---	---	---	---
Central/South American					
Bilingual	191	1,202	233 (5.9)	242 (4.8)	238 (5.0)
English monolingual	44	---	---	---	---
Other Hispanic					
Bilingual	169	1,070	259 (6.0)	258 (6.7)	250 (8.2)
English monolingual	189	1,371	292 (5.3)	286 (5.9)	282 (6.2)
Other					
Bilingual	61	718	229 (10.5)	238 (11.1)	236 (10.2)
English monolingual	193	1,634	259 (6.1)	254 (7.1)	253 (5.9)

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

--- 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.

though in response to a survey question they answered that they spoke or understood English well. In fact, it is possible that many of them meant that they spoke English well for a non-native speaker. We did not expect non-native speakers of English to do as well on a test given in English, such as the National Adult Literacy Survey assessment, as a native speaker of English would do.



Table 2.6: Average literacy proficiencies by racial/ethnic group and self-reported literacy

Average proficiency (s.e.)	Sample size	Population /1000	Prose	Document	Quantitative
Total population					
Biliterate	1,845	12,834	251 (1.8)	250 (1.9)	255 (2.2)
English monoliterate	23,078	170,506	281 (0.7)	274 (0.7)	279 (0.7)
White					
Biliterate	430	3,829	266 (3.2)	259 (3.0)	265 (4.6)
English monoliterate	16,801	140,314	288 (0.8)	281 (0.9)	288 (0.9)
Black					
Biliterate	73	372	230 (8.6)	226 (10.3)	234 (8.6)
English monoliterate	4,871	20,660	238 (1.4)	231 (1.2)	225 (1.4)
Asian/Pacific Islander					
Biliterate	218	1,922	251 (6.6)	256 (6.1)	271 (6.6)
English monoliterate	158	1,465	288 (6.8)	283 (6.7)	290 (5.7)
Hispanic					
Biliterate	1,094	6,412	244 (2.5)	244 (2.5)	246 (2.6)
English monoliterate	1,031	6,091	267 (2.4)	263 (2.4)	261 (2.8)
Mexican					
Biliterate	536	3,121	240 (4.0)	238 (3.6)	242 (3.8)
English monoliterate	614	3,478	259 (2.6)	256 (2.7)	255 (2.8)
Puerto Rican					
Biliterate	209	1,110	234 (5.3)	231 (5.6)	231 (5.1)
English monoliterate	113	595	258 (8.5)	259 (7.7)	255 (10.7)
Cuban					
Biliterate	64	424	261 (12.5)	266 (10.4)	283 (16.5)
English monoliterate	17	---	---	---	---
Central/South American					
Biliterate	168	971	242 (5.9)	247 (4.8)	246 (5.4)
English monoliterate	54	318	271 (8.9)	266 (7.5)	258 (9.3)
Other Hispanic					
Biliterate	117	785	267 (7.9)	266 (8.4)	259 (9.4)
English monoliterate	233	1,620	286 (6.8)	280 (6.2)	276 (7.1)
Other					
Biliterate	30	---	---	---	---
English monoliterate	217	1,977	255 (4.7)	252 (6.0)	250 (5.6)

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.

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.

--- 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.

There were some small differences in performance on the prose scale of the National Adult Literacy Survey between Hispanics of different national origins who were bilingual/biliterate or English monolingual/monoliterate. English monolingual Hispanics who were of other/not identified origin did somewhat better on the prose scale than English monolingual Hispanics who were of Mexican origin (Table 2.5). English monoliterate Hispanics who were of other/not identified origin

also did somewhat better on the prose scale than English monoliterate Hispanics who were of Mexican origin (Table 2.6). The document scale exhibited the same differences in performance between Hispanics of other/not identified and Hispanics of Mexican origin (Tables 2.5 and 2.6). We had so few Hispanics in our sample who were monolingual or monoliterate in English and were of Puerto Rican, Cuban, or Central/South American origin that we were unable to compare their average proficiencies with that of other Hispanic sub-groups.

Age of Arrival in the United States and English Literacy Measured by the National Adult Literacy Survey

As we discussed earlier, age of arrival in the United States was related to whether or not immigrants learned to speak and read English. Almost everyone who was born in the United States or who arrived before age 12 was fluent and literate in English as an adult in 1992. Many people who arrived in the United States before age 12 were raised in English-speaking homes (Table 2.1). The experience of people who arrived in the United States after age 12 was more varied. In this section, we examine average proficiency scores on the National Adult Literacy Survey to determine whether or not we are able to measure differences in English literacy based upon an individual's age of arrival in the United States.

Among the population as a whole, there were no measurable differences in average proficiency scores on any of the three scales between people born in this country and those who arrived here before they were 12 years old (Table 2.7). However, both these groups did much better on all three literacy scales than people who arrived in the United States at an age older than 12 (Table 2.7).

There was a sharp drop-off in average literacy scores between immigrants who arrived in the United States younger than age 12 and those who arrived between the ages of 12 and 18 (Table 2.7). Many immigrants who arrived between the ages of 12 and 18 never attended American schools. (This will be explored further in Chapter 3.) Those who did attend American schools had only a few years to learn English before moving into the labor force. Additionally, as discussed earlier in this chapter, immigrants who arrived in the United States after age 11 were more likely to grow up in homes where no English was spoken than were immigrants who arrived in this country at a younger age. Thus, it

Table 2.7: Average literacy proficiencies by racial/ethnic group and age of arrival in United States

Average proficiency (s.e.)	Sample size	Population /1000	Prose	Document	Quantitative
Total Population					
U.S.-born	23,197	171,111	280 (0.7)	273 (0.7)	278 (0.8)
Arrived U.S. age 1 to 11	519	3,389	275 (2.8)	270 (3.1)	272 (3.3)
Arrived U.S. age 12 to 18	599	3,830	206 (5.0)	210 (5.2)	212 (5.7)
Arrived U.S. age 19 to 24	666	4,497	200 (4.4)	203 (4.9)	206 (5.3)
Arrived U.S. age 25 or older	1,011	7,790	193 (3.8)	189 (3.8)	192 (4.6)
White					
U.S.-born	16,693	139,554	288 (0.8)	281 (0.9)	288 (0.9)
Arrived U.S. age 1 to 11	158	1,201	300 (3.6)	291 (4.4)	299 (4.0)
Arrived U.S. age 12 to 18	82	646	265 (10.8)	263 (9.5)	269 (8.4)
Arrived U.S. age 19 to 24	117	1,229	247 (10.6)	247 (8.5)	252 (11.6)
Arrived U.S. age 25 or older	197	2,107	236 (7.8)	233 (7.1)	237 (10.1)
Black					
U.S.-born	4,728	19,994	237(1.4)	230 (1.2)	224 (1.4)
Arrived U.S. age 1 to 11	38	138	---	---	---
Arrived U.S. age 12 to 18	49	270	246 (10.4)	245 (9.7)	242 (10.7)
Arrived U.S. age 19 to 24	49	258	242 (14.2)	240 (20.7)	242 (17.9)
Arrived U.S. age 25 or older	86	472	205 (7.1)	198 (10.3)	201 (9.3)
Asian/Pacific Islander					
U.S.-born	87	851	280 (7.9)	271 (9.3)	285 (7.6)
Arrived U.S. age 1 to 11	53	504	287 (8.7)	287 (6.8)	287 (8.7)
Arrived U.S. age 12 to 18	60	464	265 (10.5)	269 (11.3)	279 (11.2)
Arrived U.S. age 19 to 24	73	604	236 (8.9)	238 (8.1)	254 (8.0)
Arrived U.S. age 25 or older	153	1,505	206 (13.5)	216 (11.8)	227 (14.7)
Total Hispanic					
U.S.-born	1,481	8,726	257 (2.3)	254 (2.3)	252 (2.5)
Arrived U.S. age 1 to 11	261	1,490	251 (3.9)	247 (4.5)	246 (5.2)
Arrived U.S. age 12 to 18	397	2,347	173 (5.6)	178 (6.2)	179 (6.5)
Arrived U.S. age 19 to 24	414	2,298	163 (5.2)	166 (5.9)	166 (6.3)
Arrived U.S. age 25 or older	546	3,459	160 (4.3)	151 (4.8)	150 (4.8)
Mexican					
U.S.-born	960	5,521	246 (3.2)	245 (3.0)	244 (3.1)
Arrived U.S. age 1 to 11	109	623	243 (6.6)	241 (6.4)	242 (6.3)
Arrived U.S. age 12 to 18	237	1,401	154 (6.2)	161 (6.8)	164 (7.2)
Arrived U.S. age 19 to 24	232	1,279	142 (5.4)	142 (5.6)	141 (5.8)
Arrived U.S. age 25 or older	225	1,332	138 (3.2)	130 (4.8)	129 (4.7)
Puerto Rican					
U.S.-born	175	898	250 (6.0)	250 (6.3)	245 (6.6)
Arrived U.S. age 1 to 11	64	313	223 (11.2)	220 (9.5)	212 (10.6)
Arrived U.S. age 12 to 18	57	330	193 (21.6)	194 (14.5)	191 (21.6)
Arrived U.S. age 19 to 24	55	249	181 (12.9)	186 (13.7)	185 (11.1)
Arrived U.S. age 25 or older	50	374	190 (15.1)	166 (16.8)	168 (20.2)
Cuban					
U.S.-born	21	100	---	---	---
Arrived U.S. age 1 to 11	26	171	---	---	---
Arrived U.S. age 12 to 18	17	119	---	---	---
Arrived U.S. age 19 to 24	9	66	---	---	---
Arrived U.S. age 25 or older	74	476	172 (13.0)	174 (19.0)	183 (19.1)
Central/South American					
U.S.-born	43	292	---	---	---
Arrived U.S. age 1 to 11	43	242	---	---	---
Arrived U.S. age 12 to 18	62	330	189 (9.9)	191 (10.6)	187 (12.4)
Arrived U.S. age 19 to 24	83	513	179 (9.3)	189 (10.7)	187 (12.3)
Arrived U.S. age 25 or older	147	912	176 (11.4)	170 (10.4)	167 (11.3)
Other Hispanic					
U.S.-born	282	1,916	283 (6.7)	277 (6.4)	273 (7.4)
Arrived U.S. age 1 to 11	19	142	---	---	---
Arrived U.S. age 12 to 18	24	168	---	---	---
Arrived U.S. age 19 to 24	35	191	---	---	---
Arrived U.S. age 25 or older	50	365	154 (17.7)	134 (13.0)	119 (17.1)
Other					
U.S.-born	208	1,986	255 (4.6)	255 (5.5)	253 (5.4)
Arrived U.S. age 1 to 11	9	56	---	---	---
Arrived U.S. age 12 to 18	11	103	---	---	---
Arrived U.S. age 19 to 24	13	108	---	---	---
Arrived U.S. age 25 or older	29	247	---	---	---

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

--- 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.

was expected that their scores on a test of English literacy would be lower than the scores of immigrants who arrived in this country at a younger age.

This same general pattern held for the individual racial and ethnic groups, although because of smaller sample size it was somewhat harder to measure. Whites and Asians/Pacific Islanders who arrived in the United States as adults age 25 or older, scored lower on all three literacy scales than whites and Asians/Pacific Islanders who were born in the United States or arrived at age 1 to 11 (Table 2.7). Although it appears that whites and Asians/Pacific Islanders who were born in the United States had slightly lower scores on all three literacy scales than those who arrived before age 12, the differences were not greater than could have occurred by chance (Table 2.7). There were so few blacks in the sample who were not born in the United States that we cannot report any differences between groups of blacks based on their age of arrival.

Hispanics who arrived before age 12, or who were born in the United States, did significantly better on all three literacy scales than Hispanics who arrived in the United States after age 12 (Table 2.7). This was expected since, as we discussed earlier, Hispanics who arrived in this country before age 12 were more likely to have grown up in homes where English was spoken. Looking at the sub-groups of Hispanics, this was also true of Mexicans, the largest group of Hispanic immigrants in the United States (Table 2.7). Puerto Ricans who were born in the mainland United States did better on all three scales than Puerto Ricans who arrived at age 25 or older (Table 2.7). The sample size was too small for the other Hispanic sub-groups to reach any conclusions about the relationship between age of arrival in the United States and English proficiency as measured by the National Adult Literacy Survey.

Language Spoken in the Home While Growing Up and English Literacy Measured by the National Adult Literacy Survey

Language spoken in the home while growing up was also related to adult literacy. People who grew up in homes where a European language or an Asian language was spoken in addition to English received, on average, scores on all three literacy scales that were not statistically different from people who grew up in homes where only English was spoken (Table 2.8). In fact, people who grew up in homes where an Asian language was spoken in addition to English were somewhat less likely as adults to be in

Level 1, the lowest level on the document and quantitative literacy scales of the National Adult Literacy Survey (Table 2.8).

People who grew up in homes where only an Asian or only a European language was spoken did worse on average on all three literacy scales than people who grew up in homes where only English or English plus a European, Spanish, or Asian language was spoken (Table 2.8). People who grew up in homes where only an Asian, Spanish, or European language was spoken were also more likely than people who grew up in homes where only English was spoken to have scored in the lowest level on all three National Adult Literacy Survey scales (Table 2.8).

People who grew up in bilingual homes where Spanish was spoken in addition to English did somewhat worse, on average, on all three literacy scales than people who grew up in homes where only English was spoken (Table 2.8). They were also more likely to score in Level 1 on the quantitative scale, although not on the prose or document scales, than people raised in homes where only English was spoken (Table 2.8). However, the people who grew up in homes where both English and Spanish were spoken did better on average on all three scales than people who grew up in homes where only Spanish was spoken (Table 2.8).

Thus, people who grew up in homes where no English was spoken had, on average, lower English literacy as adults than people who grew up in homes where English was spoken. As discussed earlier, most of the people who grew up in homes where English was spoken were not born in the United States. However, people who grew up in homes where a European or Asian language was spoken in addition to English, had literacy scores that were comparable, on average, to people who grew up in homes where only English was spoken. People who grew up in homes where Spanish was spoken in addition to English had, on average, lower literacy scores than people who grew up in homes where only English was spoken, but higher literacy scores than people who grew up in homes where only Spanish was spoken. As discussed earlier, most of the people who grew up in bilingual homes where a second language was spoken in addition to English were born in this country.

Language Spoken in the Home Before Starting School and Measured English Literacy

As we discussed earlier in this chapter, language(s) spoken in the home while growing up was related to language(s) spoken by an individual

Table 2.8: Average literacy proficiencies and literacy levels by language spoken in home while growing up

Row percent (s.e.)	Sample size	Population /1000	Level 1 225 or lower	Level 2 226 to 275	Level 3 276 to 325	Level 4 326 to 375	Level 5 376 or higher	Average proficiency
PROSE								
English only	21,242	156,620	16 (0.4)	27 (0.6)	34 (0.8)	19 (0.5)	4 (0.2)	282 (0.7)
English/Spanish	789	4,406	23 (2.5)	34 (3.6)	32 (3.6)	11 (1.8)	1 (0.6)	261 (3.2)
English/European	1,017	8,426	19 (2.3)	26 (2.4)	33 (2.8)	19 (2.3)	3 (0.7)	278 (3.5)
English/Asian	56	394	5 (3.5)	28 (13.5)	42 (11.5)	24 (10.5)	1 (1.5)	297 (9.7)
English/other	235	1,901	21 (5.0)	31 (5.6)	36 (4.3)	10 (2.6)	2 (1.3)	264 (8.4)
Spanish/other	25	---	---	---	---	---	---	---
Other/other	258	2,358	45 (3.8)	28 (4.8)	19 (3.9)	7 (2.3)	1 (0.7)	223 (6.9)
Spanish only	1,866	10,979	71 (2.1)	20 (1.8)	8 (1.3)	2 (0.7)	0 (0.2)	178 (3.1)
European only	404	4,092	43 (4.1)	28 (3.9)	19 (2.9)	8 (2.1)	1 (1.2)	230 (5.7)
Asian only	162	1,629	56 (5.0)	24 (6.7)	15 (5.9)	5 (2.1)	1 (0.5)	198 (9.0)
DOCUMENT								
English only	21,242	156,620	18 (0.6)	28 (0.6)	33 (0.6)	17 (0.4)	3 (0.2)	276 (0.8)
English/Spanish	789	4,406	24 (2.4)	37 (2.8)	29 (3.2)	10 (1.9)	1 (0.8)	259 (3.0)
English/European	1,017	8,426	25 (2.7)	29 (2.4)	29 (2.6)	15 (2.0)	2 (0.8)	266 (3.5)
English/Asian	56	394	4 (2.8)	24 (9.0)	38 (8.2)	29 (10.0)	4 (3.6)	304 (10.0)
English/other	235	1,901	26 (5.7)	31 (6.9)	33 (5.8)	9 (3.5)	1 (1.3)	258 (8.9)
Spanish/other	25	---	---	---	---	---	---	---
Other/other	258	2,358	43 (4.2)	25 (4.3)	24 (5.8)	8 (4.9)	1 (0.7)	232 (7.2)
Spanish only	1,866	10,979	69 (2.1)	21 (1.6)	9 (1.2)	1 (0.5)	0 (0.2)	177 (3.4)
European only	404	4,092	45 (3.3)	30 (3.6)	17 (3.3)	8 (2.0)	1 (0.6)	228 (4.5)
Asian only	162	1,629	55 (4.4)	21 (4.0)	19 (2.9)	4 (2.1)	1 (0.8)	201 (8.0)
QUANTITATIVE								
English only	21,242	156,620	17 (0.6)	25 (0.6)	33 (0.6)	19 (0.4)	5 (0.2)	280 (0.8)
English/Spanish	789	4,406	28 (2.5)	32 (2.6)	30 (3.3)	9 (2.2)	2 (0.9)	257 (3.8)
English/European	1,017	8,426	22 (2.3)	25 (2.3)	32 (2.7)	18 (2.1)	3 (0.8)	274 (3.8)
English/Asian	56	394	4 (2.7)	19 (13.2)	42 (12.4)	28 (9.9)	7 (9.1)	308 (11.8)
English/other	235	1,901	25 (5.4)	27 (3.7)	34 (5.8)	11 (3.6)	2 (1.6)	262 (11.0)
Spanish/other	25	---	---	---	---	---	---	---
Other/other	258	2,358	38 (3.2)	27 (3.7)	24 (3.6)	9 (2.4)	1 (0.8)	236 (7.4)
Spanish only	1,866	10,979	68 (1.9)	20 (1.9)	10 (1.3)	2 (1.0)	0 (0.3)	177 (3.4)
European only	404	4,092	41 (3.4)	27 (3.0)	19 (2.3)	10 (1.9)	2 (1.5)	233 (5.7)
Asian only	162	1,629	46 (4.7)	22 (4.3)	22 (4.0)	9 (2.4)	2 (1.4)	221 (9.4)

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.

Percentages below 0.5 are rounded to 0.

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

before starting school. Therefore, it is not surprising that when we looked at the relationship between literacy, as measured by the National Adult Literacy Survey, and the language(s) spoken by an individual before starting school, we noticed a pattern similar to the one we discussed when we looked at the relationship between literacy and the language(s) spoken in the home before a respondent started school.



Table 2.9: Average literacy proficiencies and literacy levels by language spoken before starting school

Row percent (s.e.)	Sample size	Population /1000	Level 1 225 or lower	Level 2 226 to 275	Level 3 276 to 325	Level 4 326 to 375	Level 5 376 or higher	Average proficiency
PROSE								
English only	21,986	162,078	16 (0.4)	27 (0.6)	35 (0.8)	19 (0.5)	4 (0.2)	282 (0.7)
English/Spanish	592	3,419	25 (2.7)	36 (4.1)	29 (3.7)	9 (1.6)	1 (0.6)	257 (3.1)
English/European	492	4,360	20 (3.3)	27 (3.2)	32 (2.5)	17 (1.9)	4 (1.0)	275 (3.9)
English/Asian	34	242	---	---	---	---	---	---
English/other	147	1,324	29 (8.4)	31 (5.1)	29 (5.1)	9 (3.8)	2 (1.9)	246 (15.7)
Spanish/other	17	159	---	---	---	---	---	---
Other/other	275	2,226	41 (3.6)	29 (4.3)	22 (3.9)	8 (2.2)	0 (0.6)	234 (5.3)
Spanish only	1,895	11,074	69 (1.8)	19 (1.6)	9 (1.4)	3 (0.7)	0 (0.2)	180 (2.8)
European only	434	4,428	42 (3.3)	29 (3.4)	20 (2.3)	8 (2.0)	1 (1.0)	232 (5.1)
Asian only	173	1,683	51 (5.0)	27 (5.5)	17 (5.4)	5 (2.2)	0 (0.5)	205 (8.8)
DOCUMENT								
English only	21,986	162,078	18 (0.6)	28 (0.7)	33 (0.6)	17 (0.4)	3 (0.2)	275 (0.8)
English/Spanish	592	3,419	27 (2.6)	36 (3.0)	27 (3.1)	9 (1.6)	1 (0.6)	256 (3.0)
English/European	492	4,360	29 (3.8)	30 (3.3)	26 (3.3)	13 (1.8)	2 (1.0)	260 (3.9)
English/Asian	34	242	---	---	---	---	---	---
English/other	147	1,324	35 (9.1)	29 (6.8)	26 (7.4)	9 (3.6)	1 (1.4)	247 (14.8)
Spanish/other	17	159	---	---	---	---	---	---
Other/other	275	2,226	40 (3.9)	27 (3.8)	23 (5.0)	9 (4.8)	1 (0.7)	237 (6.5)
Spanish only	1,895	11,074	68 (2.0)	21 (1.5)	10 (1.3)	2 (0.6)	0 (0.2)	179 (3.2)
European only	434	4,428	44 (3.2)	29 (3.2)	18 (3.0)	8 (2.0)	1 (0.7)	230 (4.0)
Asian only	173	1,683	50 (4.3)	23 (3.9)	20 (2.8)	6 (2.5)	0 (0.5)	209 (8.0)
QUANTITATIVE								
English only	21,986	162,078	18 (0.5)	25 (0.5)	33 (0.6)	19 (0.4)	4 (0.2)	280 (0.8)
English/Spanish	592	3,419	30 (2.6)	33 (3.5)	27 (3.8)	8 (2.4)	2 (0.9)	252 (3.1)
English/European	492	4,360	23 (3.0)	28 (3.4)	27 (3.4)	19 (2.6)	4 (1.4)	270 (3.9)
English/Asian	34	242	---	---	---	---	---	---
Spanish/other	17	159	---	---	---	---	---	---
English/other	147	1,324	34 (8.4)	25 (5.8)	30 (7.3)	9 (4.3)	2 (1.3)	246 (18.6)
Other/other	275	2,226	35 (3.6)	29 (5.1)	25 (4.0)	10 (2.8)	1 (0.7)	243 (5.4)
Spanish only	1,895	11,074	66 (1.6)	20 (1.6)	11 (1.1)	2 (0.9)	0 (0.3)	179 (3.1)
European only	434	4,428	41 (3.2)	26 (3.6)	21 (2.6)	10 (1.9)	2 (1.1)	233 (5.5)
Asian only	173	1,683	41 (4.4)	23 (4.2)	23 (3.9)	10 (2.3)	2 (1.5)	228 (8.6)

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.

Percentages below 0.5 are rounded to 0.

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

People who spoke no English before starting school did less well, on average, on all three literacy scales than people who spoke only English before starting school (Table 2.9). People who spoke English and a European language other than Spanish before starting school did the same, on average, on the prose and quantitative scales of the National Adult Literacy Survey, and slightly worse on the document scale, as people who spoke only English before starting school (Table 2.9). People who spoke English and Spanish before starting school did slightly worse



on all three literacy scales than people who spoke only English before starting school, but better than people who spoke only Spanish (Table 2.9). We did not have enough people in the sample who spoke both English and an Asian language before starting school to report any results.

Summary

There was a relationship between some of the demographic variables we looked at in this chapter and the probability that an adult living in the United States would be fluent and literate in English. Virtually everyone born in the United States and everyone who immigrated to the United States before age 12 reported being fluent and literate in English as an adult. Indeed, there was no measurable difference on any of the three National Adult Literacy Survey scales between the average scores of people born in the United States and the average scores of people who immigrated to the United States before age 12. The fact that over one-half of people who immigrated to the United States before age 12 reported they were raised in homes where English was spoken contributes to this high rate of English literacy and fluency, but the 42 percent of young immigrants who were not raised in homes where English was spoken must have learned English in school or another place outside the home. Almost everyone who grew up in a house where a second language was spoken in addition to English reported that they were fluent and literate in English as an adult.

There was also a relationship between many of the demographic variables examined in this chapter and the likelihood that an adult living in the United States would be fluent and literate in both English and a language other than English that was learned before starting school. Hispanics and Asians/Pacific Islanders were much more likely than whites and blacks to be fluent and literate in both English and a non-English native language. This was partly because whites and blacks were much less likely than Asian/Pacific Islanders to have spoken a language other than English during early childhood.

However, even if we look only at people who were raised in homes where a language other than English was spoken, respondents who grew up in homes where Spanish or an Asian language was spoken were more likely to speak that language as adults than respondents who grew up in homes where a European language other than Spanish was spoken.



Respondents who were fluent and literate in both English and a native language other than English had lower average scores on all three literacy scales than respondents who spoke only English as adults. This was not surprising, since English was the second language of these bilingual respondents.

Approximately 3 percent of adults living in the United States were not fluent and literate in English. However, over one quarter of immigrants who moved to the United States at age 12 or older were not fluent in English. People raised in households where only Spanish was spoken were more likely than people raised in households where only an Asian or European language other than Spanish was spoken to report that they did not regularly speak English. However, this difference is probably related to the fact that the background questionnaire was only available in English and Spanish.

Much of the difference in performance between racial and ethnic groups on the literacy scales was related to differences in language background between racial and ethnic groups. Whites did better, on average, on all three literacy scales than blacks, Hispanics, Asians/Pacific Islanders and people of other races/ethnic groups. However, when we looked only at the scores of people who were coded English monolingual as adults, that is, people who spoke only English before starting school or people who speak only English now, the difference between whites and Asians/Pacific Islanders disappeared, and the difference between whites and Hispanics narrowed. The differences between whites and blacks did not change when we look only at people who were coded English monolingual, since very few members of either group spoke a language other than English before starting school and still spoke that language as adults.