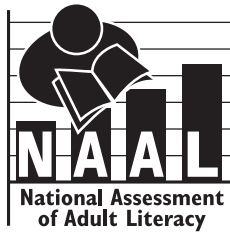


U.S. Department of Education
NCES 2007-480

Literacy in Everyday Life

Results From the 2003 National Assessment of Adult Literacy





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April 2007

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Executive Summary

The 2003 National Assessment of Adult Literacy (NAAL) assessed the English literacy of adults in the United States for the first time since the 1992 National Adult Literacy Survey. The assessment was administered to more than 19,000 adults (ages 16 and older) in households or prisons. Unlike indirect measures of literacy, which rely on self-reports and other subjective evaluations, the assessment measured literacy directly through tasks completed by adults. These tasks represent a range of literacy activities that adults are likely to face in their daily lives.

Three types of literacy were measured by the assessment on scales of 0 to 500:

- Prose literacy. The knowledge and skills needed to search, comprehend, and use information from continuous texts. Prose examples include editorials, news stories, brochures, and instructional materials.
- Document literacy. The knowledge and skills needed to search, comprehend, and use information from noncontinuous texts. Document examples include job applications, payroll forms, transportation schedules, maps, tables, and drug and food labels.
- Quantitative literacy. The knowledge and skills needed to identify and perform computations using numbers that are embedded in printed materials. Examples include balancing

Literacy Levels

Cautions in Interpretation

Demographic Characteristics and Literacy

Education and Literacy

Employment, Earnings, and Job Training

Literacy and the Family

Community and Civic Involvement

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

This report describes how adults use written information in workplace, family, and community settings, as well as the relationship between literacy and formal education. The analyses in this report examine differences related to literacy based on self-reported background characteristics among groups in 2003, as well as changes within groups between 1992 and 2003, by using standard *t* tests to determine statistical significance. Statistical significance is reported at $p \leq .05$. Differences that are not statistically significant either are not discussed or are referred to as “not statistically significant.”

Literacy Levels

The Committee on Performance Levels for Adult Literacy, appointed by the National Research Council’s Board on Testing and Assessment (BOTA), recommended a set of performance levels for the prose, document, and quantitative scales. Drawing on the committee’s recommendations, the U.S. Department of Education decided to report the assessment results by using four literacy levels for these scales: *Below Basic*, *Basic*, *Intermediate*, and *Proficient*.

BOTA’s Committee on Performance Levels for Adult Literacy also recommended reporting the 2003 results by using a separate category: nonliterate in English. Adults were considered to be nonliterate in English if they were unable to complete a minimum number of simple literacy questions or if they were unable to communicate in English or Spanish. Adults who were classified as nonliterate in English because they could not complete a minimum number of simple literacy questions were generally able to complete the background questionnaire, which was administered orally in either English or Spanish; for reporting purposes, they were included in the *Below Basic* literacy level.

Adults who were classified as nonliterate in English because they were unable to communicate in either English or Spanish could not complete the background questionnaire; they are not included in the analyses in this report that rely on background data. Adults who could not be tested because of a cognitive or mental disability are also not included in the analyses in this report, but in the absence of any information about their literacy abilities, they are not considered to be nonliterate in English.

Cautions in Interpretation

The purpose of this report is to examine the relationship between literacy and various self-reported background factors. This report is purely descriptive in nature. Readers are cautioned not to draw causal inferences based solely on the results presented here. It is important to note that many of the variables examined in this report are related to one another, and complex interactions and relationships have not been explored here.

Demographic Characteristics and Literacy

Between 1992 and 2003, there were no statistically significant changes in average prose and document literacy for the total population ages 16 and older, while average quantitative literacy increased. The percentage of adults with *Below Basic* quantitative literacy decreased, and the percentage of adults with *Proficient* prose and document literacy also decreased. In 2003, some 5 percent of adults were nonliterate in English.

Women had higher average prose and document literacy than men in 2003, which was a change from 1992. In 1992, men had higher average document literacy than women, and the differences between men and women in prose literacy were not statistically significant. Men had higher average quantitative literacy than women in both 1992 and 2003, but the gap between men and women narrowed.

The prose, document, and quantitative literacy of Black adults increased between 1992 and 2003, and the prose literacy of Asian/Pacific Islander adults also increased. The average prose and document literacy of Hispanic adults decreased, but there was not a statistically significant change for Hispanic adults on the quantitative scale. There were no statistically significant changes in prose and document literacy for White adults, although their quantitative literacy increased. In 2003, White and Asian/Pacific Islander adults had higher average prose, document, and quantitative literacy than Black and Hispanic adults. Black adults had higher average prose and document literacy than Hispanic adults.

Adults who spoke only English before starting school had higher average document literacy than other adults. They also had higher average prose and quantitative literacy than adults who spoke Spanish before starting school. Among adults who spoke a language other than English before starting school, average prose and document literacy decreased as the age at which individuals learned English increased.

Between 1992 and 2003, the average literacy of adults 50 years of age and older increased on all three scales. Between 1992 and 2003, there was a decline in the average prose literacy of adults between the ages of 25 and 39 and between the ages of 40 and 49. Among all age groups, adults ages 65 and older had the lowest average prose, document, and quantitative literacy.

Adults who had been diagnosed or identified as having a learning disability had lower average prose, document, and quantitative literacy than adults who did not have a learning disability. On all three scales, a higher percentage of adults with a learning disability had *Below Basic* literacy and a lower percentage had *Proficient* literacy than adults who did not have a learning disability.

A higher percentage of adults with *Below Basic* prose, document, and quantitative literacy lived in house-

holds with income below \$10,000 than adults with higher levels of literacy. A higher percentage of adults with *Proficient* prose, document, and quantitative literacy than adults with lower levels of literacy lived in households with incomes above \$100,000.

Education and Literacy

Educational attainment increased between 1992 and 2003, with a higher percentage of adults completing an associate's or college degree and fewer adults ending their education before completing high school. In 2003, average prose, document, and quantitative literacy increased with each increasing level of education, except for students who were still in high school.

Adults who received their high school diploma or college degree at an age that indicated they likely began school at the traditional age and continued straight through until graduation had higher levels of prose, document, and quantitative literacy than adults who received their high school diploma or college degree when they were older.

Between 1992 and 2003, prose literacy declined for adults with a high school diploma, and prose and document literacy declined for adults with some college or with higher levels of education. There were no statistically significant changes in quantitative literacy at any education level between 1992 and 2003.

White adults had higher average prose literacy scores than Black and Hispanic adults for all levels of educational attainment. Between 1992 and 2003, average prose and quantitative literacy scores increased for Black adults with a high school diploma, a GED, or some vocational classes taken after high school. Average prose literacy declined among Hispanic adults at all educational levels except those who were still in high school or who had a college degree or higher. Average document literacy decreased among Hispanic adults who had completed some college or

obtained an associate's degree or whose highest educational level was less than high school or some high school.

Employment, Earnings, and Job Training

In 2003, adults with higher literacy levels were more likely to be employed full-time and less likely to be out of the labor force than adults with lower literacy levels. Adults with lower literacy levels also generally earned lower incomes.

On all three literacy scales, a higher percentage of adults with *Proficient* literacy were employed in professional and related occupations and management, business, and financial occupations than in other occupations. Many individuals with lower literacy levels were employed in service occupations. Specifically, 30 to 35 percent of adults with *Below Basic* and 22 to 24 percent of adults with *Basic* prose, document, and quantitative literacy worked in service jobs, compared with 7 to 10 percent of adults with *Proficient* prose, document, and quantitative literacy.

Women with higher levels of literacy were less likely to have received public assistance than women with low levels of literacy. If they had received public assistance, they did so for a shorter amount of time than women with lower literacy levels.

Most adults who thought their reading, mathematics, or computer skills limited their job opportunities had not participated in any job training in the past year.

Literacy and the Family

In 2003, a higher percentage of parents with *Intermediate* or *Proficient* prose literacy than parents

with *Basic* or *Below Basic* prose literacy read to their young children 5 or more days per week. A higher percentage of parents with *Intermediate* or *Proficient* prose literacy than parents with lower levels of literacy had children between the ages of 3 and 5 who knew the alphabet.

A higher percentage of parents with *Intermediate* or *Proficient* prose literacy than parents with *Basic* or *Below Basic* prose literacy talked to their school-age children every day about things they studied in school. The percentage of parents who never helped their children with homework or worked on homework with their children declined with each higher prose literacy level.

Community and Civic Involvement

Among U.S. citizens of voting age, the percentage of adults who voted in the 2000 presidential election was higher in each prose and document literacy level than in the next lower level. Adults with lower levels of prose and document literacy were also less likely to obtain information about current events, public affairs, and the government from a variety of print and nonprint sources than were adults with higher levels of literacy.

Adults with higher levels of prose and document literacy gave unpaid time as a volunteer to a group or an organization more frequently than adults with lower levels of literacy; the percentage of adults who volunteered once a week or more during the previous year increased at each higher level of literacy. Adults with higher levels of prose and document literacy were also more likely to send and receive e-mail or to use the Internet—two activities generally required for participating in online communities.

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The National Assessment of Adult Literacy (NAAL) is a complex project whose successful completion is due to the work of countless individuals from many organizations. We at the American Institutes for Research (AIR) especially want to thank the staff at the National Center for Education Statistics (NCES) who have supported the project. Sheida White, the NAAL project officer, has provided substantive guidance and direction to all aspects of the assessment. Her intellectual contributions are reflected throughout the assessment, analyses, and report. Andrew Kolstad, the project's senior technical advisor and project officer of the 1992 National Adult Literacy Survey, provided both technical guidance and an institutional memory throughout the project and helped us reflect on all statistical and technical issues. Steven Gorman also played a key role in guiding all aspects of the assessment, especially those related to the statistical aspects of the assessment.

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Introduction

Using written information is an important part of everyday life in the United States. Adults in most workplaces are surrounded by written information: health and safety postings, brochures describing their benefits, instruction manuals, memos, reports, and e-mail. Parents of school-aged children often receive written notices and forms from their children's schools: field trip permission slips, flyers about parent meetings or parent-teacher conferences, descriptions of course offerings, and applications for determining eligibility for free lunches and subsidized medical care. Older adults receive mailings explaining their Social Security and Medicare benefits. The millions of adults who take medication encounter labels explaining dosages, timing for taking the medication, interactions with other medications or food, and possible side effects. Getting a driver's license, registering to vote, and renting or purchasing a place to live all require reading and understanding written information.

The 2003 National Assessment of Adult Literacy assessed the English literacy of adults (ages 16 and older) in the United States for the first time since the 1992 National Adult Literacy Survey. The assessment was administered to approximately 18,000 adults living in households and to 1,200 prison inmates. This report presents findings from the 2003 assessment and describes changes in adult literacy since 1992.

Defining and Measuring
Literacy

Establishing Literacy Levels

Conducting the Survey

Interpretation of Results

Cautions in Interpretation

Organization of the Report

It describes how American adults 16 years of age and older with varying literacy levels use written information in workplace, family, and community settings at the beginning of the 21st century. The report also examines the relationship between literacy and formal education and between literacy and health.

Additional reports are planned using data from the 2003 NAAL, including a report that examines the basic reading skills of America's adults and explores the relationship between basic reading skills and literacy. An in-depth look at adults who were at the lowest literacy levels in 2003 will also be presented in that report. A separate report will describe the literacy of prison inmates. The report *The Health Literacy of America's Adults* was published in September 2006 (Kutner, Greenberg, Jin, and Paulsen 2006)

Defining and Measuring Literacy

Defining Literacy

Unlike indirect measures of literacy—which rely on self-reports and other subjective evaluations of literacy and education—the 1992 and 2003 adult literacy assessments measured literacy directly by tasks representing a range of literacy activities that adults are likely to face in their daily lives.

The literacy tasks in the assessment were drawn from actual texts and documents, which were either used in their original format or reproduced in the assessment booklets. Each question appeared before the materials needed to answer it, thus encouraging respondents to read with purpose.

Respondents could correctly answer many assessment questions by skimming the text or document for the information necessary to perform a given literacy task. All tasks were open-ended.

The 2003 adult literacy assessment covered the same content as the 1992 assessment, and both assessments used the same definition of literacy:

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

This definition implies that literacy goes beyond simply being able to sound out or recognize words and understand text. A central feature of the definition is that literacy is related to achieving an objective and that adults often read for a purpose.

Measuring Literacy

As in 1992, three literacy scales—prose literacy, document literacy, and quantitative literacy—were used in the 2003 assessment:

- *Prose literacy.* The knowledge and skills needed to perform prose tasks (i.e., to search, comprehend, and use information from continuous texts). Prose examples include editorials, news stories, brochures, and instructional materials. Prose texts can be further broken down as expository, narrative, procedural, or persuasive.
- *Document literacy.* The knowledge and skills needed to perform document tasks (i.e., to search, comprehend, and use information from noncontinuous texts in various formats). Document examples include job applications, payroll forms, transportation schedules, maps, tables, and drug and food labels.
- *Quantitative literacy.* The knowledge and skills required to perform quantitative tasks (i.e., to identify and perform computations, either alone or sequentially, using numbers embedded in printed materials). Examples include balancing a checkbook, figuring out a tip, completing an order form, and determining the amount of interest on a loan from an advertisement.

Table 1-1 shows the correlations among the prose, document, and quantitative scales in 2003. All the correlations are between .86 and .89. In chapter 12

Table 1-1. Correlations among the prose, document, and quantitative scales: 2003

	Prose	Document	Quantitative
Prose	1.0	.86	.87
Document	.86	1.0	.89
Quantitative	.87	.89	1.0

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

of the *Technical Report and Data File User's Manual for the 1992 National Adult Literacy Survey*, Rock and Yamamoto (2001) examined the correlations among the three scales and concluded that even though the scales were highly related, there were still group differences across the scales, indicating that the scales did not all measure the same construct.

Several changes were made to the 1992 data. Several items were recategorized onto different literacy scales (prose to document). In addition, several dichotomous items were rescored using the partial credit model. To accommodate these changes, the 1992 data were recalibrated to provide item characteristic parameters comparable to the 2003 data. Data from the common test blocks used in both the 1992 and 2003 assessments were pooled for this rescaling. Following standard psychometric procedure for linking across years, the population mean and standard deviation of the 1992 scales were kept constant in 1992 and 2003, even though the rescaling changed the item parameters slightly. Because of the rescaling, the 1992 results in this report may differ slightly from the findings reported following the 1992 data collection.

Background Questionnaire

The 2003 National Assessment of Adult Literacy household background questionnaire was used to collect data about various demographic and background characteristics. A primary goal of the assessment was to measure literacy trends between 1992 and 2003, so many of the questions on the 2003 background questionnaire were identical to ques-

tions on the 1992 background questionnaire. The 2003 background questionnaire also included some new questions that were added in response to input from stakeholders and users of the 1992 data.

A separate background questionnaire was developed for the prison study. The prison background questionnaire was used to collect demographic data on inmates and provided contextual data on their experiences in prison that were related to literacy, including participation in classes, job training, and prison work assignments.

Establishing Literacy Levels

The Committee on Performance Levels for Adult Literacy, appointed by the National Research Council's Board on Testing and Assessment (BOTA), recommended a set of performance levels for the 2003 assessment (Hauser et al. 2005). Drawing on the committee's recommendations, the U.S. Department of Education decided to report the assessment results by using four literacy levels for each scale. Table 1-2 summarizes the knowledge, skills, and capabilities that adults needed to demonstrate to be classified into one of the four levels. Figures 1-1, 1-2, and 1-3 show the types of tasks and where they are located on the prose, document, and quantitative scales.

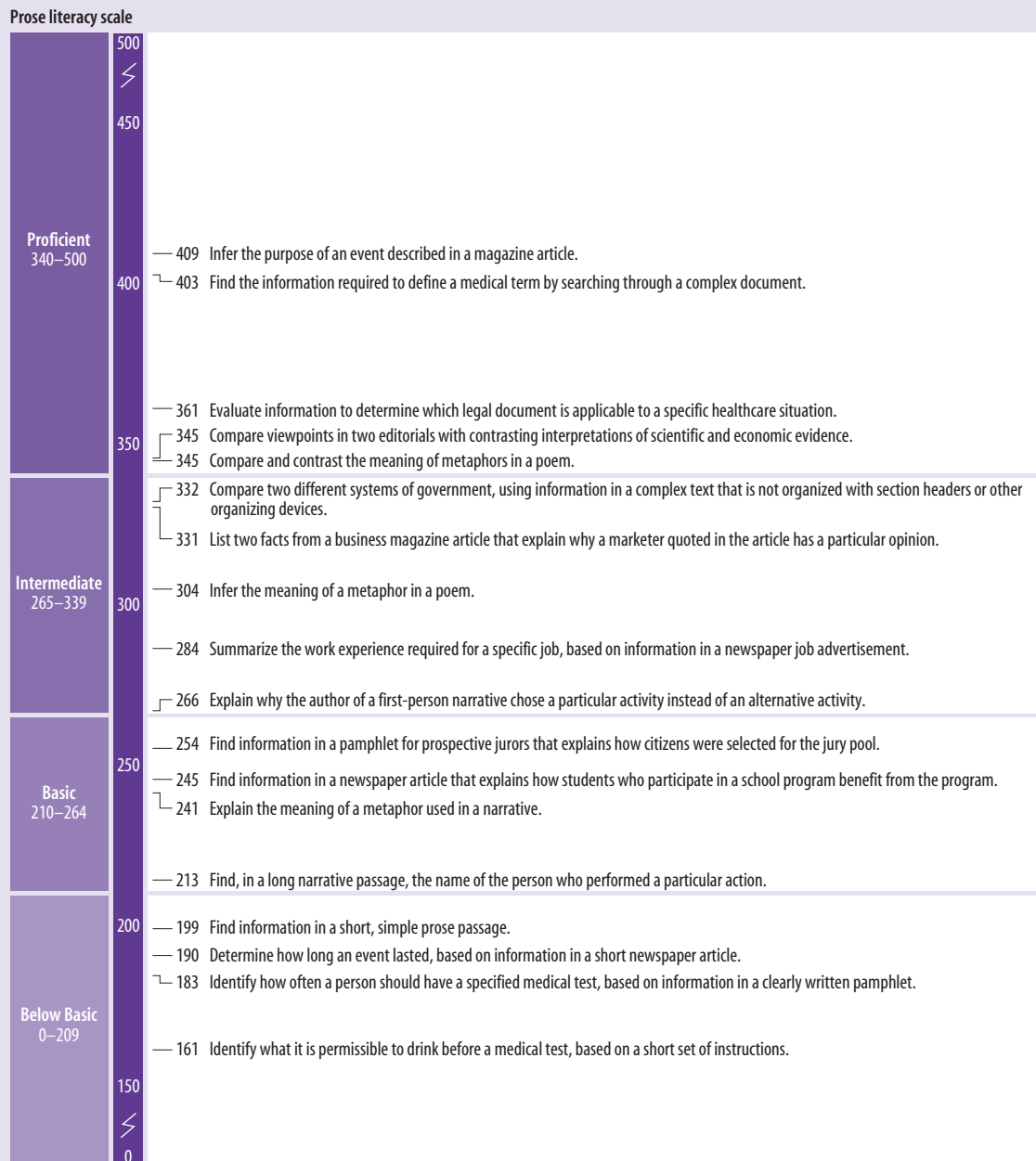
BOTA's Committee on Performance Levels for Adult Literacy also recommended reporting the 2003 results by using a separate category: nonliterate in English. Adults were considered to be nonliterate in English if they were unable to complete a minimum number of simple literacy questions or if they were unable to communicate in English or Spanish. Adults who were classified as nonliterate in English because they could not complete a minimum number of simple literacy questions were generally able to complete the background questionnaire, which was administered orally in either English or Spanish; for reporting purposes, they

Table 1-2. Overview of the literacy levels

Level and definition	Key abilities associated with level
<p><i>Below Basic</i> indicates no more than the most simple and concrete literacy skills.</p> <p>Score ranges for <i>Below Basic</i>:</p> <p>Prose: 0–209 Document: 0–204 Quantitative: 0–234</p>	<p>Adults at the <i>Below Basic</i> level range from being nonliterate in English to having the abilities listed below:</p> <ul style="list-style-type: none"> ■ locating easily identifiable information in short, commonplace prose texts ■ locating easily identifiable information and following written instructions in simple documents (e.g., charts or forms) ■ locating numbers and using them to perform simple quantitative operations (primarily addition) when the mathematical information is very concrete and familiar
<p><i>Basic</i> indicates skills necessary to perform simple and everyday literacy activities.</p> <p>Score ranges for <i>Basic</i>:</p> <p>Prose: 210–264 Document: 205–249 Quantitative: 235–289</p>	<ul style="list-style-type: none"> ■ reading and understanding information in short, commonplace prose texts ■ reading and understanding information in simple documents ■ locating easily identifiable quantitative information and using it to solve simple, one-step problems when the arithmetic operation is specified or easily inferred
<p><i>Intermediate</i> indicates skills necessary to perform moderately challenging literacy activities.</p> <p>Score ranges for <i>Intermediate</i>:</p> <p>Prose: 265–339 Document: 250–334 Quantitative: 290–349</p>	<ul style="list-style-type: none"> ■ reading and understanding moderately dense, less commonplace prose texts as well as summarizing, making simple inferences, determining cause and effect, and recognizing the author’s purpose ■ locating information in dense, complex documents and making simple inferences about the information ■ locating less familiar quantitative information and using it to solve problems when the arithmetic operation is not specified or easily inferred
<p><i>Proficient</i> indicates skills necessary to perform more complex and challenging literacy activities.</p> <p>Score ranges for <i>Proficient</i>:</p> <p>Prose: 340–500 Document: 335–500 Quantitative: 350–500</p>	<ul style="list-style-type: none"> ■ reading lengthy, complex, abstract prose texts as well as synthesizing information and making complex inferences ■ integrating, synthesizing, and analyzing multiple pieces of information located in complex documents ■ locating more abstract quantitative information and using it to solve multi-step problems when the arithmetic operations are not easily inferred and the problems are more complex

NOTE: Although the literacy levels share common names with the National Assessment of Educational Progress (NAEP) levels, they do not correspond to the NAEP levels.
 SOURCE: Hauser, R.M, Edley, C.F. Jr., Koenig, J.A., and Elliott, S.W. (Eds.). (2005). *Measuring Literacy: Performance Levels for Adults, Interim Report*. Washington, DC: National Academies Press; White, S. and Dillow, S. (2005). *Key Concepts and Features of the 2003 National Assessment of Adult Literacy* (NCES 2006-471). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

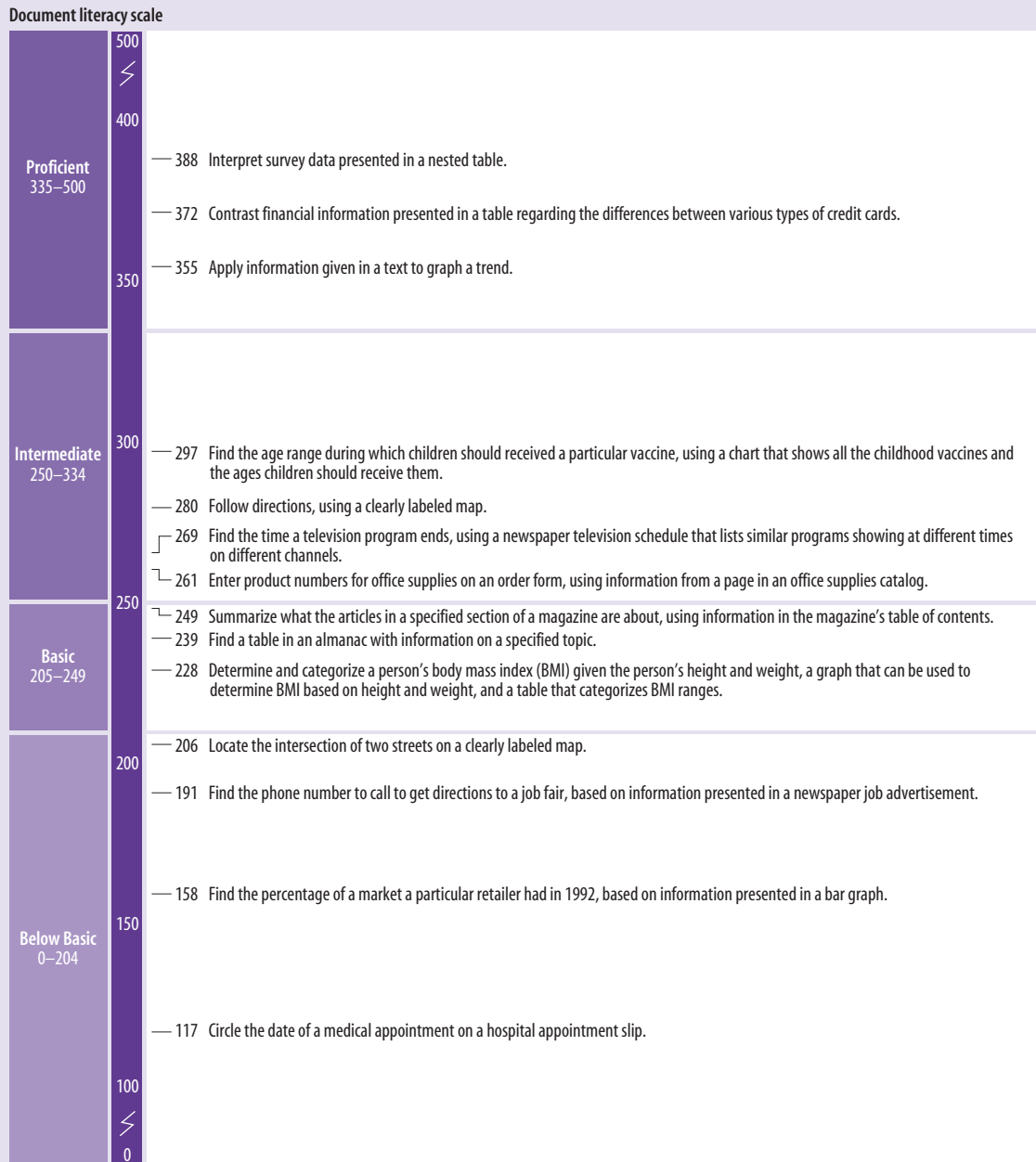
Figure 1-1. Difficulty of selected prose literacy tasks: 2003



NOTE: The position of a question on the scale represents the average scale score attained by adults who had a 67 percent probability of successfully answering the question. Only selected questions are presented. Scale score ranges for performance levels are referenced on the figure.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

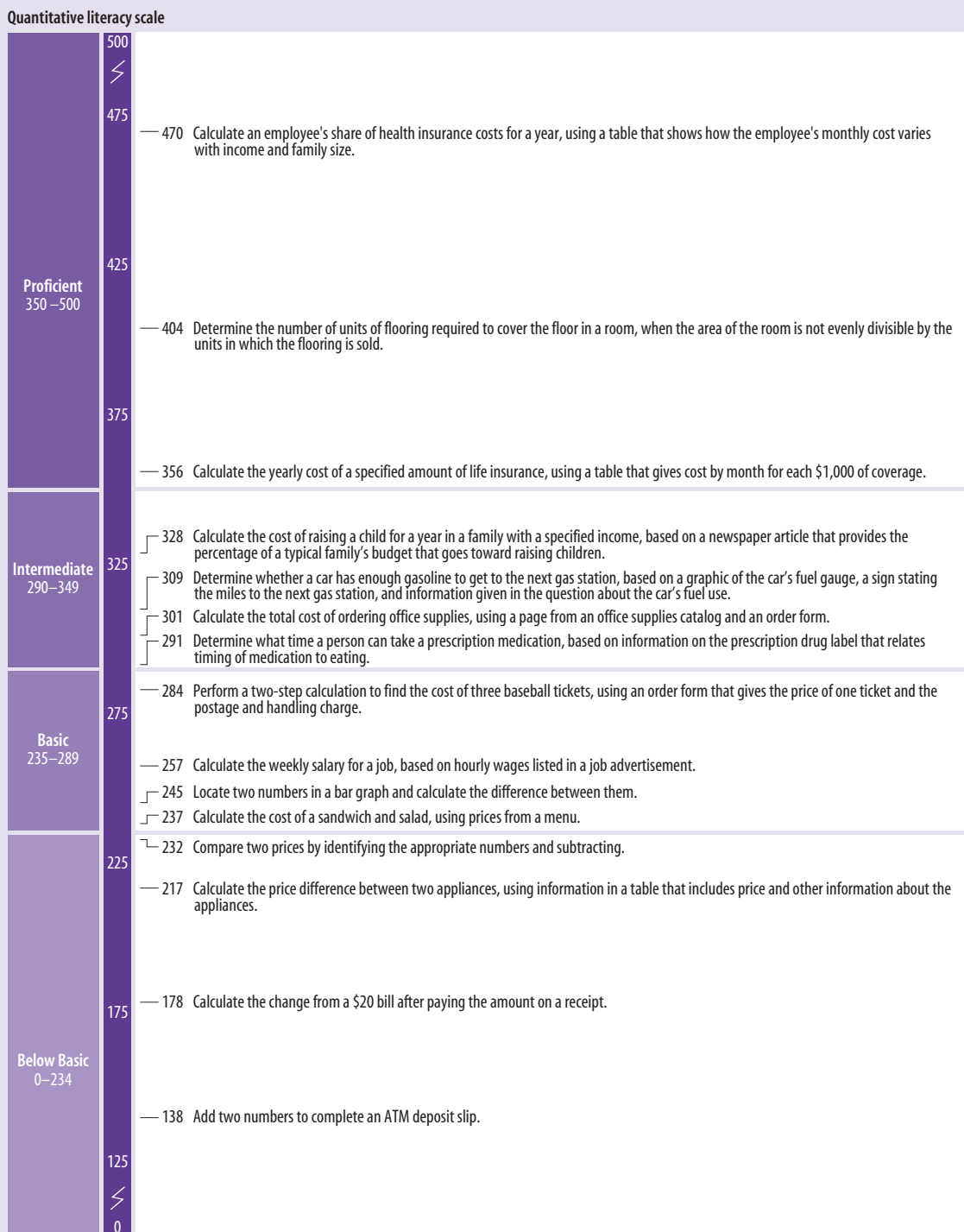
Figure 1-2. Difficulty of selected document literacy tasks: 2003



NOTE: The position of a question on the scale represents the average scale score attained by adults who had a 67 percent probability of successfully answering the question. Only selected questions are presented. Scale score ranges for performance levels are referenced on the figure.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

Figure 1-3. Difficulty of selected quantitative literacy tasks: 2003



NOTE: The position of a question on the scale represents the average scale score attained by adults who had a 67 percent probability of successfully answering the question. Only selected questions are presented. Scale score ranges for performance levels are referenced on the figure.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

were included in the *Below Basic* literacy level. Adults who were classified as nonliterate in English because they were unable to communicate in either English or Spanish could not complete the background questionnaire; they are not included in the analyses in this report that rely on background data. Adults who could not be tested because of a cognitive or mental disability are also not included in the analyses in this report, but in the absence of any information about their literacy abilities, they are not considered to be nonliterate in English.

Conducting the Survey¹

The 2003 National Assessment of Adult Literacy included two samples: (1) adults ages 16 and older living in households and (2) inmates ages 16 and older in federal and state prisons. Each sample was weighted to represent its share of the total population of the United States, and the samples were combined for reporting. Household data collection was conducted from March 2003 through February 2004; prison data collection was conducted from March through July 2004. For the household sample, the screener response rate was 82 percent and the background questionnaire response rate was 76 percent. The final household sample response rate was 62 percent. For the prison sample, 97 percent of prisons who were selected for the study agreed to participate and the background questionnaire response rate for prison inmates was 91 percent. The final prison sample response rate was 88 percent.

Household interviews were conducted in respondents' homes; prison interviews usually took place in a classroom or library in the prison. Whenever possible, interviewers administered the background questionnaire and assessment in a private setting.

¹ Nonresponse bias analyses are discussed on page 102 of the report. All percentages in this section are weighted. For the unweighted percentages, see tables C-1 and C-2 in appendix C.

Assessments were administered one-on-one using a computer-assisted personal interviewing system (CAPI) programmed into laptop computers. Respondents were encouraged to use whatever aids they normally used when reading and when performing quantitative tasks, including eyeglasses, magnifying glasses, rulers, and calculators.

Three percent of adults were unable to participate in the assessment because they could not communicate in either English or Spanish or because they had a mental disability that prevented them from being tested. Literacy scores for these adults could not be estimated, and they are not included in the results presented in this report.

Additional information on sampling, response rates, and data collection procedures is in appendix C.

Interpretation of Results

The statistics presented in this report are estimates of performance based on a sample of respondents, rather than the values that could be calculated if every person in the nation answered every question on the assessment. Estimates of performance of the population and groups within the population were calculated by using sampling weights to account for the fact that the probabilities of selection were not identical for all respondents. Information about the uncertainty of each statistic that takes into account the complex sample design was estimated by using Taylor series procedures to estimate standard errors.

The analyses in this report examine differences related to literacy based on self-reported background characteristics among groups in 2003, as well as changes within groups between 1992 and 2003, by using standard *t* tests to determine statistical significance. Statistical significance is reported at $p \leq .05$. Differences between averages or percentages that are statistically significant are discussed by using comparative terms such as *higher* or *lower*. Differences that are

not statistically significant either are not discussed or are referred to as “not statistically significant.” Failure to find a statistically significant difference should not be interpreted as meaning that the estimates are the same; rather, failure to find a difference may also be due to measurement error or sampling.

Detailed tables with estimates and standard errors for all tables and figures in this report are in appendix D. Appendix C includes more information about the weights used for the sample and the procedures used to estimate standard errors and statistical significance.

Cautions in Interpretation

The purpose of this report is to examine the relationship between literacy and various self-reported background factors. This report is purely descriptive. Readers are cautioned not to draw causal inferences based solely on the results presented here. It is important to note that many of the variables examined in this report are related to one another, and complex interactions and relationships have not been explored here.

Organization of the Report

Chapter 2 of the report presents the prose, document, and quantitative literacy for the adult population of the United States as a whole and discusses how literacy changed between 1992 and 2003. The chapter also examines how literacy varies across groups with different demographic characteristics, including gender, race and ethnicity, language background, age, and household income. With the exception of the analyses related to household income, all the analyses in the chapter are based on the combined household and prison samples.

Chapter 3 explores the relationship between education and literacy and also discusses how that relationship changed between 1992 and 2003. In addition to focusing on educational attainment, the analyses in

the chapter examine the relationship between literacy and other types of adult education, including basic skills classes, English as a second language classes, and information technology (IT) certification. The chapter also includes a focus on educational attainment by race and ethnicity. All analyses in the chapter are based on the combined household and prison samples.

Chapter 4 examines how adults with different levels of literacy functioned in the labor market and the workplace and also discusses changes between 1992 and 2003. Topics explored in the chapter include employment status, occupation, weekly wage or salary, job training, and participation in public assistance programs. All analyses in the chapter are based on the household sample only because prison inmates are not part of the same labor market as adults living in households.

Chapter 5 examines how parents, grandparents, and guardians with different literacy levels interacted with the children living in their homes around issues related to literacy and school. The chapter also describes the relationship between the literacy of adults living in a home and the likelihood that the home had educational resources—including books and computers—that encourage children to read and to actively engage in other academic and intellectual pursuits. Analyses in the chapter are limited to the household sample because prison inmates do not have the same opportunity to interact with children as do adults living in households. Additionally, because the types of educational activities that parents do with their children change as the children get older, many of the analyses in the chapter are limited to parents or households with children in an age range at which the activity being discussed is likely to occur.

Chapter 6 examines how adults with different literacy levels participated in government and community affairs by voting, staying informed, and volunteer-

ing. Because most of the background questions on which this chapter is based were new in 2003, the analyses in the chapter are based on the 2003 sample only. Prison inmates are not included in the analyses in this chapter because they are not able to vote or participate in community activities outside the prison and do not have the same opportunities to stay informed about issues related to current events, public affairs, and the government.

The analyses for chapters 2 and 3 present results from all three literacy scales: prose, document, and

quantitative. The analyses in chapters 4, 5, and 6—which look at literacy in workplace, family, and community settings—present some results using only one or two of the three scales. In these instances, results for the other scale(s) are presented in appendix E.

Throughout the report, 1992 results are presented in grey or black and 2003 results are presented in color. The years are also labeled on the figure axes next to the corresponding results.

Demographic Characteristics and Literacy

The 2003 adult literacy assessment examined the relationship between demographic characteristics and literacy, including changes in literacy between 1992 and 2003. The population of the United States has grown more diverse since adult literacy was last assessed in 1992 (table 2-1). Between 1992 and 2003, the percentages of adults living in the United States who were Hispanic or Asian/Pacific Islander increased, and the percentage who were non-Hispanic White decreased. In 1992, 5 percent of the U.S. adult population spoke only Spanish before starting school; by 2003, that percentage had increased to 8 percent. Over the same period, the percentage of the U.S. adult population who spoke only English before starting school decreased from 86 to 81 percent.

The adult population of the United States also got older between 1992 and 2003 (table 2-1). Although the percentage of the population ages 65 and older did not change, adults ages 50 to 64 went from 16 percent of the population to 21 percent, and adults ages 40 to 49 went from 17 percent of the population to 20 percent.

The analyses in this chapter examine how literacy levels for the total adult population and within different demographic groups changed between 1992 and 2003 and also how literacy levels varied among different demographic groups. The relationship between literacy and poverty is also examined. All

Total Population

Gender

Race and Ethnicity

Language Background

Age

Learning Disabilities

Household Income

Summary

Table 2-1. Percentage of adults in selected population groups: 1992 and 2003

Characteristic	1992	2003
Gender		
Male	48	49
Female	52	51
Race/ethnicity		
White	77	70*
Black	11	12
Hispanic	8	12*
Asian/Pacific Islander	2	4*
American Indian/Alaska Native	1	1
Multiracial	—	2
Language spoken before starting school		
English only	86	81*
English and Spanish	2	2
English and other language	3	4
Spanish	5	8*
Other language	4	5
Age learned English		
Native Language English Only	86	81*
10 or younger	8	10*
11 to 15	2	2*
16 to 20	1	2
21 or older	2	3*
Does not speak English	1	3*
Age		
16–18	6	6
19–24	13	11*
25–39	33	28*
40–49	17	20*
50–64	16	21*
65 and older	15	15
Household income		
Less than \$10,000	—	10
\$10,000–\$14,999	—	7
\$15,000–\$19,999	—	6
\$20,000–\$29,999	—	12
\$30,000–\$39,999	—	11
\$40,000–\$59,999	—	19
\$60,000–\$99,999	—	22
\$100,000 or greater	—	13

— Not available.

*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this table. In 1992, respondents were allowed to identify only one race but could identify "other" as their race. In 2003, respondents were allowed to identify multiple races but could not choose "other" as their race. All adults of Hispanic origin are classified as Hispanic, regardless of race. The Asian/Pacific Islander category includes Native Hawaiians. The English and Spanish category includes adults who spoke languages in addition to both English and Spanish. The Spanish category includes adults who spoke Spanish and additional non-English languages. Results for adults who identified "other" as their race in 1992 are not included in this table. The percentage of the population that identified "other" as their race in 1992 rounds to 0. Comparable household income data were not available for 1992.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

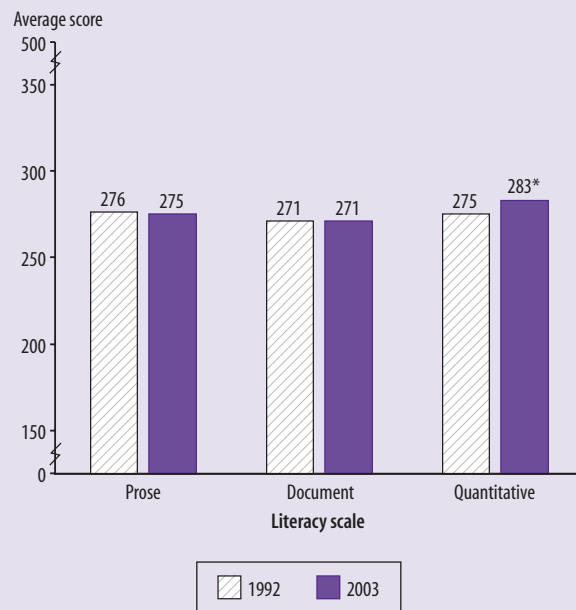
analyses in this chapter, except for those relating to poverty, are based on the combined household and prison samples.

Total Population

There were no statistically significant differences in the average prose and document literacy of the adult population of the United States between 1992 and 2003 (figure 2-1). Average quantitative literacy increased from 275 to 283.

In 2003, some 30 million American adults had *Below Basic* prose literacy, 27 million had *Below Basic* document literacy, and 46 million had *Below Basic* quantitative literacy. There were some changes in the distribution of adults among the four literacy levels

Figure 2-1. Average prose, document, and quantitative literacy scores of adults: 1992 and 2003



*Significantly different from 1992.

NOTE: Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

between 1992 and 2003 (figure 2-2). Between 1992 and 2003, the percentage of adults with *Proficient* prose literacy decreased. On the document scale, the percentage of adults with *Below Basic* and *Proficient* literacy declined, and the percentage of adults with *Intermediate* literacy increased. The percentage of adults with *Below Basic* quantitative literacy declined between 1992 and 2003, and the percentage of adults with *Intermediate* quantitative literacy increased.

Nonliterate in English

In 2003, approximately 3 percent of the NAAL sample (representing 7 million adults in the U.S. adult population) at the bottom of the *Below Basic* level did poorly on the easiest test questions. They were considered to be nonliterate in English.

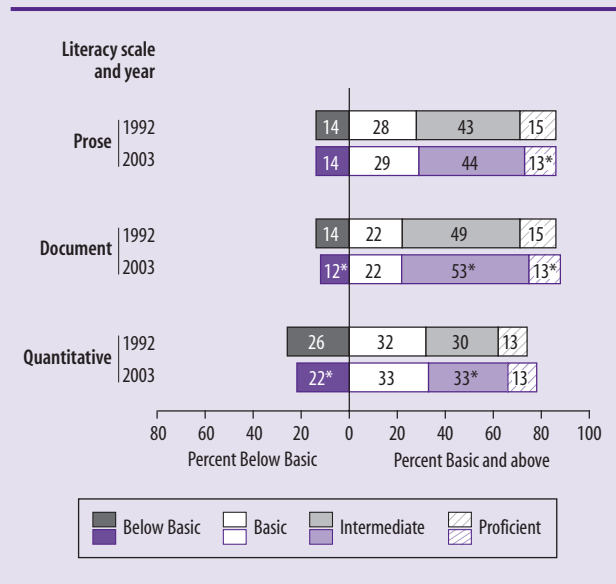
Another 2 percent of the NAAL sample (representing approximately 4 million adults in the U.S. adult

population) could not take the test in 2003 because of language barriers. They did not speak either English or Spanish, the two languages in which interviews were conducted.² They also could not understand the interviewers when the interviewers tried to ask them the questions on the background questionnaire, such as age, education, and income. Because no test results and very little other information are available on these adults who could not be interviewed in either English or Spanish, they are not included in the results presented in this report.

These adults who could not be interviewed in either English or Spanish (representing 2 percent of the U.S. adult population), along with those who did very poorly on the simple test questions (representing 3 percent of the U.S. adult population), are considered to be nonliterate in English. A total of 5 percent of the adult population of the United States (11 million adults) is estimated to be nonliterate in English.

Although both the adults who could not participate in the assessment because of language barriers and the adults who did poorly on the easiest test questions are all considered to be nonliterate in English, the adults who could not participate in the assessment because of language barriers (representing 2 percent of the U.S. adult population) are not included in the results presented in this report. These adults could not be included because they were unable to provide the background information that forms the basis for this report. The adults who are considered to

Figure 2-2. Percentage of adults in each prose, document, and quantitative literacy level: 1992 and 2003



*Significantly different from 1992.
 NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure.
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

²Although interviews were conducted in English or Spanish, all materials that respondents were asked to read were in English only. The number 4 million, as well as the number 7 million in the previous paragraph, is based on the entire adult population of the United States. Although the NAAL sample was considerably smaller than this, it was designed to be representative of the adult population of the United States, so results for all adults can be inferred on the basis of the NAAL data.

be nonliterate in English because they did poorly on the easiest test questions (representing 3 percent of the U.S. adult population) were generally able to respond to the background questionnaire, which was administered orally. These adults are included in the *Below Basic* category in this report.

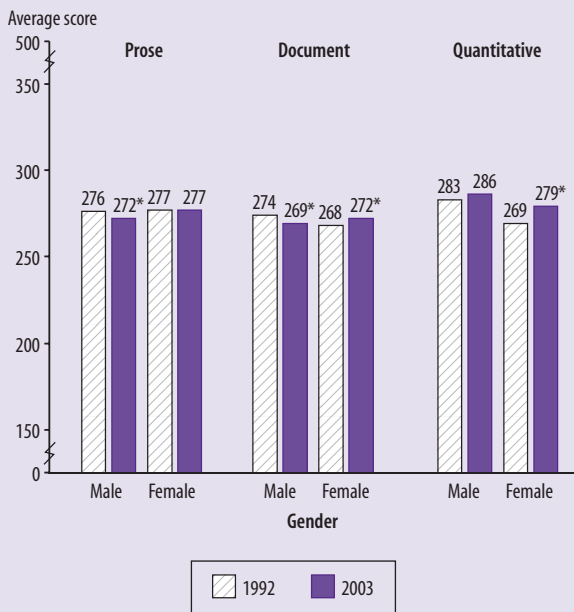
Gender

In 2003, women had higher average prose and document literacy than men, and men had higher average quantitative literacy than women (figure 2-3). In 1992, there was no difference between men and women in their average prose literacy, although men had higher average document and quantitative literacy than women.

Between 1992 and 2003, women’s average document and quantitative literacy increased, while

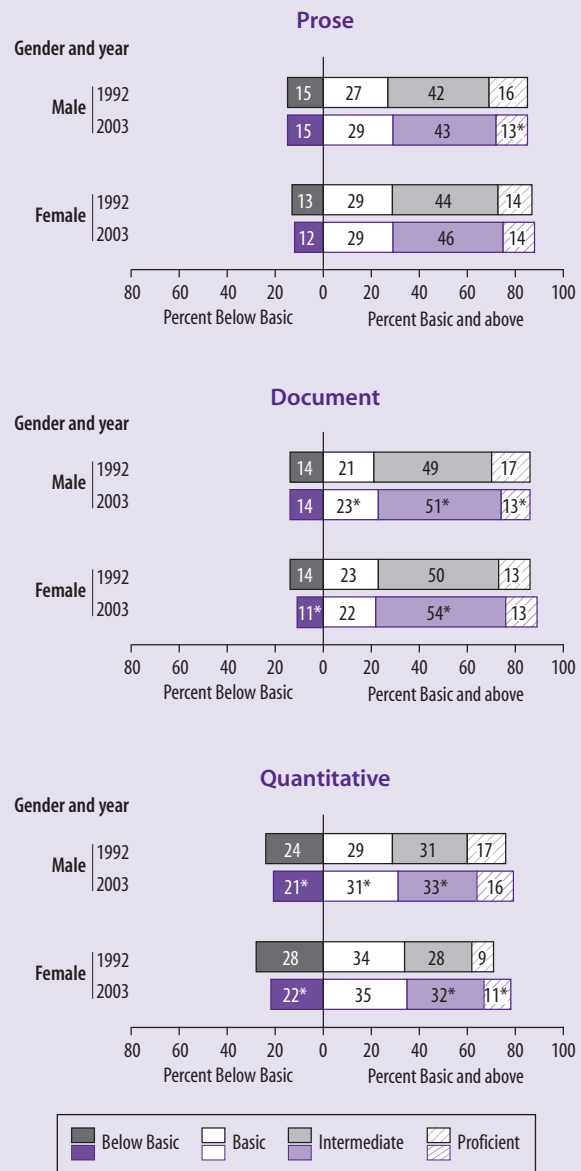
women’s average prose literacy remained at 277. During this same time period, average prose and document literacy of men declined, while there was not a statistically significant change in average quan-

Figure 2-3. Average prose, document, and quantitative literacy scores of adults, by gender: 1992 and 2003



*Significantly different from 1992.
 NOTE: Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure.
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Figure 2-4. Percentage of adults in each prose, document, and quantitative literacy level, by gender: 1992 and 2003



*Significantly different from 1992.
 NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure.
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

titative literacy for men. Between 1992 and 2003, the gap in quantitative literacy between men and women narrowed.

There were some changes in the distribution of men and women among the literacy levels between 1992 and 2003 (figure 2-4). The percentage of women with *Below Basic* quantitative and document literacy declined. The percentage of men with *Below Basic* quantitative literacy also declined, as did the percentage of men with *Proficient* prose and document literacy. The percentage of women with *Proficient* quantitative literacy increased.

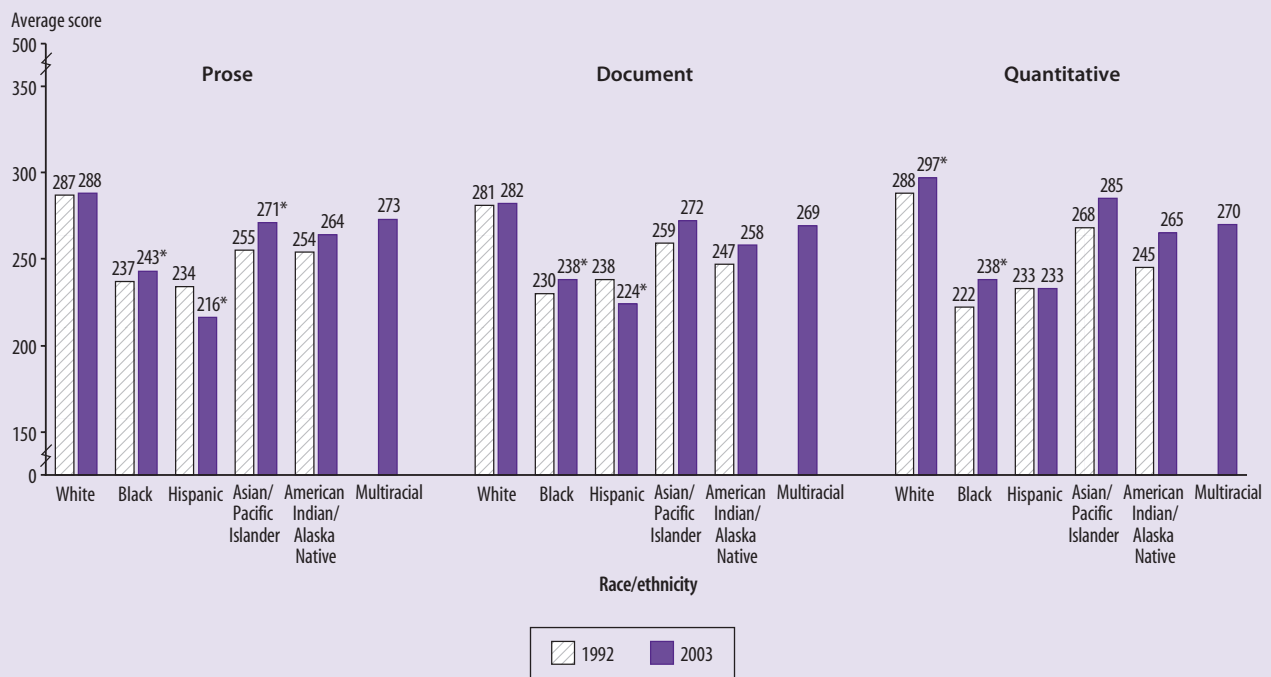
Race and Ethnicity

In 2003, the average prose, document, and quantitative literacy of White and Asian/Pacific Islander adults was higher than for Black and Hispanic adults (figure 2-5).³ Black adults had higher average prose and document literacy than Hispanic adults.

Black adults had higher average prose, document, and quantitative literacy in 2003 than in 1992. The average prose literacy of Asian/Pacific Islander adults increased as well. During the same period, the

³ The way race and ethnicity were measured changed between 1992 and 2003. This change is discussed in appendix B.

Figure 2-5. Average prose, document, and quantitative literacy scores of adults, by race/ethnicity: 1992 and 2003



*Significantly different from 1992.

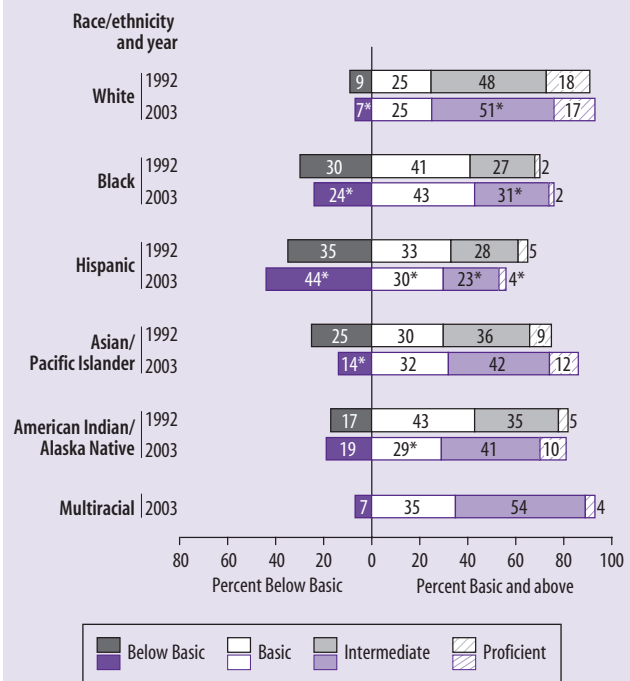
NOTE: Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. In 1992, respondents were allowed to identify only one race but could identify "other" as their race. In 2003, respondents were allowed to identify multiple races but could not choose "other" as their race. All adults of Hispanic origin are classified as Hispanic, regardless of race. The Asian/Pacific Islander category includes Native Hawaiians. Results for adults who identified "other" as their race in 1992 are not included in this figure. The percentage of the population that identified "other" as their race in 1992 rounds to 0.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

average prose and document literacy of Hispanic adults declined, while their average quantitative literacy remained the same. Average quantitative literacy increased among White adults, but there were no significant changes among White adults in prose and document literacy.

Between 1992 and 2003, there was a decrease in the percentages of White, Black, and Asian/Pacific Islander adults with *Below Basic* prose, document, and quantitative literacy, while there was an increase in the percentage of Hispanic adults with *Below Basic* prose and document literacy (figures 2-6a, 2-6b, and 2-6c). The percentage of American Indian and Alaska Native adults with *Basic* prose literacy decreased (figure 2-6a). The percentage of White adults with *Proficient* document literacy also declined (figure 2-6b).

Figure 2-6a. Percentage of adults in each prose literacy level, by race/ethnicity: 1992 and 2003

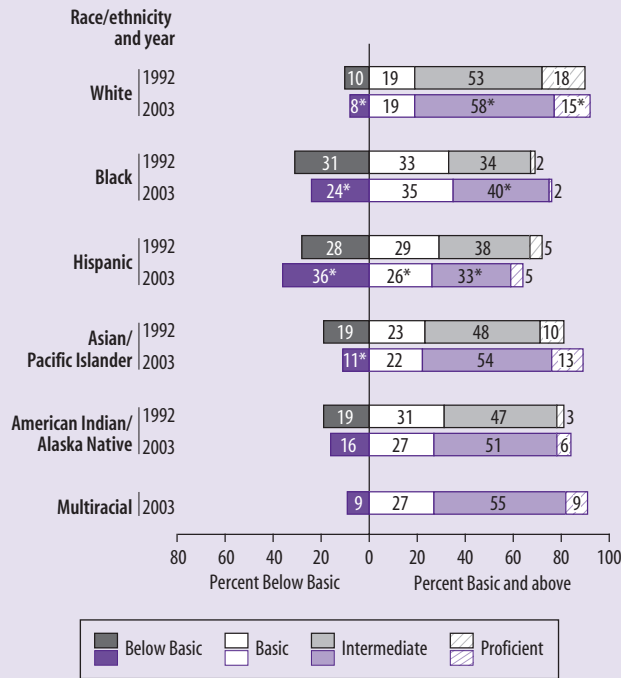


*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. In 1992, respondents were allowed to identify only one race but could identify "other" as their race. In 2003, respondents were allowed to identify multiple races but could not choose "other" as their race. All adults of Hispanic origin are classified as Hispanic, regardless of race. The Asian/Pacific Islander category includes Native Hawaiians. Results for adults who identified "other" as their race in 1992 are not included in this figure. The percentage of the population that identified "other" as their race in 1992 rounds to 0.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Figure 2-6b. Percentage of adults in each document literacy level, by race/ethnicity: 1992 and 2003

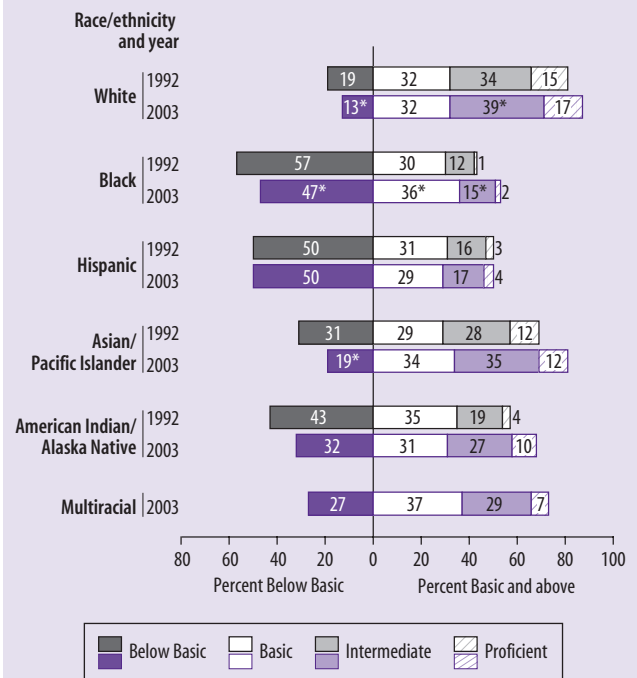


*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. In 1992, respondents were allowed to identify only one race but could identify "other" as their race. In 2003, respondents were allowed to identify multiple races but could not choose "other" as their race. All adults of Hispanic origin are classified as Hispanic, regardless of race. The Asian/Pacific Islander category includes Native Hawaiians. Results for adults who identified "other" as their race in 1992 are not included in this figure. The percentage of the population that identified "other" as their race in 1992 rounds to 0.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Figure 2-6c. Percentage of adults in each quantitative literacy level, by race/ethnicity: 1992 and 2003



*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. In 1992, respondents were allowed to identify only one race but could identify "other" as their race. In 2003, respondents were allowed to identify multiple races but could not choose "other" as their race. All adults of Hispanic origin are classified as Hispanic, regardless of race. The Asian/Pacific Islander category includes Native Hawaiians. Results for adults who identified "other" as their race in 1992 are not included in this figure. The percentage of the population that identified "other" as their race in 1992 rounds to 0.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Hispanic Ethnicity

In both 1992 and 2003, Hispanics of Mexican origin represented the largest Hispanic ethnicity in the U.S. (table 2-2). Between 1992 and 2003, the percentage of Hispanics of Central or South American origin increased from 11 to 16 percent and the percentage of Hispanics of other origin decreased from 17 to 12 percent in the United States.

In 2003, Hispanic adults of Puerto Rican and other origin had higher average prose and document literacy than Hispanic adults of Mexican and Central or South American origin (figure 2-7). Hispanic adults of Puerto Rican origin also had higher average quantitative literacy than Hispanic adults of Mexican origin.

Average prose and document literacy for Hispanic adults of Mexican and Central or South American

origin declined between 1992 and 2003. Average document and quantitative literacy improved for Hispanic adults of Puerto Rican origin between 1992 and 2003.

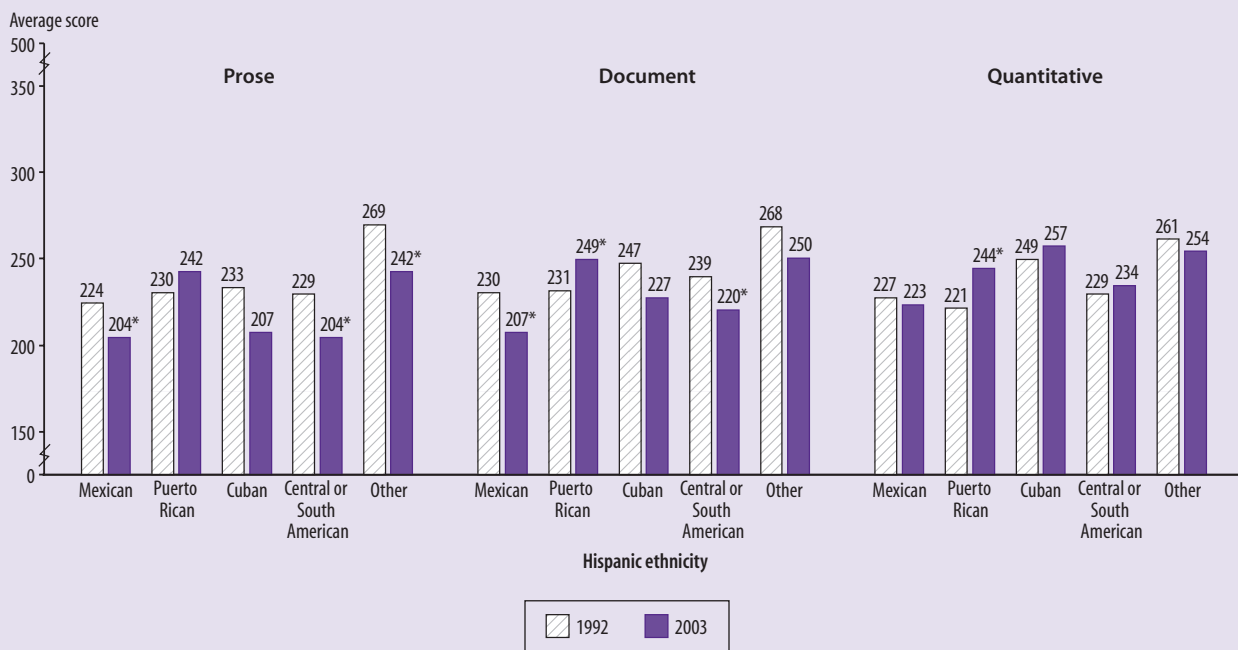
Table 2-2. Percentage of Hispanic adults, by Hispanic ethnicity: 1992 and 2003

Hispanic ethnicity	1992	2003
Mexican	55	58
Puerto Rican	12	10
Cuban	5	4
Central or South American	11	16*
Other	17	12*

*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this table. All adults of Hispanic origin are classified as Hispanic, regardless of race. SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Figure 2-7. Average prose, document, and quantitative literacy scores of adults, by Hispanic ethnicity: 1992 and 2003



*Significantly different from 1992.

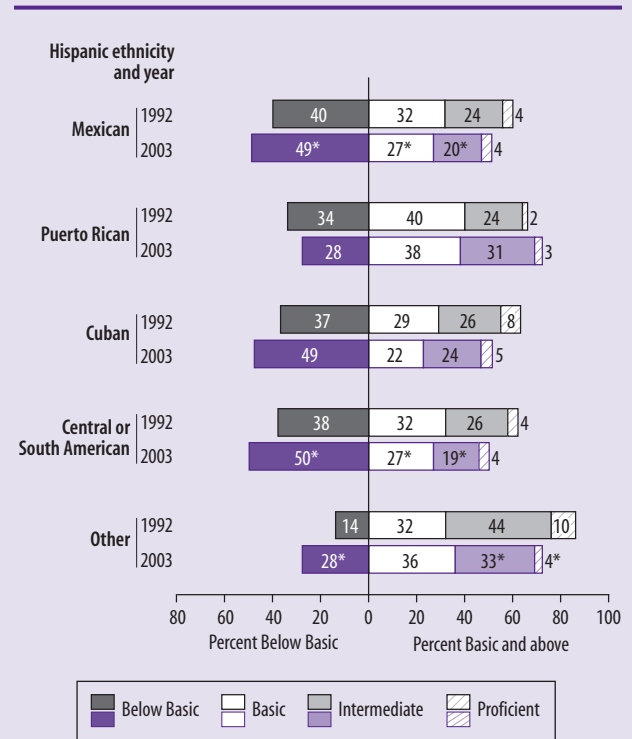
NOTE: Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. All adults of Hispanic origin are classified as Hispanic, regardless of race.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

The distribution of adults across the four performance levels differed by type of Hispanic ethnicity (figures 2-8a, 2-8b, and 2-8c). In 2003, some 49 to 50 percent of Hispanic adults of Mexican, Cuban, and Central or South American origin had *Below Basic* prose literacy, while 28 percent of Hispanic adults of Puerto Rican origin had *Below Basic* prose literacy.

Between 1992 and 2003, there was an increase in the percentage of Hispanic adults of Mexican, Central or South American, and other origin with *Below Basic* prose literacy. The percentage of Hispanic adults of Mexican and Central or South American origin with *Below Basic* document literacy also increased. For Hispanic adults of Puerto Rican origin, the percentage with *Below Basic* document and quantitative literacy decreased between 1992 and 2003, but there was no significant change in the percentage of this group with *Below Basic* prose literacy.

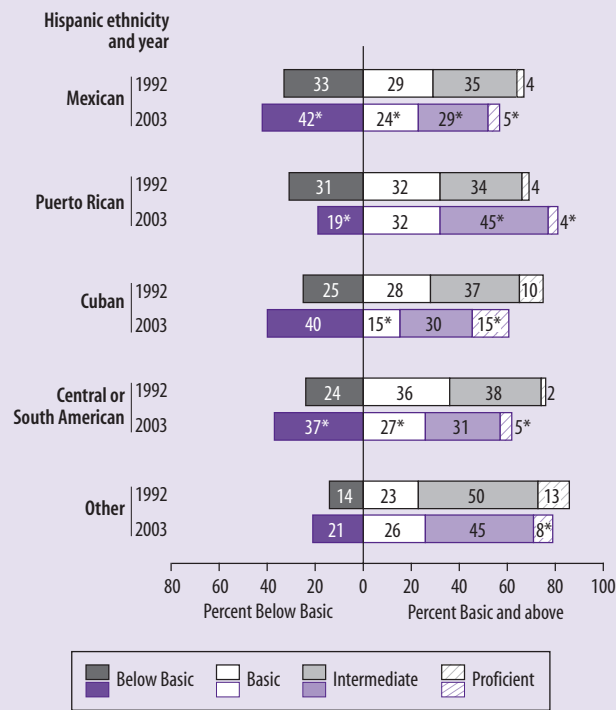
Figure 2-8a. Percentage of adults in each prose literacy level, by Hispanic ethnicity: 1992 and 2003



*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. All adults of Hispanic origin are classified as Hispanic, regardless of race. SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

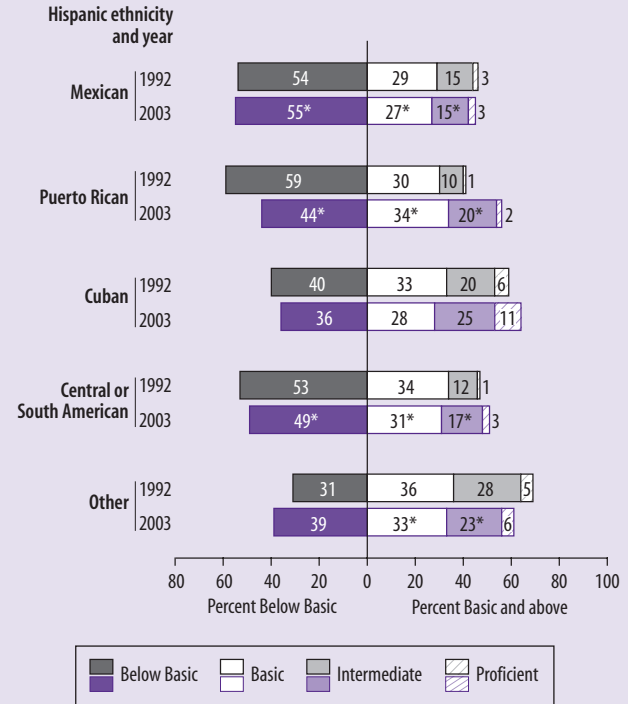
Figure 2-8b. Percentage of adults in each document literacy level, by Hispanic ethnicity: 1992 and 2003



*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. All adults of Hispanic origin are classified as Hispanic, regardless of race. SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Figure 2-8c. Percentage of adults in each quantitative literacy level, by Hispanic ethnicity: 1992 and 2003



*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. All adults of Hispanic origin are classified as Hispanic, regardless of race. SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Language Background

The analyses in this section examine the English literacy of adults in relationship to two aspects of their language background: the language or languages adults spoke before starting school and the age at which adults learned to speak English.

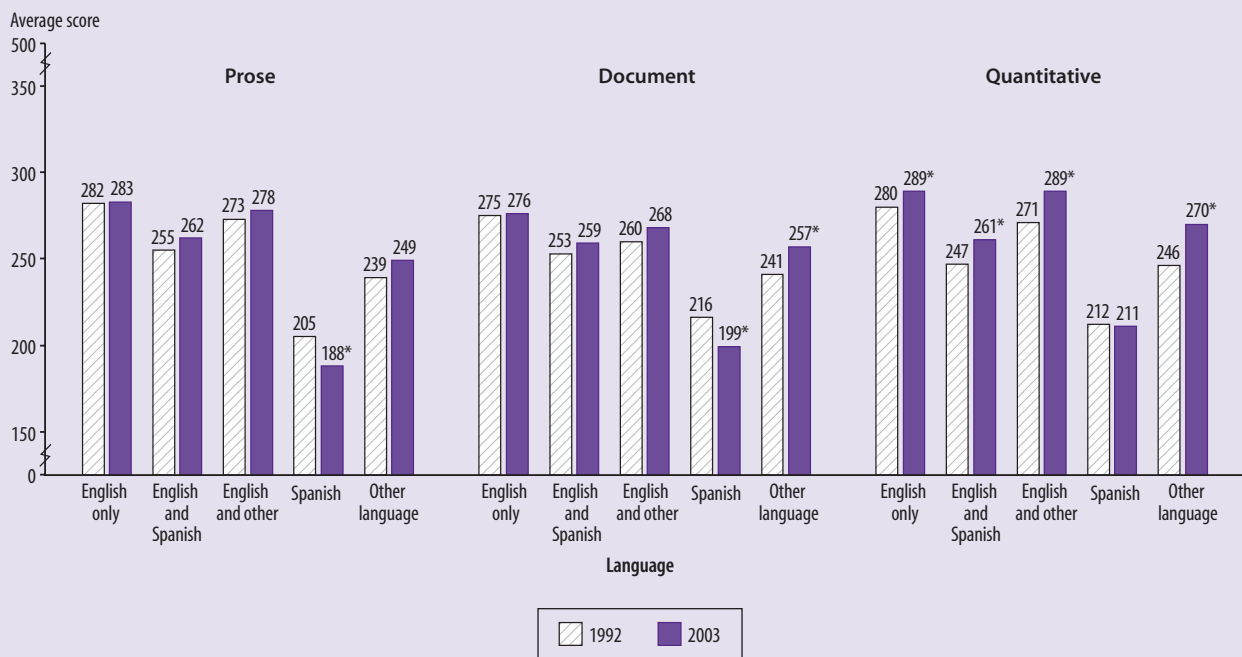
Language Spoken Before Starting School

In 2003, adults who spoke only English before starting school had higher average document literacy than other adults (figure 2-9). Adults who spoke only English before starting school also had higher average prose and quantitative literacy than adults who spoke Spanish but no English or who spoke English and Spanish before starting school.

Between 1992 and 2003, the average quantitative literacy of adults who spoke only English or English plus another language before starting school increased, but there was no significant change in their prose or document literacy. The average literacy score of adults who spoke Spanish but no English before starting school declined 17 points on the prose and document scales.

In 2003, a higher percentage of adults who spoke Spanish but no English before starting school than adults who spoke English only, English and Spanish, English and another language, or another language before starting school had *Below Basic* prose, document, and quantitative literacy (figures 2-10a, 2-10b, and 2-10c). Sixty-two percent of adults who spoke only Spanish before starting school had *Below Basic*

Figure 2-9. Average prose, document, and quantitative literacy scores of adults, by language spoken before starting school: 1992 and 2003



*Significantly different from 1992.

NOTE: Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. The English and Spanish category includes adults who spoke languages in addition to both English and Spanish. The Spanish category includes adults who spoke Spanish and additional non-English languages.

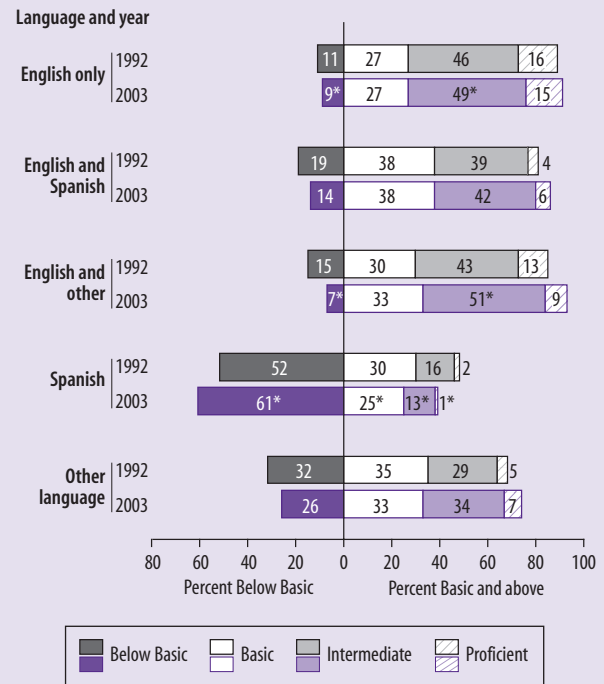
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

prose and quantitative literacy in 2003, and 49 percent of these adults had *Below Basic* document literacy.

A lower percentage of adults who spoke English only or English combined with a language other than Spanish before starting school had *Below Basic* prose and document literacy in 2003 than in 1992 (figures 2-10a and 2-10b). In addition, a lower percentage of adults who spoke English only or English combined with another language (Spanish or other) before starting school had *Below Basic* quantitative literacy in 2003 than in 1992 (figure 2-10c). Among adults who spoke Spanish but no English before starting school, the percentage with *Below Basic* prose and document literacy increased between 1992 and 2003, but there was no significant change in the percentage with *Below Basic* quantitative literacy.

In 2003, among adults who spoke Spanish but no English before starting school, 61 percent had *Below Basic* prose literacy while 49 percent had *Below Basic* document literacy. Among adults who spoke English only or English combined with another language before starting school, the percentage with *Below Basic* prose literacy was not statistically significant from the percentage who had *Below Basic* document literacy.

Figure 2-10a. Percentage of adults in each prose literacy level, by language spoken before starting school: 1992 and 2003

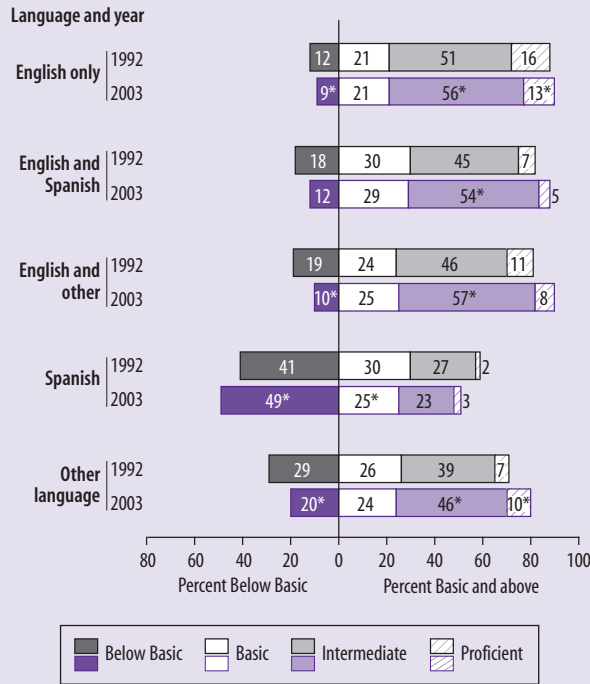


*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. The English and Spanish category includes adults who spoke languages in addition to both English and Spanish. The Spanish category includes adults who spoke Spanish and additional non-English languages.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Figure 2-10b. Percentage of adults in each document literacy level, by language spoken before starting school: 1992 and 2003

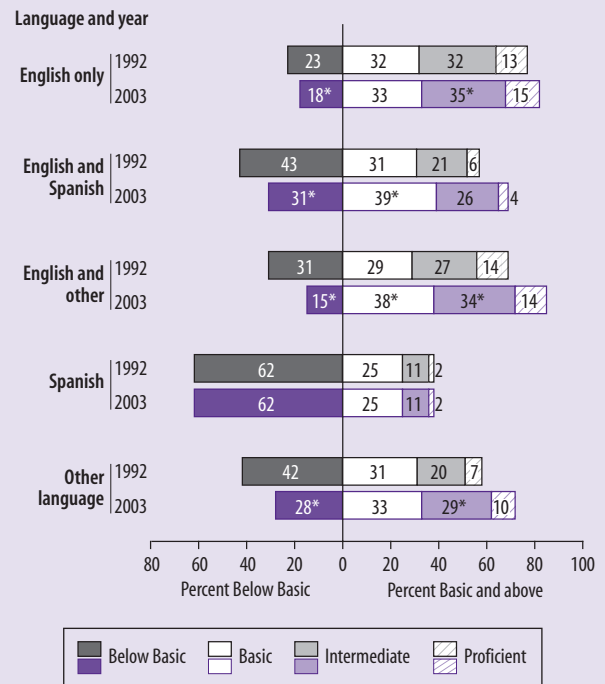


*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. The English and Spanish category includes adults who spoke languages in addition to both English and Spanish. The Spanish category includes adults who spoke Spanish and additional non-English languages.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Figure 2-10c. Percentage of adults in each quantitative literacy level, by language spoken before starting school: 1992 and 2003



*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. The English and Spanish category includes adults who spoke languages in addition to both English and Spanish. The Spanish category includes adults who spoke Spanish and additional non-English languages.

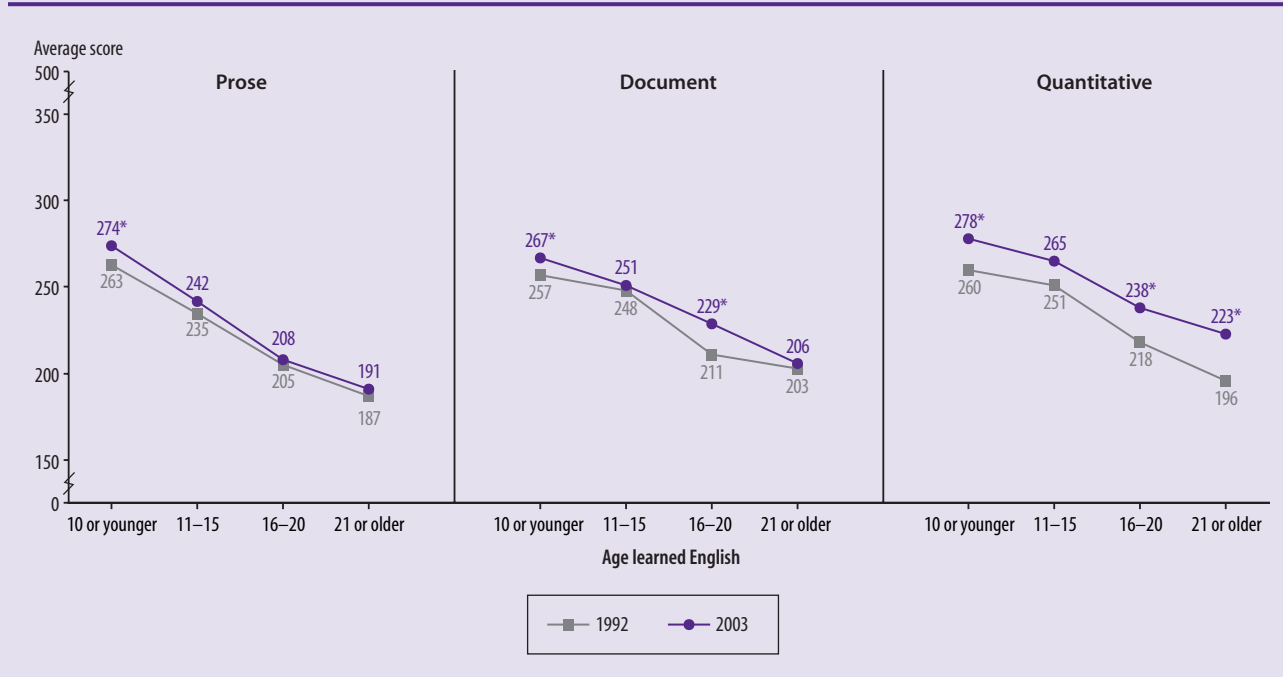
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Age Learned English

In 2003, among adults who spoke a language other than English before starting school, average prose and document literacy decreased as the age at which adults learned English increased (figure 2-11). Adults

who learned English at age 10 or younger or between the ages of 11 and 15 also had higher average quantitative literacy than adults who learned English at a later age.

Figure 2-11. Average prose, document, and quantitative literacy scores of adults who spoke a language other than or in addition to English before starting school, by age learned English: 1992 and 2003



*Significantly different from 1992.

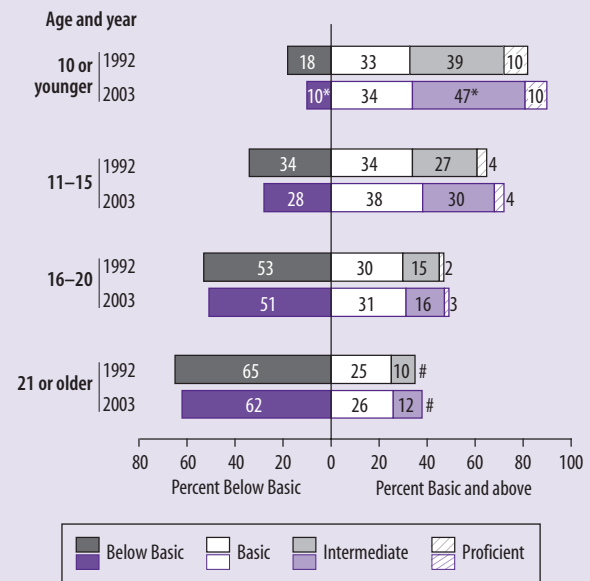
NOTE: Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

A lower percentage of adults who learned English at age 10 or younger had *Below Basic* prose, document, or quantitative literacy in 2003 than in 1992 (figures 2-12a, 2-12b, and 2-12c). Among adults who learned English between the ages of 16 and 20, the percentage with *Below Basic* document and quantitative literacy decreased by 11 percentage points between 1992 and 2003. Among adults who learned English at age 21 or older, the percentage with *Below Basic* quantitative literacy decreased by 13 percentage points between 1992 and 2003.

In 2003, a higher percentage of adults who learned English at ages 16 to 20 or age 21 or older had *Below Basic* prose literacy than *Below Basic* document literacy (figures 2-12a and 2-12b).

Figure 2-12a. Percentage of adults in each prose literacy level who spoke a language other than or in addition to English before starting school, by age learned English: 1992 and 2003



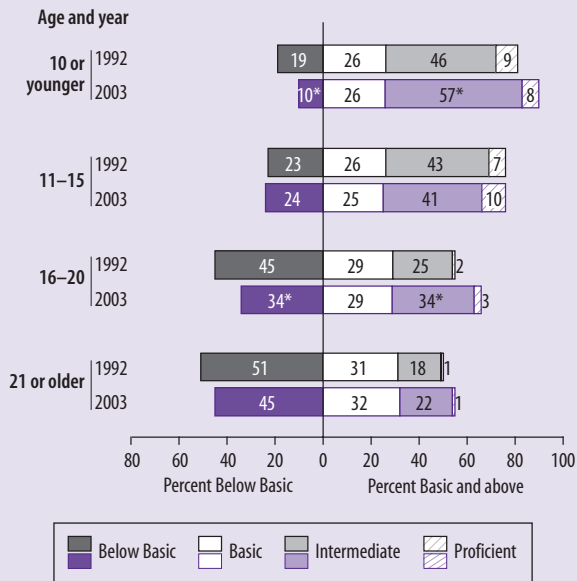
Rounds to zero.

*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Figure 2-12b. Percentage of adults in each document literacy level who spoke a language other than or in addition to English before starting school, by age learned English: 1992 and 2003

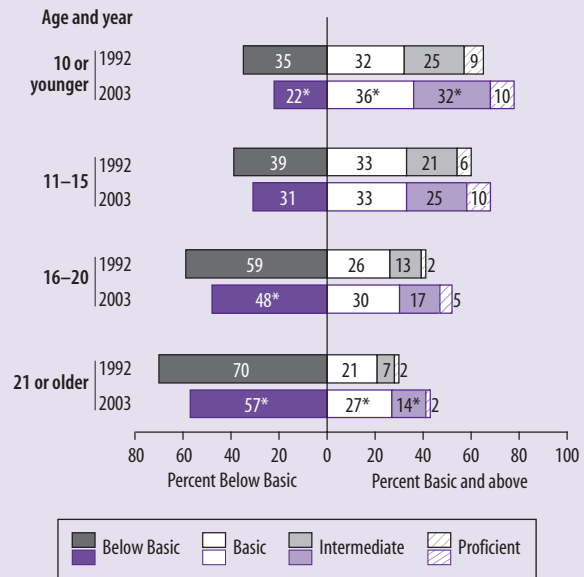


*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Figure 2-12c. Percentage of adults in each quantitative literacy level who spoke a language other than or in addition to English before starting school, by age learned English: 1992 and 2003



*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure.

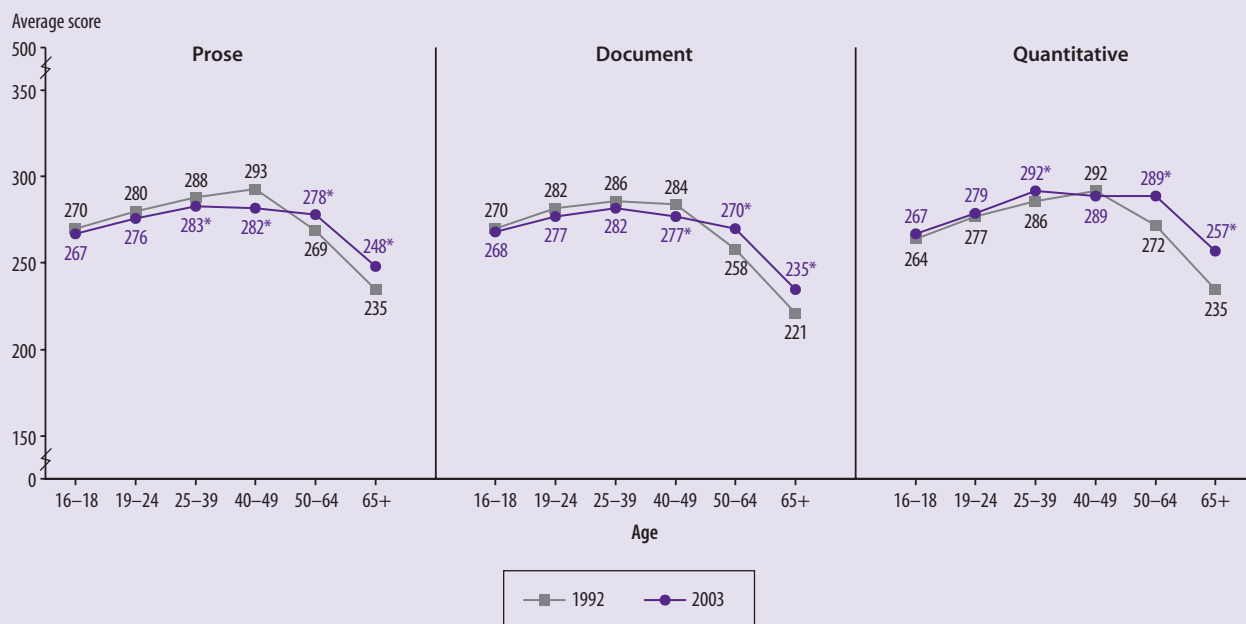
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Age

In 2003, among all age groups, adults ages 65 and older had the lowest average prose, document, and quantitative literacy (figure 2-13). Between 1992 and 2003, however, the average literacy of adults ages 65 and older increased on all three scales. Between 1992 and 2003, there was also an increase in the prose,

document, and quantitative literacy of adults between the ages of 50 and 64. There was a decline in the average prose literacy of adults between the ages of 25 and 39 and between 40 and 49. The average document literacy of adults between the ages of 40 and 49 declined, and the average quantitative literacy of adults between the ages of 25 and 39 increased.

Figure 2-13. Average prose, document, and quantitative literacy scores of adults, by age: 1992 and 2003



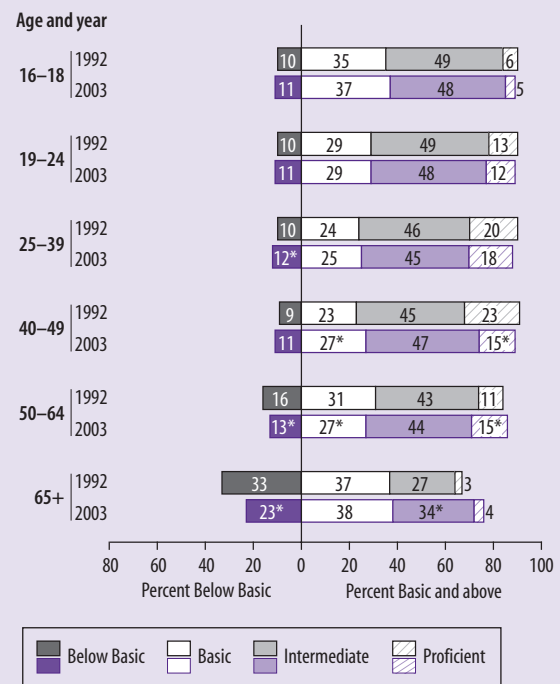
*Significantly different from 1992.

NOTE: Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. Age was calculated on the basis of birth date information provided by respondents, and ages were grouped according to key life stages as described in appendix B.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

In 2003, adults ages 65 and older were more likely to have *Below Basic* prose, document, and quantitative literacy than adults in any of the younger age groups (figures 2-14a, 2-14b, and 2-14c). For adults ages 50 to 64 or ages 65 and older, the percentage with *Below Basic* prose, document, and quantitative literacy decreased between 1992 and 2003. Among adults ages 50 to 64, the percentage with *Proficient* prose, document, and quantitative literacy increased between 1992 and 2003, but there was no statistically significant change in the percentage of adults ages 65 and older with *Proficient* literacy on any of the scales.

Figure 2-14a. Percentage of adults in each prose literacy level, by age: 1992 and 2003

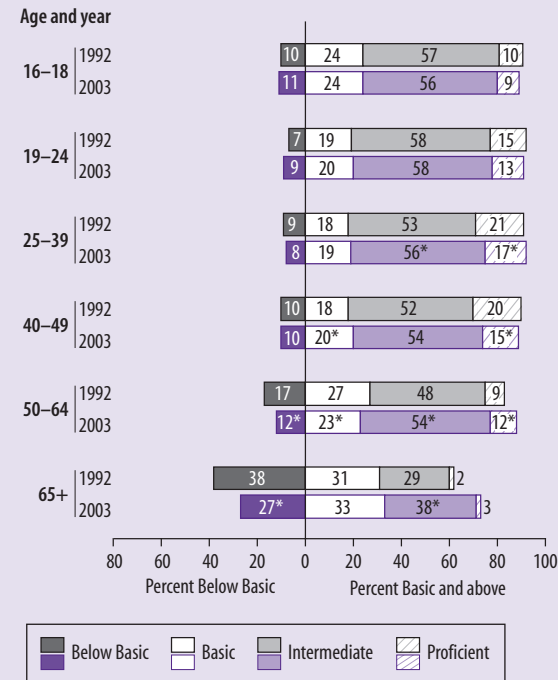


*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. Age was calculated on the basis of birth date information provided by respondents, and ages were grouped according to key life stages as described in appendix B.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Figure 2-14b. Percentage of adults in each document literacy level, by age: 1992 and 2003

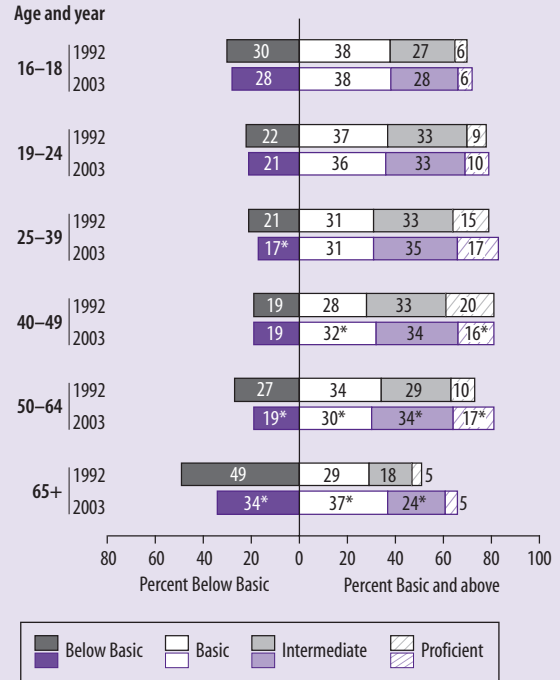


*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. Age was calculated on the basis of birth date information provided by respondents, and ages were grouped according to key life stages as described in appendix B.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Figure 2-14c. Percentage of adults in each quantitative literacy level, by age: 1992 and 2003



*Significantly different from 1992.

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households or prisons. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003 and 4 percent in 1992) are excluded from this figure. Age was calculated on the basis of birth date information provided by respondents, and ages were grouped according to key life stages as described in appendix B.

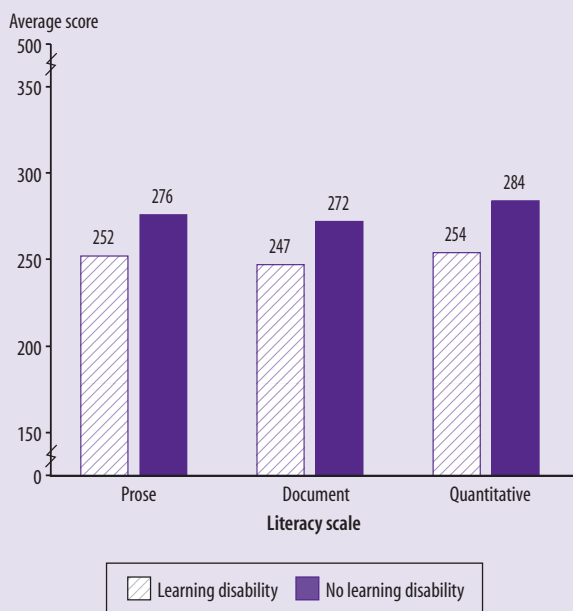
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 1992 National Adult Literacy Survey and 2003 National Assessment of Adult Literacy.

Learning Disabilities

In 2003,⁴ 6 percent of adults reported they had been diagnosed or identified as having a learning disability (data not shown). Adults who had a learning disability had lower average prose, document, and quantitative literacy than adults who did not have a learning disability (figure 2-15). Among adults who had a learning disability, 24 percent had *Below Basic* prose and document literacy and 38 percent had *Below Basic* quantitative literacy (figure 2-16). In compar-

⁴In 2003, adults were asked if they had ever been diagnosed or identified as having a learning disability. In 1992, adults were asked if they currently had a learning disability. The change in the question wording was made to try to eliminate responses that included self-diagnosed learning disabilities. Because of the change in wording, results for adults with learning disabilities cannot be compared between 1992 and 2003.

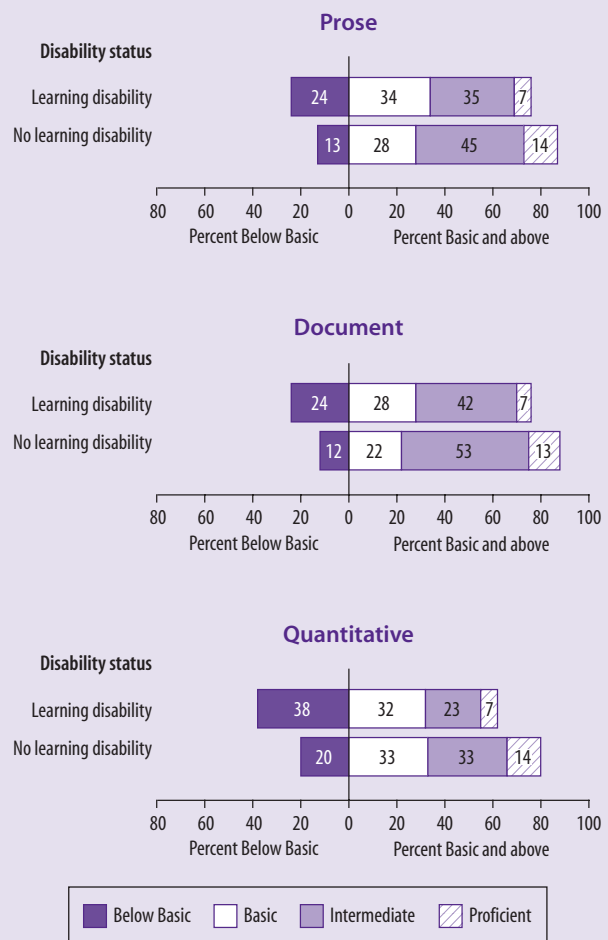
Figure 2-15. Average prose, document, and quantitative literacy scores of adults, by learning disability status: 2003



NOTE: Adults are defined as people 16 years of age and older living in households. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003) are excluded from this figure.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

son, among adults who did not have a learning disability, 13 percent had *Below Basic* prose literacy, 12 percent had *Below Basic* document literacy, and 20 percent had *Below Basic* quantitative literacy. There were also differences at the upper end of the scales: 7 percent of adults who had a learning disability had *Proficient* literacy on all three scales, compared with 13 to 14 percent of adults who did not have a learning disability.

Figure 2-16. Percentage of adults in each prose, document, and quantitative literacy level, by learning disability status: 2003



Note: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003) are excluded from this figure.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

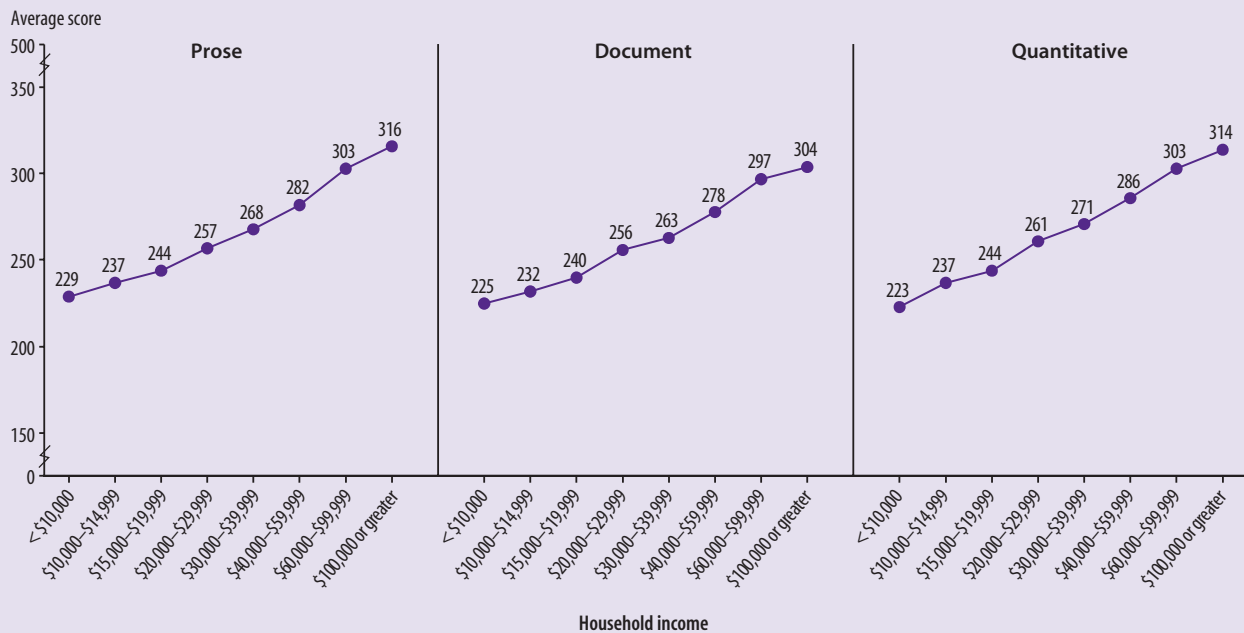
Household Income

Adults' household income was divided into eight categories: less than \$10,000, \$10,000–\$14,999, \$15,000–\$19,999, \$20,000–\$29,999, \$30,000–\$39,999, \$40,000–\$59,999, \$60,000–\$99,999, and \$100,000 or greater. Average prose, document, and quantitative literacy was higher for adults in each increasing level of household income, with two exceptions. On the prose and quantitative scales, the differences in average literacy between adults who lived in households with incomes of \$10,000 to \$14,999 and adults who lived in households with incomes of \$15,000 to \$19,999 were not statistically significant. On the document scale, the difference in average literacy between adults who lived in

households with incomes below \$10,000 and adults who lived in households with incomes between \$10,000 and \$14,999 was not statistically significant (figure 2-17).

With each higher level of prose, document, and quantitative literacy—from *Below Basic* through *Proficient*—the percentage of adults with household incomes below \$10,000 decreased (table 2-3). For example, 26 percent of adults with *Below Basic* prose literacy lived in households with incomes below \$10,000 compared with 14 percent of adults with *Basic* prose literacy, 5 percent of adults with *Intermediate* prose literacy, and 2 percent of adults with *Proficient* prose literacy.

Figure 2-17. Average prose, document, and quantitative literacy scores of adults, by household income: 2003



NOTE: Adults are defined as people 16 years of age and older living in households. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003) are excluded from this figure.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

At the top of the income scale, the percentage of adults living in households with incomes above \$100,000 was higher at each higher level of literacy (table 2-2). For example, 2 percent of adults with *Below Basic* prose literacy lived in households with

incomes of \$100,000 or more, while 6 percent of adults with *Basic* prose literacy, 16 percent of adults with *Intermediate* prose literacy, and 30 percent of adults with *Proficient* prose literacy lived in households with incomes of \$100,000 or more.

Table 2-3. Percentage of adults in each household income category, by prose, document, and quantitative literacy level: 2003

Literacy scale and literacy level	Less than \$10,000	\$10,000–\$14,999	\$15,000–\$19,999	\$20,000–\$29,999	\$30,000–\$39,999	\$40,000–\$59,999	\$60,000–\$99,999	\$100,000 or greater
Prose								
Below Basic	26	16	12	16	12	12	5	2
Basic	14	10	8	15	13	19	15	6
Intermediate	5	5	4	11	11	21	27	16
Proficient	2	1	2	5	7	18	35	30
Document								
Below Basic	27	17	11	16	11	11	5	3
Basic	13	12	8	15	14	18	13	6
Intermediate	6	5	4	11	11	21	26	16
Proficient	3	1	2	6	6	19	36	27
Quantitative								
Below Basic	26	16	11	16	11	12	7	2
Basic	9	8	6	14	14	21	19	9
Intermediate	4	4	3	10	11	22	28	18
Proficient	2	2	2	5	6	18	37	29

NOTE: Detail may not sum to totals because of rounding. Adults are defined as people 16 years of age and older living in households. Adults who could not be interviewed because of language spoken or cognitive or mental disabilities (3 percent in 2003) are excluded from this figure.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

Summary

This chapter examined how the literacy levels for the total adult population of the United States, as well as for adults from different demographic groups, changed between 1992 and 2003, and also how literacy levels varied among different demographic groups in 2003.

Total Population

There were no statistically significant changes in the average prose and document literacy of the adult population of the United States between 1992 and 2003. Average quantitative literacy increased between 1992 and 2003.

Between 1992 and 2003, the percentages of adults with *Below Basic* document and quantitative literacy decreased, and the percentages of adults with *Proficient* prose and document literacy also decreased.

Gender

Women had higher average prose and document literacy than men in 2003. This was a change from 1992 when men had higher average document literacy than women and the differences between men and women in prose literacy were not statistically significant. Men had higher average quantitative literacy than women in both 1992 and 2003, but the gap between men and women narrowed between the two years.

Despite the overall gain made by women in quantitative literacy, a higher percentage of men than women had *Proficient* quantitative literacy in 2003. A higher percentage of men than women also had *Below Basic* prose and document literacy.

Race and Ethnicity

In 2003, White and Asian/Pacific Islander adults had higher average prose, document, and quantitative lit-

eracy than Black and Hispanic adults. Black adults had higher average prose and document literacy than Hispanic adults.

Although their average literacy levels remained lower than those of White and Asian/Pacific Islander adults, Black adults had higher average prose, document, and quantitative literacy in 2003 than in 1992. The average prose literacy of Asian/Pacific Islander adults increased as well. Among Hispanic adults, however, average prose and document literacy declined between 1992 and 2003, while average quantitative literacy did not change statistically. Quantitative literacy increased among White adults, but there were no significant changes among White adults in prose and document literacy.

In 2003, a higher percentage of Hispanic adults had *Below Basic* prose literacy than *Below Basic* document literacy. There were no statistically significant differences among the other racial/ethnic groups in the percentages of adults with *Below Basic* prose and document literacy.

Language Background

Between 1992 and 2003, the average quantitative literacy of adults who spoke English only or English plus another language before starting school increased, but there was no significant change in their prose or document literacy. The average literacy of adults who spoke Spanish but no English before starting school declined on the prose and document scales.

A higher percentage of adults who spoke Spanish but no English before starting school than adults who spoke English, English and Spanish, English and another language, or another language before starting school had *Below Basic* prose, document, and quantitative literacy. Among adults who spoke only Spanish before starting school, 61 percent had *Below Basic* prose literacy, 49 percent had *Below Basic* document

literacy, and 62 percent had *Below Basic* quantitative literacy.

In 2003, among adults who spoke a language other than or in addition to English before starting school, average prose and document literacy increased as the age at which the adults learned to speak English decreased.

Age

Among all the age groups in 2003, adults ages 65 and older had the lowest average prose, document, and quantitative literacy. However, the average prose, document, and quantitative literacy of adults in that age group, as well as adults in the next oldest age group (50 to 64), increased between 1992 and 2003.

Learning Disabilities

In 2003, adults who had been diagnosed or identified as having a learning disability had lower average prose, document, and quantitative literacy than adults who did not have a learning disability. Among adults with a learning disability, 24 to 38 percent had *Below Basic* literacy on all three scales, compared with 12 to 20 percent of adults who did not have a learning disability.

Household Income

With each higher level of prose, document, and quantitative literacy—from *Below Basic* through *Proficient*—the percentage of adults with household incomes below \$10,000 decreased and the percentage of adults with household incomes of \$100,000 or greater increased.