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# Characteristics of U.S. 15-Year-Old Low Achievers in an International Context

## Findings From PISA 2000

### Statistical Analysis Report

October 2005

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# Executive Summary

The Program for International Student Assessment (PISA), sponsored by the Organization for Economic Cooperation and Development (OECD) and carried out in 32 countries, including the United States, evaluates 15-year-old students' literacy in three areas: reading, mathematics, and science.<sup>1</sup> The first PISA survey was conducted in 2000, with additional assessments planned on a 3-year cycle. Each survey focuses on one of the three types of literacy; in PISA 2000, reading literacy was the major focus.<sup>2</sup> Therefore, it is possible to perform a detailed examination of reading literacy within and across countries.

In this and other PISA reports, the United States is compared to both the OECD average and other countries participating in PISA. The OECD average is the mean of the scores of each OECD country. PISA participating countries include both OECD and non-OECD countries.

In PISA, students' proficiency is defined in terms of six levels of reading literacy.<sup>3</sup> The highest performing students in PISA are categorized as level 5, while the lowest performing students are categorized as below level 1. Students proficient at level 1 are capable of completing only the least complex reading tasks developed for PISA, such as locating a single piece of information, identifying the main theme of a text, or making a simple connection with everyday knowledge. Students below level 1 are not capable of routinely performing these basic tasks. This does not mean that they have no reading literacy skills. Many of these students can answer questions correctly, but PISA 2000's descriptions of levels cannot accurately predict what skills those students have, and so they are categorized as below level 1. For the purpose of this report, students scoring at the two lowest levels of achievement, level 1 and below level 1, have been combined together in one category and are referred to as either low performers, low-achieving students, or level 1 or below students interchangeably throughout the report.

This report has two objectives: first, to explore how the demographic and educational characteristics of low-performing students compare to other students within the United States; second, to analyze if the United States differs from the other PISA countries in terms of the characteristics of its low-performing students.

For both these objectives, the report uses the measure of *relative likelihood (risk) ratios*. Relative likelihood is the ratio of the two likelihood measures, calculated for each group being compared, in this case, low-performing students (students scoring at level 1 or below) and the overall 15-year-old student population (students scoring at all proficiency levels: below level 1, level 1, level 2, level 3, level 4, and level 5). A relative likelihood or risk ratio greater than 1 implies that a particular characteristic is more likely to be observed among the low performers than on average. A relative likelihood ratio less than 1 implies that a particular characteristic is less likely to be observed among the low performers than on average. For example, for the low-performing group, the likelihood of a U.S. student being foreign born is given by the percentage of foreign-born students at level 1 or below (12 percent) (table B-8). For the overall 15-year-old student population, the likelihood of a U.S. student being foreign born is given by the average percentage of foreign-born students across all the proficiency levels (7 percent). Hence, the relative likelihood ratio for a U.S. student being foreign born across these two groups was 1.7 (=12/7) (table B-23). That is, a low-performing U.S. student was 1.7 times more likely to be foreign born than the average U.S. student.

<sup>1</sup>Although the Netherlands participated in PISA 2000, technical problems with its sample prevent its results from being discussed here. For information on the results for the Netherlands, see OECD (2001).

<sup>2</sup>For more information about PISA, see appendix A.

<sup>3</sup>For more information about the achievement levels and the process used to define them, see appendix A.

The student characteristics examined in this report can be grouped into *student demographic and background characteristics* (sex, race/ethnicity in the United States, socioeconomic status [SES], student and parent nativity, parent education, and language spoken most of the time at home), characteristics relating to *student attitudes toward learning and school* (engagement in reading, sense of belonging in school, effort and perseverance in schoolwork, and missing school and skipping class), and characteristics relating to *student learning practices and expectations* (participation in private tutoring and remedial classes in the test language outside of school during the 3 years prior to the survey, U.S. job expectations by age 30 as reported by students).

Comparisons made in the text of this report have been tested for statistical significance at the .05 alpha level. The tests used were two types of standard *t* tests, depending on whether the averages being compared were independent or dependent. To guard against errors of inference based on multiple comparisons, as in the case of comparing all countries to the United States, the Bonferroni adjustment procedure was used.<sup>4</sup>

## Main Findings

Eighteen percent of U.S. 15-year-old students achieved at level 1 or below in PISA 2000; this percentage was not measurably different from the OECD average (table B-2).

### ***Student Demographic and Background Characteristics***

PISA 2000 included a set of questions on background factors, such as sex and national origin that help identify the differences between students at level 1 or below and the average within each participating country.<sup>5</sup>

- There were more males among low-performing students (compared to the average) in all PISA countries (tables A and B-4). In the United States, the likelihood of a low-performing student being male was 1.3 times the average likelihood of a student being male (table B-23).
- In the United States, there were fewer White students among the low performers (compared to their proportion on average across all proficiency levels), while the reverse was true for Black and Hispanic students (tables A and B-5). In the United States, the likelihood of a low-performing student being White was one-half (0.5) the average likelihood of a student being White (table B-24). The relative likelihood of a low-performing student being either Black or Hispanic was 2.0; that is, low performers were twice as likely to be Black or Hispanic than on average (table B-24).
- A higher percentage of students with “low” SES were found among low performers (compared to their proportion on average) in the United States and every other country except Japan (tables A and B-6).<sup>6</sup> In the United States, the likelihood of a low-performing student coming from a low-SES background was 1.7 times the average likelihood of a student being low-SES (table B-23).
- Compared to the average for the overall 15-year-old student population, there were more foreign-born students and students with two foreign-born parents at level 1 or below in the United States and the majority of other PISA countries with data available (tables A, B-7, and

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<sup>4</sup>For more information about statistical tests used in this report, see appendix A.

<sup>5</sup>For more information about the SES variable, how low SES is defined, and the parent education variable, see the Description of Variables section in appendix A.

<sup>6</sup>The SES measure is derived from students’ reports of parental occupation. Occupations were coded to the International Standard Classification of Occupations 1988 (ISCO-88) and then grouped into major occupational groups. The groups were collapsed into three categories of “low,” “medium,” and “high” SES based on the occupational content of the group as well as the relationship to an internationally comparable index ranging from 0-90 (known as the ISEI or International Socio-Economic Index).

B-8). In the United States, the likelihood of a low-performing student being foreign born or having two foreign-born parents was higher (1.7 and 1.6 times, respectively) than the average likelihood of a student being foreign born or having two foreign-born parents (table B-23).

- A higher percentage of low performers reported that their parents did not have a college degree compared to the average in most of the PISA 2000 countries, including the United States (tables A and B-9).<sup>7</sup> In the United States, the likelihood of a low-performing student having parents with less than college education was 1.3 times the average likelihood of a student having parents with less than college education (table B-23).
- In the United States and two-thirds of the other PISA participating countries with data available, there was a higher percentage of low-performing students who did not speak the test language at home most of the time compared to the overall 15-year-old student population (tables A and B-10). In the United States, the likelihood of a low-performing student not speaking English most of the time at home was 2.2 times the average likelihood of a student not speaking English most of the time at home (table B-23).

### ***Student Attitudes Toward Learning and School***

PISA 2000 also included a set of questions that aimed to assess students' attitudes toward learning and school, such as levels of engagement in reading, sense of belonging in school, and effort and perseverance in schoolwork.<sup>8</sup> The resulting indices provide additional information about the differences between students at level 1 or below and the overall 15-year-old student population.

- In all of the PISA 2000 countries, a higher percentage of low-performing students reported low engagement in reading compared to the average proportion (tables A and B-12).<sup>9</sup> In the United States, the likelihood of a low-performing student having low engagement in reading was 1.6 times the average likelihood of a student having low engagement in reading (table B-23).
- With the exception of Finland and Sweden, in all of the PISA 2000 countries, a higher percentage of low performers reported a low sense of belonging in school compared to the average proportion (tables A and B-14).<sup>10</sup> In the United States, the likelihood of a low-performing student having a low sense of belonging in school was 1.7 times the average likelihood of a student having a low sense of belonging (table B-23).
- In 20 of the 23 countries with data available, including the United States, a higher percentage of students with low effort and perseverance was found at level 1 or below compared to the average proportion (tables A and B-16).<sup>11</sup> In the United States, the likelihood of a low-performing student reporting low effort and perseverance was 1.3 times the average likelihood of a student reporting low effort and perseverance (table B-23).
- In most of the PISA 2000 countries with data available including the United States, a higher percentage of students who missed school frequently was found among the low performers

<sup>7</sup>Student reports of parents' educational attainment may be inaccurate as some students either do not know or exaggerate parent education.

<sup>8</sup>For more information about the engagement in reading, sense of belonging, and effort and perseverance indices and the missing school and skipping class variables, see the Description of Variables section in appendix A.

<sup>9</sup>The reliability measure for the "Engagement in Reading" index was 0.76. Student index values from all OECD countries were arrayed and cut points calculated for the bottom quarter and top quarter of students. Students with index values in the bottom quarter (value of -0.66 or lower) were categorized as having "low" engagement in reading, and students with index values in the top quarter (value of 0.58 or higher) were categorized as having "high" engagement in reading. Students with all other index values (value of higher than -0.66 but 0.58 or lower) were categorized as having a "medium" sense of engagement in reading.

<sup>10</sup>The reliability measure for the "Sense of Belonging in School" index was 0.86. Students with index values in the bottom quarter (value of -0.61 or lower) were categorized as having a "low" sense of belonging, and students with index values in the top quarter (value of 0.48 or higher) were categorized as having a "high" sense of belonging. Students with all other index values (value of higher than -0.61 but 0.48 or lower) were categorized as having a "medium" sense of belonging.

<sup>11</sup>The reliability measure for the "Effort and Perseverance in Schoolwork" index was 0.83. Students with index values in the bottom quarter (value of -0.64 or lower) were categorized as having "low" effort and perseverance, and students with index values in the top quarter (value of 0.69 or higher) were categorized as having "high" effort and perseverance. Students with all other index values (value of higher than -0.64 but 0.69 or lower) were categorized as having a "medium" sense of effort and perseverance in schoolwork.

compared to the average proportion (tables A and B-17). In the United States, the likelihood of a low-performing student reporting missing school frequently was 2.4 times the average likelihood of a student reporting missing school frequently (table B-23).

- In most of the PISA 2000 countries with data available, including the United States, a higher percentage of students who skipped class frequently was found among the low performers compared to the average proportion (tables A and B-18). In the United States, the likelihood of a low-performing student skipping school frequently was 1.8 times the average likelihood of a student skipping class frequently (table B-23).

### ***Student Learning Practices and Expectations***

A unique aspect of PISA is its exploration of student learning practices outside of the curriculum or school environment. This is reflected in a set of questions that inquires about whether students supplement training in school through classes of various types, such as remedial courses or private tutoring, as well as about students' job expectations.<sup>12</sup>

- In the United States and 17 other PISA 2000 countries with data available, there was no measurable difference between the average proportion of students who received tutoring regularly at level 1 or below and the average percentage (tables A and B-19). In the United States, the likelihood of a low-performing student attending private tutoring regularly was not measurably different from the average likelihood of a student attending private tutoring regularly (table B-23).
- In the United States and 18 other PISA 2000 countries, a higher percentage of low performers regularly attended remedial courses outside of school in the test language, compared to the average (tables A and B-20). Hence, in the United States, the likelihood of a low-performing student attending remedial courses regularly was 3.4 times the average likelihood of a student attending remedial courses regularly (table B-23).
- In the United States, a lower percentage of low performers reported that they expected to be "professionals," compared to the average proportion for the overall 15-year-old student population (tables A and B-22). In the United States, there was a higher relative likelihood of finding students who expected to work in the elementary occupations (1.5), or be a technician and associate professionals (1.2), service worker (1.8), clerk (2.3), craft and related trade worker (2.4), or a plant and machine operator and assembler (3.4) among the low-performing students compared to the overall 15-year-old student population (table B-25).

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<sup>12</sup>For more information about the variables private tutoring, remedial course attendance, and job expectations, see the Description of Variables section in appendix A.

**Table A. Percentage distributions of 15-year-old students scoring at level 1 or below on the combined reading literacy scale and of the overall 15-year-old student population in the United States, by selected characteristics: 2000**

Characteristic	Percent	
	Level 1 or below	Overall
Sex		
Female	37.9*	51.6
Male	62.1*	48.4
Socioeconomic status (SES) <sup>1</sup>		
Low SES	42.0*	25.0
Medium SES	41.9	41.4
High SES	16.1*	33.6
Race/ethnicity		
White	28.2*	59.2
Black	27.9*	13.9
Hispanic	35.4*	18.0
Other	8.5	8.8
Parent national origin		
Both parents foreign born	21.8*	13.6
One parent native born and one parent foreign born	8.0*	5.8
Both parents native born	70.1*	80.6
Student national origin		
Student foreign born	12.1*	7.3
Student native born	87.9*	92.7
Parent education <sup>1,2</sup>		
Parent completed less than college	60.2*	45.5
Parent completed college or higher	39.8*	54.5
Language spoken at home most of the time		
Test language spoken at home most of the time	76.5*	89.2
Language other than the test language spoken at home most of the time	23.5*	10.8
Engagement in reading		
Low engagement in reading	49.2*	30.7
Medium engagement in reading	39.3	43.8
High engagement in reading	11.5*	21.5
Sense of belonging in school		
Low sense of belonging in school	42.8*	25.2
Medium sense of belonging in school	38.8	43.8
High sense of belonging in school	18.4*	31.0
Effort and perseverance in schoolwork		
Low effort and perseverance in schoolwork	44.6*	35.6
Medium effort and perseverance in schoolwork	34.2*	43.8
High effort and perseverance in schoolwork	21.2	25.4

See notes at end of table.



**Table A. Percentage distributions of 15-year-old students scoring at level 1 or below on the combined reading literacy scale and of the overall 15-year-old student population in the United States, by selected characteristics: 2000—Continued**

Characteristic	Percent	
	Level 1 or below	Overall
Private tutoring outside of school		
Never received private tutoring outside of school	80.1*	84.5
Sometimes received private tutoring outside of school	15.2*	12.2
Regularly received private tutoring outside of school	4.7	3.3
Remedial course attendance in the test language outside of school		
Never attended remedial courses in the test language outside of school	83.5*	94.6
Sometimes attended remedial courses in the test language outside of school	13.5*	4.5
Regularly attended remedial courses in the test language outside of school	3.0*	0.9
Skipping class		
Never skipped class	73.0*	80.7
Skipped class 1 or 2 times a week	17.4*	14.0
Skipped class 3 or more times a week	9.6*	5.3
Missing school		
Never missed school	42.9*	59.1
Missed school 1 or 2 times a week	37.8*	32.8
Missed school 3 or more times a week	19.3*	8.2
Student reports of job expectations <sup>1,2</sup>		
Armed forces	#	#
Clerks	0.9	0.4
Craft and related trade workers	10.7*	4.5
Elementary occupations	8.6*	5.5
Legislators, senior officials, and managers	3.2	4.1
Plant and machine operators and assemblers	2.3	0.7
Professionals	38.4*	58.6
Service workers, shop, and market sales workers	14.1*	7.8
Skilled agricultural and fishery workers	1.1	0.6
Technicians and associate professionals	20.8	17.6

#Rounds to zero.

\* $p < .05$ . Percent at level 1 or below is significantly different from percent overall.

<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

<sup>2</sup>The item response rate for students overall is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. For more information about the selected characteristic variables, see the Description of Variables section in appendix A. The overall percentage refers to the sample estimate for the overall 15-year-old student population in the United States. Detail may not sum to totals because of rounding.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.



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# Introduction

The Program for International Student Assessment (PISA) is an international comparative assessment of 15-year-old students' capabilities in three domains: reading literacy, mathematics literacy, and science literacy. PISA also measures general or cross-curricular competencies, such as learning strategies.

PISA is being implemented on a 3-year cycle that began in 2000. In PISA 2000, student proficiency was defined in terms of six levels of reading literacy. The highest performing students in PISA were categorized as level 5, while the lowest performing students were categorized as below level 1. Students proficient at level 1 were capable of completing only the least complex reading tasks developed for PISA, such as locating a single piece of information, identifying the main theme of a text, or making a simple connection with everyday knowledge. Students below level 1 were not capable of routinely performing these basic tasks. This does not mean they have no reading literacy skills. Many of these students answered some questions correctly, but PISA 2000's descriptions of levels cannot accurately predict what skills those students have, and so they were categorized as below level 1. For the purposes of this report, students who scored at the two lowest levels of achievement (level 1 and below level 1) have been combined together in one category. This category is referred to as *low performers, low-achieving students, or level 1 or below students* interchangeably throughout the report.

First results from PISA were released in December 2001 (see *Knowledge and Skills for Life: First Results from the OECD Programme for International Student Assessment* [OECD 2001] and *Outcomes of Learning: Results from the 2000 Program for International Student Assessment of 15-Year-Olds in Reading, Mathematics, and Science Literacy* [Lemke et al. 2001]). Results focused on reading literacy, the primary domain assessed in 2000. Those results showed that, in comparison to the other participating countries, the U.S. average score for reading literacy was not measurably different from most other countries or the OECD average.

In addition, the results showed that the United States had a higher percentage of students performing at the top level than 14 of the other participating countries (level 5, using the PISA described proficiency scales), but had 18 percent of students performing at the lowest levels, which is a lower percentage of students than in 5 of the other participating countries and a higher percentage of students than in 3 of the other countries. Therefore, it is possible to perform a detailed examination of reading literacy within countries and at levels of proficiency across countries.

In this and other PISA reports, the United States is compared to both the OECD average and other countries participating in PISA. The OECD average is the mean of the scores of each OECD country. PISA participating countries include both OECD and non-OECD countries.

One important question for policymakers and practitioners, is what are the characteristics of these low performers compared to what is observed at the national average level? What can we learn about low performers that could be useful in developing policies or strategies to enhance their performance? For example, how do U.S. low performers differ in terms of key background variables such as socioeconomic status (SES) or place of birth compared to what is observed on average for the 15-year-old student population in the United States? The use of international comparative data such as PISA allows us to examine both the existence and depth of such differences in characteristics of low performers in other countries as well. So, for example, if we learn that there are greater numbers of foreign-born students among low performers in the United States, we can also examine whether or not this situation exists in other countries, and the extent to which it does.

This report has two objectives: first, to explore how selected demographic and educational characteristics of low-performing students compare to U.S. averages; second, to extend this analysis to other PISA countries to examine if U.S. low performers differ from other low performers in terms of their characteristics relative to national averages.

For both these objectives, we employ the measure of *relative likelihood (risk) ratios*. Relative likelihood is the ratio of the two likelihood measures, calculated for each group being compared, in this case, low-performing students (students scoring at level 1 or below) and the overall 15-year-old student population (students scoring at all proficiency levels: below level 1, level 1, level 2, level 3, level 4, and level 5). A relative likelihood or risk ratio greater than 1 implies that a particular characteristic is more likely to be observed among the low performers than on average in the overall 15-year-old student population. A relative likelihood ratio less than 1 implies that a particular characteristic is less likely to be observed among the low performers than on average. For example, for the low-performing group, the likelihood of a U.S. student being foreign born is given by the percentage of foreign-born students at level 1 or below (12 percent) (table B-8). On average, the likelihood of a U.S. student being foreign born is given by the average percentage of foreign-born students across all the proficiency levels (7 percent). Hence, the relative likelihood ratio for a U.S. student being foreign born is 1.7 ( $=12/7$ ) (table B-23). That is, a low-performing U.S. student was 1.7 times more likely to be foreign born than the average U.S. student.

Next, relative likelihood ratios were used to examine cross-country differences among low performers. For example, among the countries where the relative likelihood ratio of a low-performing student being foreign born was higher than 1, the U.S. ratio was lower than that in 6 countries and the OECD average (exhibit 4). That is, in 6 countries, low-performing students were more likely to be foreign born compared to their national averages than in the United States. This kind of comparison may help policymakers understand better the relative risks of low-performing students having various characteristics in the United States compared to other countries.

The report is grouped into the following sections based on the type of student characteristics examined:

- 1) *Student demographic and background characteristics* (sex, race/ethnicity in the United States, SES, parent and student national origin, parent education, and language spoken at home most of the time).
- 2) *Student educational characteristics*
  - *Attitudes toward learning and school* (engagement in reading, sense of belonging in school, effort and perseverance in schoolwork, and missing school and skipping class).
  - *Learning practices and expectations* (private tutoring outside of school, remedial courses in the test language outside of school, and student reports of job expectations).

Comparisons made in the text of this report have been tested for statistical significance at the .05 level. The tests used were two types of standard *t* tests, depending on whether the averages being compared were independent or dependent. To guard against errors of inference based on multiple comparisons, as in the case of comparing all countries to the United States, the Bonferroni adjustment procedure was used. Appendix A provides an overview of additional technical issues related to sampling methodology, and statistical tests used, as well as additional information about various constructed variables used in the analyses for this report.

Appendix B is a compilation of supplemental tables providing the data for the various student characteristics at the national average and level 1 or below for the participating PISA 2000 countries.

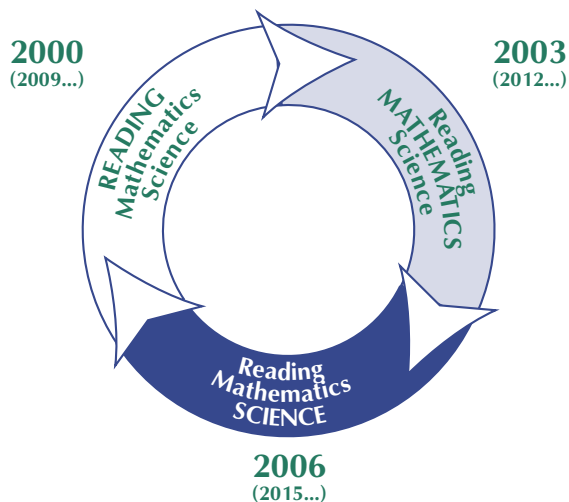
Appendix C provides some released sample items that illustrate a range of questions from the PISA reading literacy domain and sample student responses.

## More About PISA

Each PISA assessment cycle focuses on one particular subject, although all three are assessed in each cycle. In the first cycle, PISA 2000, reading literacy was the major focus, occupying roughly two-thirds of assessment time. In PISA 2003, the focus was on mathematics literacy, and in 2006, it will be on science literacy.

PISA will report on performance in reading literacy, mathematics literacy, and science literacy every 3 years, and provide a more detailed look at each domain for the year when it is the major focus (exhibit 1). These cycles will allow countries to compare changes in trends for each of the three content areas over time. Future cycles will also include further development of the assessment of cross-curricular competencies, such as problem solving in 2003.

**Exhibit 1. Program for International Student Assessment (PISA) cycle**



NOTE: The subject in all capital letters in each assessment cycle is the major domain for that cycle.  
SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA) 2000.

PISA is sponsored by the Organization for Economic Cooperation and Development (OECD), an intergovernmental organization of 30 industrialized nations that serves as a forum for member countries to cooperate in research and policy development on social and economic topics of common interest. PISA is a collaborative venture, with representatives from member country governments jointly steering the project through a Board of Participating Countries. At the international level in 2000, the Australian Council for Educational Research (ACER) led a consortium that coordinated PISA under direction from the OECD.<sup>1</sup> In the United States, the National Center for Education Statistics (NCES) was responsible for U.S. data collection and represented the United States in the international management of the assessment. Westat, a private research firm, handled the data collection in the United States for PISA 2000 under contract to NCES.

In 2000, 32 countries participated in PISA, including 28 OECD countries and 4 non-OECD countries (exhibit 2).<sup>2,3</sup>

To implement PISA 2000, each participating country selected a nationally representative sample of 15-year-old students. The U.S. school sampling frame, which was used to determine which schools would participate in the assessment, was developed from two lists. Regular public, Bureau of Indian Affairs, and Department of Defense Education Activity schools were obtained from the 1999 list of schools maintained by Quality Education Data, Inc. (QED). Catholic and other nonpublic schools were obtained from the Private School Universe Survey (PSS) developed for NCES's 1999–2000 Schools and Staffing Survey. In the United States after replacement, the school response rate was 70 percent and the student response rate was 85 percent. The final U.S. sample included nearly 4,000 students from both public and nonpublic schools from several grade levels.<sup>4</sup> Appendix A contains more information about sampling, response rates, and other aspects of PISA 2000's design.

<sup>1</sup>Other members of the PISA Consortium include the Netherlands National Institute for Educational Measurement (CITO), Educational Testing Service (ETS, USA), the National Institute for Educational Policy Research (NIER, Japan), and Westat (USA).

<sup>2</sup>Although the Netherlands participated in the Program for International Student Assessment (PISA) in 2000, technical problems with its sample prevent its results from being discussed here. For information on the results for the Netherlands, see OECD (2001).

<sup>3</sup>Another 12 countries carried out a second round of the PISA 2000 assessment in 2002.

<sup>4</sup>For information on distributions of students by grade levels in participating countries, see appendix A.

Each selected student completed an approximately 120-minute assessment and a 20- to 30-minute questionnaire designed to gather information about his or her background and experiences related to reading. Principals in schools where students took the PISA assessment also completed a background questionnaire about their schools. PISA 2000 consisted of a mix of multiple-choice, short-answer, and extended-response questions. Assessments were conducted in the United States in the spring of 2000 by trained test administration field staff who visited each of the participating schools and administered both the assessments and the questionnaires.

### PISA’s Yield Measure of Learning

The purpose of PISA is to represent the overall *yield* of learning for 15-year-old students. This yield is the sum of learning outcomes for 15-year-old students in reading, mathematics, and science literacy and is represented by national averages of student scores. PISA assesses the cumulative educational experiences of each student who is 15 years of age at the time of the assessment, irrespective of the grade level or type of institution in which he/she is enrolled. PISA assumes that by the age of 15, young people have had a series of learning experiences, both in and out of school, that allow them to perform at particular levels of reading, mathematics, and science literacy. Clearly, formal education will have played a major role in their performance, but other factors, such as learning opportunities at home or elsewhere outside of school, also play a role. The findings from PISA provide a valuable indicator of a country’s educational system, but they also provide information about other factors that are related to performance.

By assessing students near the end of compulsory schooling in key knowledge and skills, PISA seeks to provide information about how prepared students will be for their future lives as they approach an important transition point for education and work. PISA aims to show how well-equipped 15-year-old students are for their futures based on what they have learned up to that point.

### Exhibit 2. Participating countries in the Program for International Student Assessment (PISA): 2000

#### Organization for Economic Cooperation and Development (OECD) countries

Australia	Greece	Netherlands
Austria	Hungary	New Zealand
Belgium	Iceland	Norway
Canada	Ireland	Poland
Czech Republic	Italy	Portugal
Denmark	Japan	Spain
Finland	Korea, Republic of	Sweden
France	Luxembourg	Switzerland
Germany	Mexico	United Kingdom
		United States

#### Non-OECD countries

- Brazil
- Latvia
- Liechtenstein
- Russian Federation

NOTE: PISA is principally an OECD study, and so the non-OECD countries are displayed separately from the OECD countries.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA) 2000.



# Reading Literacy

PISA builds upon the work of previous U.S. national and international studies in defining and reporting on reading literacy, such as the International Association for the Evaluation of Educational Achievement's (IEA) Reading Literacy Study (IRLS) of 1991 and the International Adult Literacy Study (IALS) of 1994.

## Definition of Reading Literacy

PISA defines reading literacy as *...understanding, using, and reflecting on written texts in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society* (OECD 1999, p. 20).

Since PISA measures the achievement of 15-year-old students, it does not focus on the most basic reading skills. Instead, PISA seeks to measure the extent to which students can construct, extend, and reflect on the meaning of what they read across a wide variety of texts associated with a wide variety of situations (OECD 1999).

In short, PISA measures how well 15-year-old students are able to apply different reading processes to a wide range of reading materials, such as the kinds of forms they receive from their governments, the kinds of articles they read in their local newspapers, the kinds of manuals they read for work or school, or the kinds of books or magazines they read for entertainment.

The basic form of the assessment reflects this range of materials and processes. Each reading literacy assessment unit consists of a passage of text, followed by a number of questions, some with a multiple-choice format and others requiring students to construct their own answers. Examples of reading assessment items can be found in appendix C.

## Reading Literacy in PISA Countries

Perhaps the simplest and most concise way to look at a country's yield in reading literacy is to examine its national average score. The PISA reporting scale

is constructed so that the average score for students from all OECD countries is 500 with a standard deviation of 100. This means that about two-thirds of students score between 400 and 600. Because of the statistical techniques used to sample students, however, simply ranking countries based on their average score is not correct.<sup>5</sup> In figure 1, the shading identifies countries whose averages are higher, lower, or not measurably different from that of the United States on the combined reading literacy scale. Non-OECD countries are shown at the bottom of the figure with shading to indicate differences from the United States, but participating countries that are not OECD members were not included in determining the OECD average.

On the combined reading literacy scale, U.S. 15-year-old students performed about as well on average as 15-year-old students in most countries (figure 1; table B-1). U.S. students performed better than students in the OECD countries Greece, Luxembourg, Mexico, and Portugal, and the non-OECD countries Brazil, Latvia, and the Russian Federation. Students in Canada, Finland, and New Zealand outperformed U.S. students. U.S. students' performance was not measurably different from that of students in the other 19 participating OECD countries or Liechtenstein.

## Reading Literacy by Levels

While the basic form of measurement in PISA describes student literacy in each country in terms of a range of scale scores, PISA also treats proficiency in reading literacy in terms of six described levels. Increasing levels represent tasks of increasing complexity. As a result, the findings are reported in terms of percentages of the population proficient at handling tasks of different levels of difficulty.

The combined reading literacy scale is divided into five levels based on the type of knowledge and skills students need to demonstrate at a particular level.<sup>6</sup> A sixth level (below level 1) is made up of students whose abilities could not be accurately described based on their responses. Reading literacy task descriptions and cut scores calculated for students scoring at each level are described in exhibit 3.

<sup>5</sup>Average scores for each country are based on a sample of students, rather than all students, and are estimates of the population value of all 15-year-old students in each country. These estimates have a known degree of sampling error, the standard error, and an unknown degree of nonsampling error. There is a 95 percent chance that the true average lies within the range of approximately two times the standard error above or below the estimated score. See table B-1 for standard errors.

<sup>6</sup>Levels were defined such that students at the top of a level had a 62 percent chance of answering the hardest items in the level correctly and students at the bottom of the same level had a 62 percent chance of answering the easiest items in that level correctly. For more information on the process of defining levels, see appendix A.

**Figure 1. Combined reading literacy average scores of 15-year-old students, by country: 2000**

Country	Average score
<b>OECD average</b>	<b>500</b>
OECD countries	
Finland	546
Canada	534
New Zealand	529
Australia	528
Ireland	527
Korea, Republic of	525
United Kingdom	523
Japan	522
Sweden	516
Austria	507
Belgium	507
Iceland	507
Norway	505
France	505
<b>United States</b>	<b>504</b>
Denmark	497
Switzerland	494
Spain	493
Czech Republic	492
Italy	487
Germany	484
Hungary	480
Poland	479
Greece	474
Portugal	470
Luxembourg	441
Mexico	422
Non-OECD countries	
Liechtenstein	483
Russian Federation	462
Latvia	458
Brazil	396

- Average is significantly higher than the U.S. average.
- Average is not significantly different from the U.S. average.
- Average is significantly lower than the U.S. average.

NOTE: The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items, 2000.

A small number of students in each country had scores below the lowest of the defined levels, level 1; that is, they were not able to routinely demonstrate the most basic type of knowledge and skills that PISA sought to measure (Lemke et al. 2001). These students scored below 335 points on the PISA 2000 reading literacy scale. These students were not included in the proportions for students at level 1, but were considered as below level 1 because PISA 2000's descriptions of levels could not accurately predict what skills those students may have.

Figure 2 shows the percentages of 15-year-old students who were at the highest and lowest levels of the combined reading literacy scale.

Overall, percentages of U.S. students across the levels were not measurably different from the OECD average percentages, except at level 5, the highest level. Twelve percent of U.S. 15-year-old students read at level 5, compared to 9 percent for the OECD average (figure 2; table B-2). Looking across the countries, the proportion of U.S. students at level 5 was greater than that in 14 countries, less than that in 2 countries, and not measurably different from that in 14 countries.

Eighteen percent of 15-year-old students in the United States scored at level 1 or below, a percentage not measurably different from 22 other countries or the OECD average (figure 2; table B-2).

The remaining sections investigate how the characteristics of low performers differ from the overall 15-year-old student populations within each country (with a focus on the United States). Relative likelihood ratios were used to determine whether there was a greater likelihood of finding students with a particular characteristic at level 1 or below compared to their average percentage. The overall 15-year-old student population includes students at all of the proficiency levels: below level 1, level 1, level 2, level 3, level 4, and level 5.

Missing data have not been explicitly accounted for or imputed in the analyses for this report. When more than 15 percent of the student responses are missing, the estimates have been flagged in the supporting statistical data tables in appendix B. When more than 50 percent of the responses are missing, the data are not presented in the data tables. Particular attention to the problem of missing data should be considered when analyzing the data by parental education and students' reports of job expectations.

**Exhibit 3. Reading literacy task descriptions and score cut points, by proficiency level: 2000**

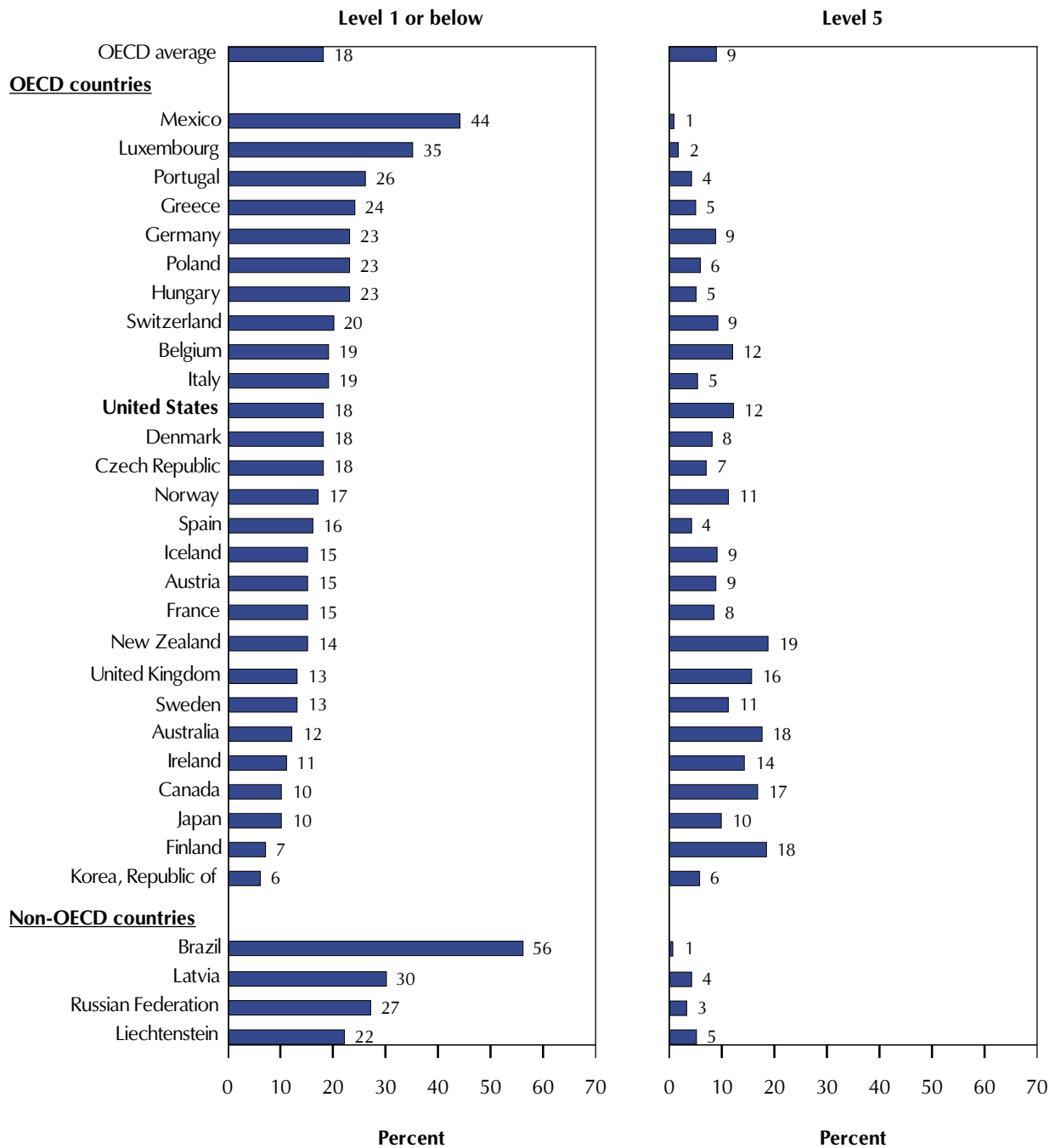
Achievement level and score cut points <sup>1</sup>	Task descriptions		
	Retrieving information	Interpreting texts	Reflecting on texts
<b>Level 1 (335-407)</b>	Locate one or more independent pieces of explicitly stated information, typically meeting a single condition or criterion, with little or no competing information in the text.	Recognize the main theme or author's purpose in a text about a familiar topic, when the idea is prominent or pervasive, either by being repeated or by appearing early in the text.	Make a simple connection between information in the text and common, everyday knowledge, with explicit direction to consider relevant factors in the task and the text.
<b>Level 2 (408-480)</b>	Locate one or more pieces of information, which may need to be inferred, and may need to meet several conditions, with some competing information present in the text.	Recognize the main idea in a text when the information is not prominent. Understand relationships or construe meaning within a limited part of the text, making low level inferences. Make comparisons or contrasts based on only one feature of the text.	Make a comparison or several connections between the text and outside knowledge. Draw on personal experience and attitudes to explain a feature of the text.
<b>Level 3 (481-552)</b>	Locate and, in some cases, recognize the relationship between several pieces of information that must meet multiple conditions set by the question, with prominent competing information.	Integrate several parts of a text in order to identify a main idea, understand a relationship, or construe the meaning of a word or phrase. Take into account many features in comparing, contrasting or categorizing, where required information is not prominent.	Make connections, comparisons, and explanations, or evaluate a feature of the text. Demonstrate a fine understanding of the text in relation to familiar, everyday knowledge. Draw on less common knowledge. Infer factors to be considered.
<b>Level 4 (553-625)</b>	Locate and organize several pieces of embedded information, typically in a text whose content and form are unfamiliar.	Construe the meaning of nuances of language in a section of text by taking into account the text as a whole. Show understanding and apply categories in an unfamiliar context.	Critically evaluate a text or hypothesize about information in the text, using formal or public knowledge. Demonstrate an accurate understanding of long or complex texts.
<b>Level 5 (626 and above)</b>	Locate and organize several pieces of information in unfamiliar contexts, where some information is deeply embedded and its relevance must be inferred from the text.	Demonstrate a full and detailed understanding of a text whose content or form is unfamiliar. Deal with concepts that are contrary to expectations.	Critically evaluate or hypothesize about the content of texts, drawing on specialized knowledge. Deal with concepts that are contrary to expectations.

<sup>1</sup>Exact cut point scores are as follows: below level 1: a score equal to or less than 334.75; level 1: a score greater than 334.75 and equal to or below 407.47; level 2: a score greater than 407.47 and equal to or below 480.18; level 3: a score greater than 480.18 and equal to or below 552.89; level 4: a score greater than 552.89 and equal to or below 625.61; and level 5: a score greater than 625.61.

NOTE: In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students were classified into reading levels according to their scores.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items, 2000.

**Figure 2. Percentage of 15-year-old students scoring at level 1 or below and level 5 on the combined reading literacy scale, by country: 2000**



NOTE: Countries are ordered according to percentage of students scoring at level 1 or below. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below, while students scoring 626 or above were classified at level 5. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items, 2000.

# Student Demographic and Background Characteristics

This chapter examines selected student demographic and background characteristics (sex, race/ethnicity in the United States, socioeconomic status [SES], parent and student national origin, parent education, and language spoken at home) of low performers, with the objective of showing how low performers in the United States compare to U.S. averages and how low performers in other countries compare to their national averages.

It should be noted that for some variables, there were not enough data available from some countries to report. Table 1 provides information about the participating countries with data available for each background characteristic. For more information about the participating countries, see tables B-4, B-6, B-7, B-8, B-9, and B-10 in appendix B.

## Sex

Equality between males and females in educational opportunity and outcomes is an important education policy goal in many OECD countries (United Nations, International Monetary Fund, World Bank, and OECD 2000). The first results from PISA showed that, on average, among 15-year-old students, females outperformed males in every participating country on the combined reading literacy scale (Lemke et al. 2001). The size of the difference in the United States between females (average score of 518) and males (average score of 490) in reading literacy was not measurably different from that of all of the other PISA 2000 countries, with the exception of Finland and Latvia, where the gap on the combined reading literacy scale was larger than that of the United States (table B-3).

**Table 1. Number of PISA countries with data available for 15-year-old students scoring at level 1 or below on the combined reading literacy scale, by selected student background characteristics: 2000**

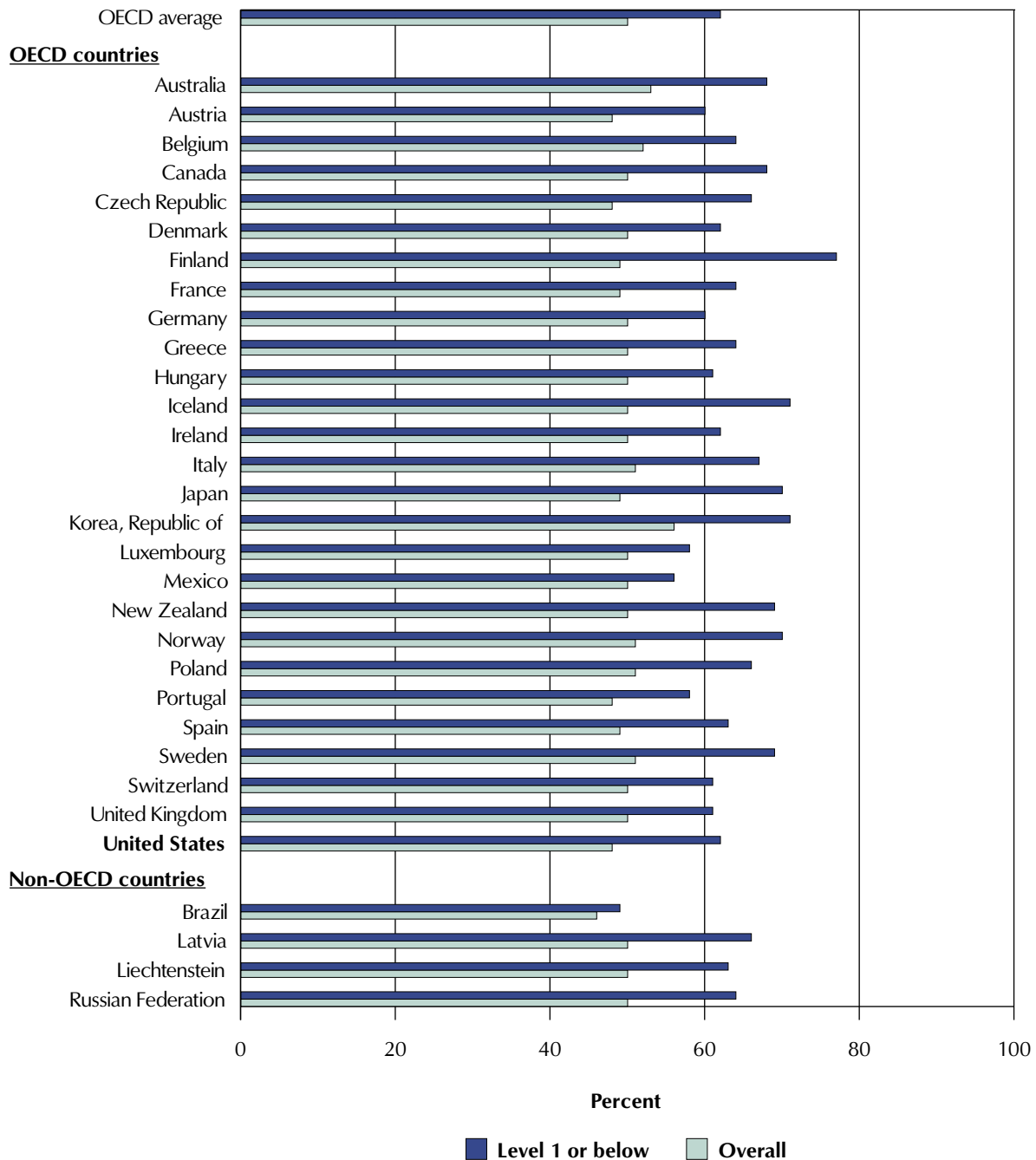
Characteristic	Level 1 or below
Sex	
Female	31
Male	31
Socioeconomic status (SES)	
Low SES	30
Medium SES	30
High SES	30
Parent national origin	
Both parents foreign born	29
One parent native born and one parent foreign born	29
Both parents native born	30
Student national origin	
Student foreign born	29
Student native born	30
Parent education	
Parent completed less than college	29
Parent completed college or higher	29
Language spoken at home most of the time	
Test language spoken at home most of the time	29
Language other than the test language spoken at home most of the time	28

NOTE: See the Description of Variables section in appendix A for more information about the characteristics.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

In the United States, males represented 62 percent of the students achieving at level 1 or below, while accounting for 48 percent of students overall (figure 3; table B-4). Conversely, females represented 38 percent of students achieving at level 1 or below and 52 percent of students overall. Hence, in the United States, the

**Figure 3. Percentage of male 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by country: 2000**



NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not are included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.



likelihood of a low-performing student being male was 1.3 times the average likelihood of a student being male (table B-23). Likewise, in all of the other PISA 2000 countries, there was a greater likelihood of a low-performing student being male compared to the average student.

The U.S. ratio for males was lower than that in 7 countries (Canada, the Czech Republic, Finland, Iceland, Japan, Latvia, and New Zealand) (exhibit 4). That is, in the United States, a low performer was 1.3 times more likely to be male than the U.S. average, while a Canadian low performer was 1.4 times more likely to be male compared to the Canadian average, for instance (table B-23). However, the U.S. ratio was higher than that in 5 countries (Brazil, Germany, Hungary, Luxembourg, and Mexico).

## Race/Ethnicity in the United States

Data from PISA 2000 for the United States showed that, on average, White students and students of “other” racial/ethnic backgrounds outscored Black and Hispanic students in reading literacy (Lemke et al. 2001).<sup>7,8</sup> Given differences among countries in definitions of racial and ethnic groups, no comparisons are made to other countries for this variable.

Overall, 59 percent of U.S. 15-year-old students identified themselves as White, 14 percent as Black, 18 percent as Hispanic, and 9 percent as “other” racial/ethnic origin (table B-5).

Twenty-eight percent of U.S. students at level 1 or below were White, compared to 59 percent of students on average. In contrast, 28 percent of level 1 or below students identified themselves as Black (compared to 14 percent on average) and 35 percent as Hispanic (compared to 18

percent on average). Hence, in the United States, the likelihood of a low-performing student being White was one-half (0.5) the average likelihood of a student being White (table B-24). The relative likelihood of a low performing student being either Black or Hispanic was 2.0; that is, on PISA 2000’s measure of reading, low performers were twice as likely to be Black or Hispanic as on average. National Assessment of Educational Progress (NAEP) reading scores for eighth-graders in 2003 showed that the relative likelihood of low-performing students (those at the *Below Basic* level as defined by NAEP) being Black was 2.8 times the average and being Hispanic was 3.0 times the average, while the likelihood of a low-performing student being White was about one-quarter (.27) of the average likelihood.<sup>9</sup>

## Socioeconomic Status

A strong relationship has been found to exist between the SES of a student’s parents and a student’s learning outcomes, including performance on assessments like PISA (Coleman et al. 1966; Lemke et al. 2001; West, Denton, and Reaney 2000; Williams et al. 2000). However, it is not clear that students are always able to report family income accurately or whether income adequately captures all resources available to a family. Hence, studies such as PISA do not ask students to report family income (Williams et al. 2000).

For PISA, in this report, the SES measure was derived from students’ reports of parental occupation. Occupations were coded to the International Standard Classification of Occupations 1988 (ISCO-88) and then grouped into major occupational groups.<sup>10</sup> The groups were collapsed into three categories of “low,” “medium,” and “high” SES based on the occupational content of the group as well as the relationship to an internationally comparable index ranging from 0-90 (known as the ISEI or

<sup>7</sup>The “other” group comprises students identifying themselves as American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, or multiracial since the numbers of these students are too small to report by individual categories.

<sup>8</sup>Because these racial and ethnic categories are not common across countries, it is not possible to compare the U.S. situation with respect to race and ethnicity to other countries.

<sup>9</sup>It is important to keep in mind, however, that NAEP tested 8<sup>th</sup> graders, while PISA assessed 15-year-olds, and that the “below basic” level in PISA is not directly comparable to the low-performing group in PISA because of different level-setting processes used in each study.

<sup>10</sup>For more information about ISCO-88, see International Labor Organization (ILO) (1990).



**Exhibit 4. PISA 2000 countries grouped by their relative likelihood ratios as compared to the United States, by selected student background characteristics: 2000**

Characteristic	Relative likelihood ratio	
	Higher than the United States	Lower than the United States
<b>Male</b>	Canada Czech Republic Finland Iceland Japan Latvia New Zealand	Brazil Germany Hungary Luxembourg Mexico
<b>Low socioeconomic status</b>	United Kingdom	Brazil Canada Czech Republic France Greece Iceland Ireland Italy Latvia Luxembourg Mexico Norway Poland Portugal Spain Sweden Russian Federation OECD average
<b>Both parents foreign-born</b>	Austria Belgium Denmark Finland Germany Greece Luxembourg Mexico Norway Sweden Switzerland OECD average	Canada
<b>Foreign-born</b>	Austria France Germany Mexico Spain Sweden OECD average	
<b>Parents with less than college education</b>	Canada Denmark	Austria Belgium Brazil Czech Republic Finland France Germany Greece Hungary Iceland Italy Korea, Republic of Latvia Liechtenstein Luxembourg Mexico New Zealand Poland Portugal Russian Federation Spain Switzerland United Kingdom OECD average
<b>Non-tes language speakers</b>	Austria Denmark France Germany	Australia Belgium Canada Italy Liechtenstein Luxembourg Mexico Portugal OECD average

NOTE: For more information about the selected variables, see the Description of Variables section in appendix A. Relative likelihood (risk) ratio is calculated across two groups: 1) low-performing students (scoring at level 1 or below) and 2) the overall 15-year-old student population (scoring at all proficiency levels: below level 1, level 1, level 2, level 3, level 4, and level 5). A relative likelihood ratio greater than 1 implies that a particular characteristic is more likely to be observed among the low performers than for the overall 15-year-old-student population. A relative likelihood ratio less than 1 implies that a particular characteristic is less likely to be observed among the low performers than for the overall 15-year-old-student population. Includes PISA 2000 countries that reported relative likelihood ratios higher than 1 in the student characteristics reported.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), 2000.

International Socio-Economic Index).<sup>11</sup> These groupings were then applied to the data for each country, allowing for the calculation of the percentage of students in each nation who were from high-, medium-, or low-SES backgrounds.

By this measure, 25 percent of the 15-year-old U.S. student population was considered low SES (41 percent were medium SES and 34 percent were high SES) (table B-6). Neither the low- nor high-SES percentages were measurably different from the OECD averages (26 percent and 29 percent, respectively). More students at the OECD average (45 percent) were considered medium SES than in the United States. Of the other countries participating in PISA 2000, Austria had a smaller percentage of students with low SES than the United States, while 7 countries had a greater percentage of students with low SES. Thirteen countries had smaller percentages of students with high SES, while Norway had a higher percentage of students with high SES than the United States.

In the United States, 42 percent of students achieving at level 1 or below came from a low-SES background, compared to 25 percent of U.S. students overall. Hence, in the United States, the likelihood of a low-performing student coming from a low-SES background was 1.7 times the average likelihood of a student being low SES (table B-23). The greater likelihood of a low-performing student coming from a low SES background held true for all the other PISA countries except Japan.

The U.S. ratio was lower than the ratio in one country, the United Kingdom (exhibit 4). British low performers were 1.8 times more likely to report being low-SES than on average in Britain, while U.S. low performers were 1.7 times more likely to come from a low-SES background than the U.S. average. In contrast, the U.S. likelihood ratio was higher than in 17 (about half) of the other PISA 2000 countries and the OECD average. That is, U.S. low performers were more likely than low performers in most OECD countries to report being low SES compared to their respective national averages.

## Parent and Student National Origin

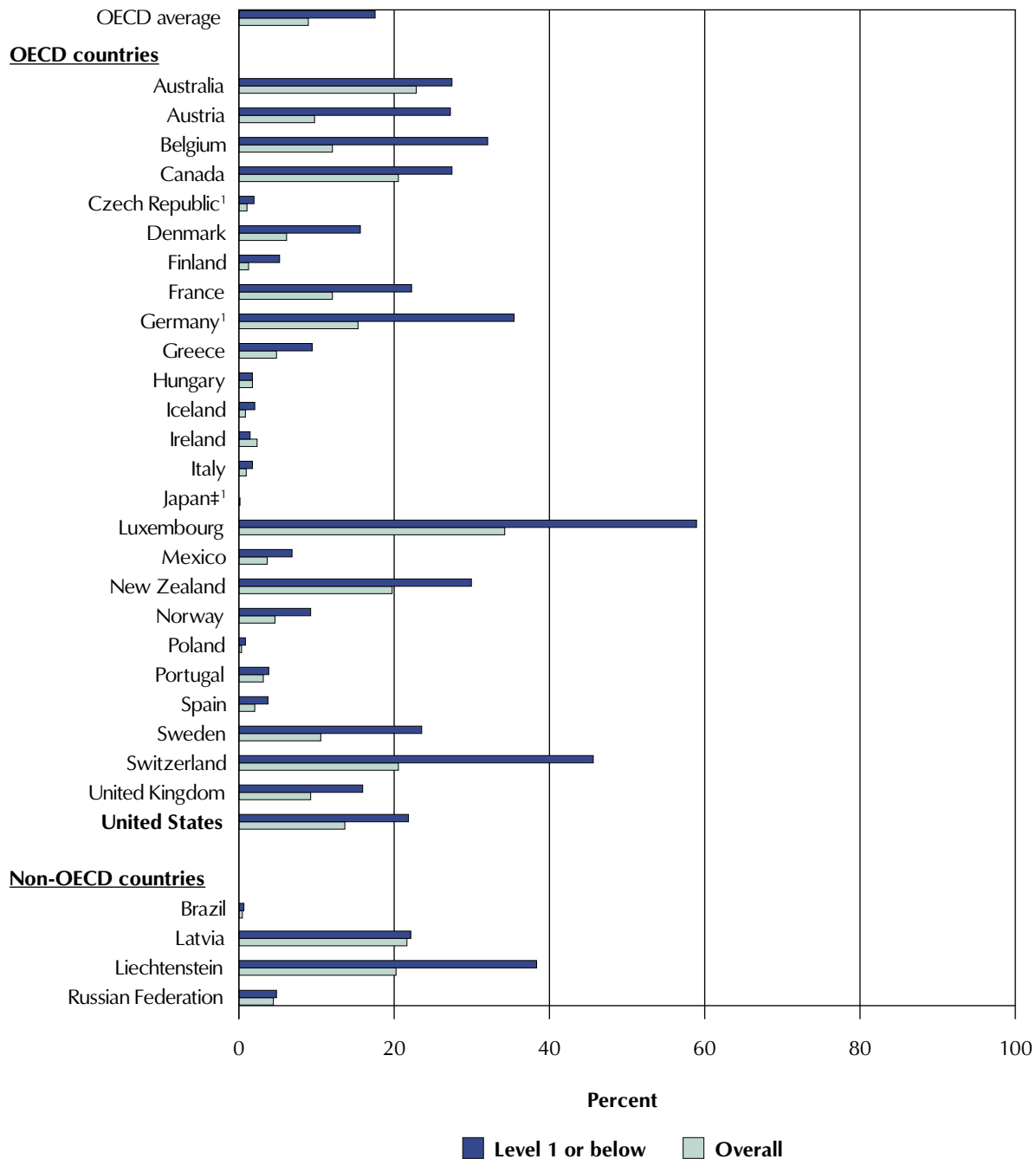
Data from PISA 2000 showed that in most countries 15-year-old students with foreign-born parents had lower reading literacy scores than those with parents born in the country of the assessment (Lemke et al. 2001). This section explores that performance gap further by examining the nativity of the parents of students achieving at level 1 or below. In addition to parent national origin, this section also looks at student national origin, examining the percentages of foreign-born students among low performers. This information can help deal with the question of how the United States compares to other countries in terms of addressing equity for students whose parents were born outside of the country where they attend school, or for students who were themselves born outside of the country.

Overall, 14 percent of 15-year-old students in the United States reported that both of their parents were foreign born, while 7 percent of U.S. students reported that they themselves were foreign born (figures 4 and 5; tables B-7 and B-8). Neither of these percentages was measurably different from the OECD average (9 percent and 7 percent, respectively). Relative to the United States, 16 countries (about half) had a smaller percentage of students with two foreign-born parents, while 10 reported a smaller percentage of foreign-born students. Only two countries had a larger percentage of students with two foreign-born parents, while 6 countries had a larger percentage of foreign-born students relative to the United States.

In the United States, 22 percent of students achieving at level 1 or below reported having two foreign-born parents, compared to 14 percent of students on average (figure 4; table B-7). Hence, in the United States, the likelihood of a low-performing student having two foreign-born parents was 1.6 times the average likelihood of a student having two foreign-born parents (table B-23).

<sup>11</sup>For details about construction of the SES index, see appendix A. For details about construction of the ISEI index, see Ganzeboom and Treiman

**Figure 4. Percentage of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale who had two foreign-born parents, by country: 2000**



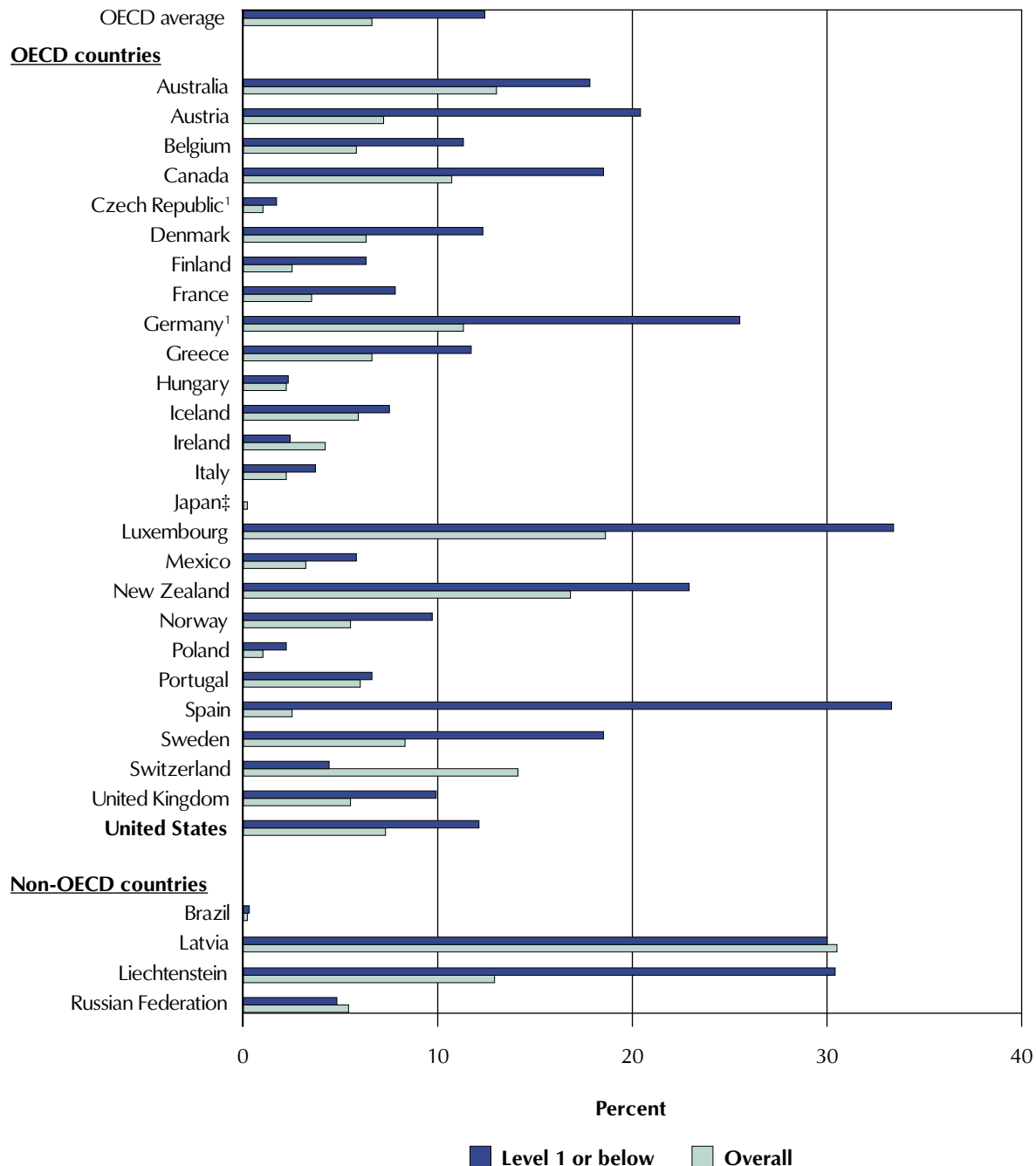
<sup>#</sup>Reporting standards not met (too few cases to report at level 1 or below).

<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Data for the Republic of Korea are not available. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Figure 5. Percentage of foreign-born 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by country: 2000**



<sup>#</sup>Reporting standards not met (too few cases to report at level 1 or below).

<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Data for the Republic of Korea are not available. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

In fact, in the majority of countries (19 of the other 28) with data available, the relative likelihood ratio of a low-performing student having two foreign-born parents was measurably larger than 1. In Ireland, in contrast, the likelihood of a low performer having two foreign-born parents was actually less (.60) than the average.

Among the countries where the relative likelihood ratio of a low-performing student reporting two foreign-born parents was higher than 1, the U.S. ratio was lower than that in 11 countries and the OECD average, while it was higher than that in Canada (exhibit 4). This implies that although Canada had a higher percentage of students with two foreign-born parents overall (21 percent) compared to the United States (14 percent), the likelihood of a U.S. low performer reporting two foreign-born parents was greater than the likelihood of a Canadian low performer reporting two foreign-born parents compared to their respective national averages.

Twelve percent of U.S. students achieving at level 1 or below were foreign born, compared to 7 percent of U.S. students who were foreign born on average. Hence, in the United States, the likelihood of a low-performing student being foreign born was 1.7 times the average likelihood of a student being foreign born (table B-23). For nine of the other PISA 2000 countries, the relative likelihood of a low-performing student being foreign born was not measurably different from 1. There were two countries (Ireland and Switzerland) for which the relative likelihood of a low-performing student being foreign born was less than 1. This implies that a low-performing student in Ireland or Switzerland was less likely to be foreign born than on average.

Among the 17 other countries where the relative likelihood ratio of a low-performing student being foreign born was greater than 1, the U.S. ratio was lower than that in 7 countries and the OECD average (exhibit 4). That is, on average across OECD countries, low performers were more likely to report being foreign born than low performers in the United States compared to their respective national averages.

## Parent Education

Students with more highly educated parents tend to perform better on academic assessments, as shown by the National Assessment of Educational Progress (NAEP) and the Third International Mathematics and Science Study of 1999 (TIMSS 1999) (Braswell et al. 2001; Gonzales et al. 2000). Children learn through interacting with others, and activities such as reading to children can enhance their reading skills and knowledge (Snow, Burns, and Griffen 1998; Burgess, Hecht, and Lonigan 2002). Research has shown that highly educated parents are more likely to provide a rich home literacy environment, as well as have higher expectations for their child's performance, all of which can positively affect student performance on assessments (Hernandez 1993).

In the PISA 2000 background questionnaire, students were asked whether their parents had completed various levels of education as defined by the International Standard Classification of Education (ISCED).<sup>12</sup> For example, students were asked if either of their parents had completed a bachelor's, master's, or postgraduate degree, which correspond to ISCED levels 5A, 5B, and 6, respectively. This section examines the distribution of students who scored at level 1 or below by parent education.

Missing data are not accounted for or imputed in the analyses for this report. Categories where more than 15 percent of the student responses are missing are flagged in table B-9. When more than 50 percent of the responses are missing, the data are not presented in the data table. Particular attention to the problem of missing data should be considered when analyzing the parent education data.

Data from PISA 2000 showed that in most countries, 15-year-old students with at least one parent with a college education had higher reading literacy scores than those with parents with lower levels of education (Lemke et al. 2001). In fact, in the United States, there was a 93-point score gap in performance between

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<sup>12</sup>For more information about the ISCED levels, see the Description of Variables section in appendix A.

students with at least one parent who attended college and those whose parents had not completed high school (Lemke et al. 2001).

This section explores the performance gap by parent education further by examining how students with differing levels of parent education are distributed among those achieving at level 1 or below.<sup>13</sup> Students were classified for this purpose into two categories: those with at least one parent with a college degree, and those with neither parent with a college degree.

In the United States, students with at least one parent who completed college represented 40 percent of the students achieving at level 1 or below, and accounted for 55 percent of students overall (table B-9).<sup>14</sup> Sixty percent of U.S. students at level 1 or below reported that their parents had less than a college degree, higher than the 45 percent of students reporting the same overall. In the United States, then, the likelihood of a low-performing student having both parents with less than college education was 1.3 times the average likelihood of having both parents with less than college education (table B-23). In 26 other countries (of 29 participating PISA 2000 countries), the relative likelihood ratio of a low-performing student not having a college-educated parent was also higher than 1. However, in three of the other PISA 2000 countries (Ireland, Norway, and Sweden), the relative likelihood ratio was not measurably different from 1; i.e., there was no measurable difference between the proportion of low-performing students with parents who did not complete college and the proportion of students with this characteristic on average.

Among the 27 countries where the relative likelihood ratio of a low-performing student not having a college-educated parent was greater than 1, the U.S. ratio was lower than that in Canada and Denmark, while it was higher than that in 23 countries and the OECD average (exhibit 4). That is, in Canada and Denmark, low-performing students were more likely to

have parents without a college education than on average in those countries compared to the United States. However, the likelihood of U.S. low achievers having less-than-college-educated parents (compared to the national average) was higher than in three-quarters of the other PISA countries.

## Language Spoken at Home Most of the Time

Census 2000 figures indicate that about 18 percent of the U.S. population age 5 and over speaks a language other than English at home (U.S. Department of Commerce, Bureau of the Census 2003). Results from PISA 2000 showed that, in most countries, test language speakers (that is, those who speak the language of the assessment—English, for the United States—at home most of the time) perform better on average than non-test language speakers (Lemke et al. 2001). This section explores that performance gap further by examining the percentages of test and non-test language speakers who are low performing.

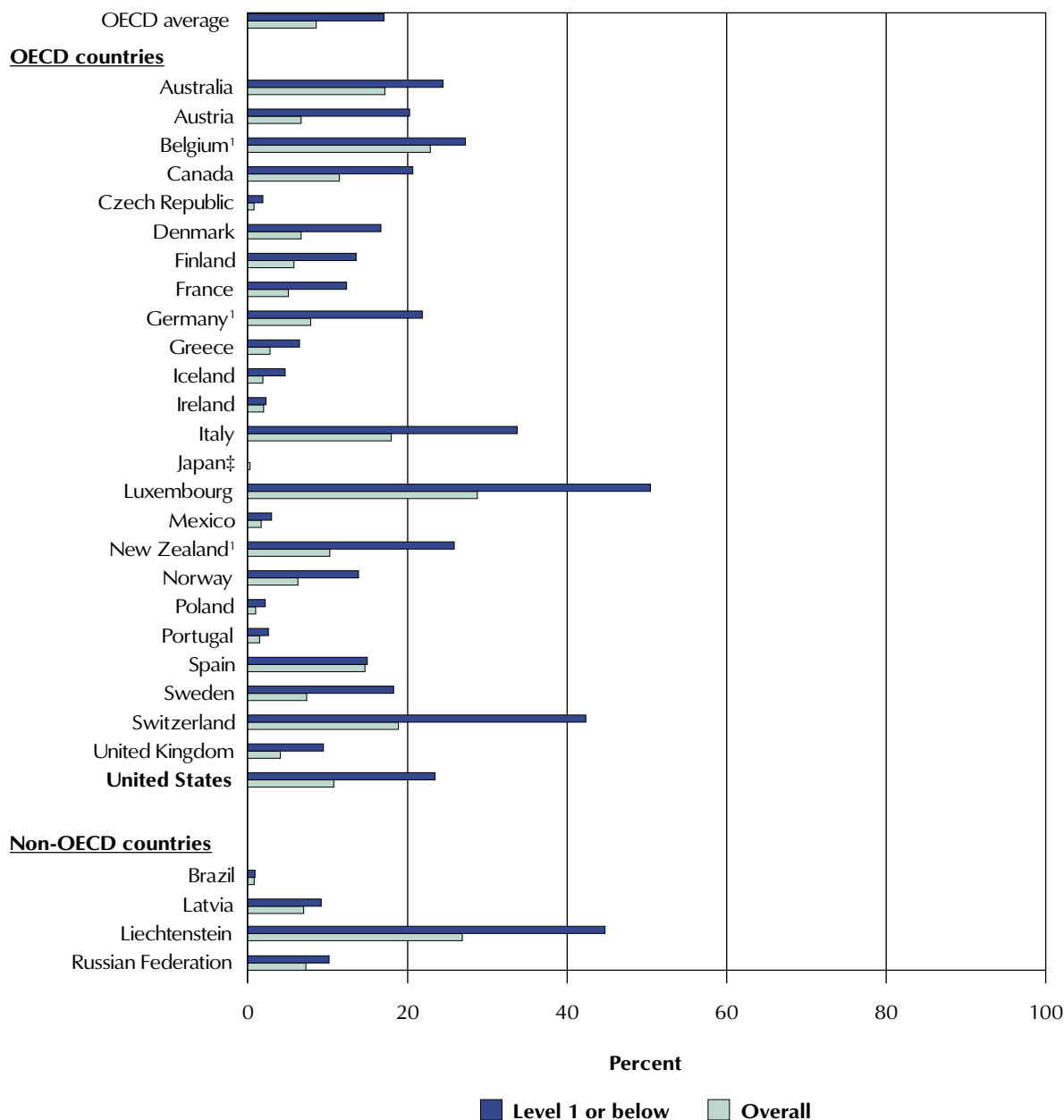
In PISA 2000, students were asked what language they spoke at home most of the time. In the United States, the assessment was given in English and students were asked if they spoke English, Spanish, or another language at home most of the time. Other countries included response options for students to choose an official national language other than the language of the assessment (for example, in Canada, students taking an assessment in English could choose French) or a national dialect. In this report, for these countries, all these responses are grouped as languages other than the test language. Two countries, Hungary and the Republic of Korea, did not provide data for this question.

Overall, 11 percent of students in the United States reported that they spoke a language other than English at home most of the time (figure 6; table B-10). Four countries—Belgium,

<sup>13</sup>Thirty-six percent of U.S. students achieving at level 1 or below did not answer the questions related to parent education on the PISA 2000 questionnaire.

<sup>14</sup>Student reports of parents' educational attainment may be inaccurate as some students either do not know or exaggerate parent education.

**Figure 6. Percentage of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale who did not speak the test language at home most of the time, by country: 2000**



<sup>#</sup>Reporting standards not met (too few cases to report at level 1 or below).

<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Data for Hungary and the Republic of Korea are not available. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Student Questionnaire, 2000.



Liechtenstein, Luxembourg, and Switzerland—had greater percentages of non-test-language-speaking students than the United States, while nine countries had smaller percentages. The remaining 15 countries had percentages of non-test-language-speaking students that were not measurably different from the U.S. percentage.

In the United States, 24 percent of students achieving at level 1 or below were non-English speakers, compared to 11 percent of non-English speakers overall (figure 6, table B-10). Hence, in the United States, the likelihood of a low-performing student not speaking English at home was 2.2 times the average likelihood of a student not speaking English at home (table B-23). In 21 of the other 27 PISA countries, the relative likelihood of a low-performing student not speaking the test language at home was higher than 1. The remaining 6 countries had a relative likelihood ratio not measurably different from 1; i.e., the percentages of non-test language speakers achieving at levels 1 or below were not measurably different from those observed on average in those countries.<sup>15</sup>

Among the countries where the relative likelihood ratio of a low-performing student not speaking the test language was greater than 1, the U.S. ratio was lower than that in 4 countries, while it was higher than that in 8 countries and the OECD average (exhibit 4). In Austria, Denmark, France, and Germany, low achievers were more likely to be non-test language speakers compared to their respective national averages than in the United States. However, compared to the national averages, U.S. low performers were more likely to be non-test-language speakers than low performers in the OECD countries on average.

<sup>15</sup>Note that while Japan was included in the comparisons of the overall percentage of non-test language speakers, the percentages of non-test language speakers at level 1 or below in Japan was too small to report.



# Student Educational Characteristics

The preceding chapter examined differences between students at level 1 or below compared to the national averages based on background variables such as language or nativity. This chapter focuses on the differences between low performers based on their responses to questions about 1) their attitudes toward learning and school and 2) their learning practices and expectations.

## Attitudes Toward Learning and School

All of the index measures used in this chapter were created using a range of items from the PISA 2000 student questionnaires related to specific learning strategies. Students were asked for their level of agreement with statements like “I find it hard to finish books” and “I feel lonely at school,” or how frequently they “keep working even if the material is difficult.” Answers to these questions were combined into indices with values ranging from -1 to 1. The OECD average index value was set at zero. A negative index value (depending on the size of the standard error) could show a lower-than-average use of the featured strategy compared to the OECD average, while a positive index value could suggest a more frequent use of the strategy. For more information about how the indices were constructed, see appendix A.

As in previous discussions of results, it is not possible to establish causal conclusions regarding the relationship between student performance and attitudes toward learning and school, since there may be a two-way relationship between student performance and learning strategies, or both may be influenced by a third set of factors. Moreover, factors such as home and school contexts can also play an important role in influencing student performance (Mullis et al. 2000; Lemke et al. 2001). This chapter seeks only to explore if any patterns regarding student attitudes toward learning and school for students scoring at level 1 or below are observed across PISA 2000 countries.

It should be noted that some countries did not collect data on student attitudes for some indices, while in other categories there were not enough data available from a country to report. Table 2 provides information about the participating countries with data available for each learning strategy measure. For more information about the participating countries, see tables B-12, B-14, B-16, B-17, and B-18 in appendix B.

### *Engagement in Reading*

PISA 2000 measured student engagement in reading by asking for students’ level of agreement (strongly disagree, disagree, agree, strongly agree) with the following statements:

- I read only if I have to;
- Reading is one of my favorite hobbies;
- I like talking about books with people;
- I find it hard to finish books;
- I feel happy if I receive a book as a present;
- For me, reading is a waste of time;
- I enjoy going to a bookstore or a library;
- I read only to get information that I need; and
- I cannot sit still and read for more than a few minutes.

The U.S. average index value for engagement in reading was -0.14, which was lower than the OECD average index value (zero) for engagement in reading (table B-11).<sup>16</sup> Sixteen of the 30 other participating countries reported higher levels of engagement in reading among their students relative to their U.S. peers, while two countries, Belgium and Germany, reported lower engagement levels.

In order to examine differences among low achievers in engagement in reading, in the United States and other countries, student index values from all OECD countries were arrayed and cut points calculated for the bottom quarter and top quarter of students. Students with index values in the bottom quarter (value of -0.66 or lower) were

<sup>16</sup>The reliability measure for the “Engagement in Reading” index was 0.76.

**Table 2. Number of PISA countries with data available for 15-year-old students scoring at level 1 or below on the combined reading literacy scale, by selected student characteristics: 2000**

Characteristic	Level 1 or below
Engagement in reading	
Low engagement in reading	31
Medium engagement in reading	31
High engagement in reading	31
Sense of belonging in school	
Low sense of belonging in school	31
Medium sense of belonging in school	31
High sense of belonging in school	31
Effort and perseverance in schoolwork	
Low effort and perseverance in schoolwork	23
Medium effort and perseverance in schoolwork	23
High effort and perseverance in schoolwork	23
Skipping class	
Never skipped class	31
Skipped class 1 or 2 times a week	31
Skipped class 3 or more times a week	31
Missing school	
Never missed school	31
Missed school 1 or 2 times a week	31
Missed school 3 or more times a week	31

NOTE: See the Description of Variables section in appendix A for more information about the characteristics.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

categorized as having “low” engagement in reading, and students with index values in the top quarter (value of 0.58 or higher) were categorized as having “high” engagement in reading. The resulting cut points were then applied to the index scores from each nation, allowing for the calculation of the percentage of students in each nation who showed high or low levels of engagement.

Forty-nine percent of U.S. students at level 1 or below reported low engagement in reading, compared to 31 percent overall (figure 7; table B-12). Hence, in the United States, the likelihood of a low-performing student having low engagement in reading was 1.6 times the average likelihood of a student having low engagement in reading (table B-23). In fact, the relative likelihood ratio for low-performing students having low engagement in reading was higher than 1 in all the PISA countries.

The U.S. ratio was lower than that in 11 countries, and higher than that in 6 countries (exhibit 5). That is, in about one-third of the PISA countries, low performers were more likely to report low engagement in reading compared to their respective national averages than in the United States.

### ***Sense of Belonging in School***

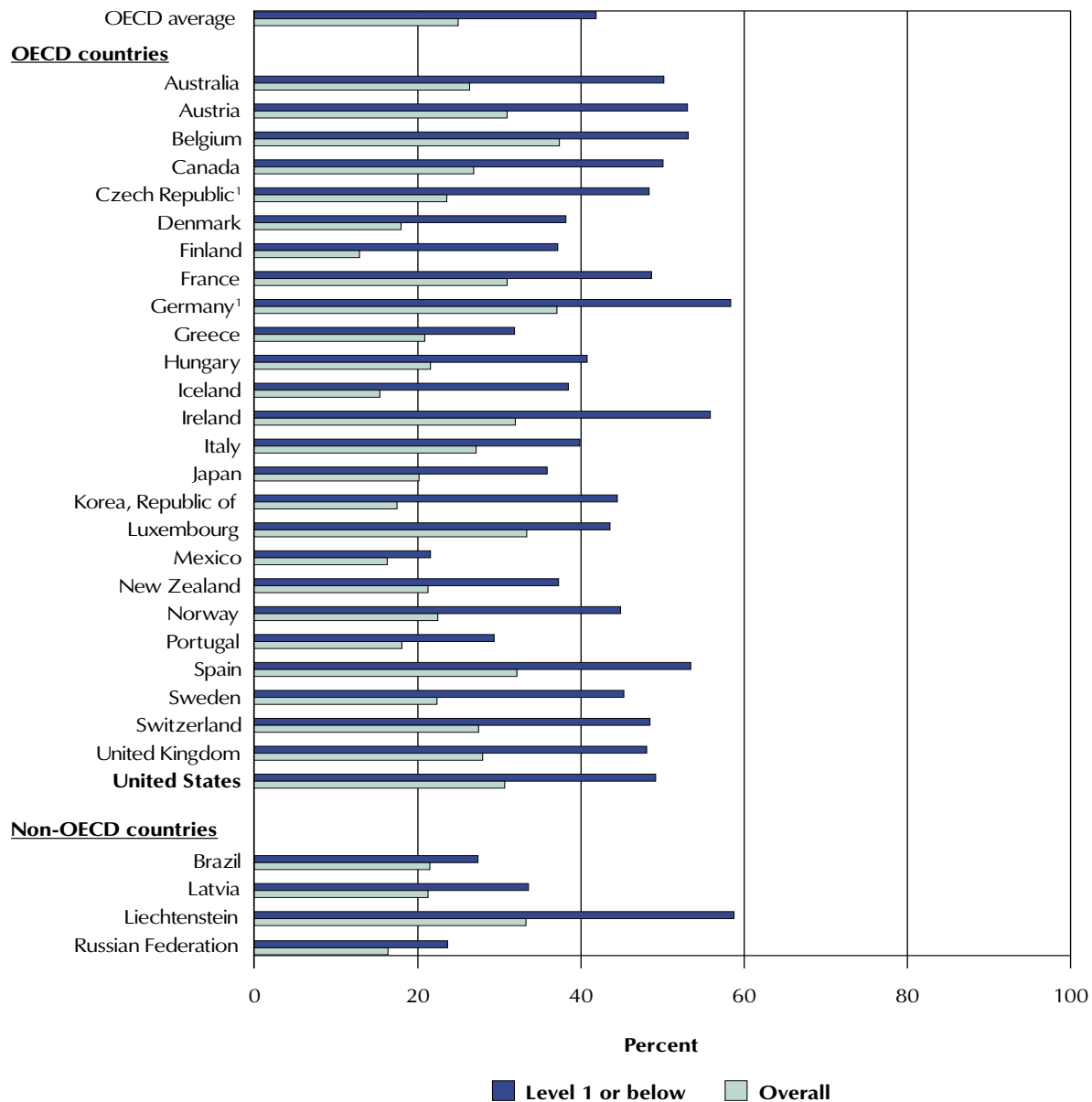
Research studies have indicated that students’ sense of belonging in school may play an important role in promoting school success and preventing school dropouts (Roeser, Midgley, and Urdan 1996). PISA 2000 measured students’ feelings of membership in school through a summary index called “sense of belonging in school” by asking for students’ level of agreement (strongly disagree, disagree, agree, strongly agree) with the following statements about their feelings at school:

- I make friends easily;
- I feel that I belong in school;
- Other students like me;
- I feel like an outsider;
- I feel awkward and out of place; and
- I feel lonely at school.

Overall, the average index score for sense of belonging in the United States was -0.06. This was not measurably different from the OECD average value of zero (table B-13).<sup>17</sup> Students in almost half of the other PISA 2000 countries (14 of 30) reported a higher sense of belonging than

<sup>17</sup>The reliability measure for the “Sense of Belonging in School” index was 0.86.

**Figure 7. Percentage of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale who had low engagement in reading, by country: 2000**



<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Engagement in reading is based on an index of student reports of the extent to which they agreed with items designed to measure engagement in reading, such as "I read only if I have to" and "I find it hard to finish books." Students with index scores in the lowest quartile were categorized as having "low" engagement in reading (index value of -0.66 or lower). See the Description of Variables section in appendix B for more information about the index of engagement in reading. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Exhibit 5. PISA 2000 countries grouped by their relative likelihood ratios as compared to the United States, by selected student educational characteristics: 2000**

Characteristic	Relative likelihood ratio	
	Higher than the United States	Lower than the United States
<b>Low engagement in reading</b>	Australia Canada Czech Republic Denmark Finland Hungary	Iceland Korea, Republic of Norway Sweden Switzerland
<b>Low sense of belonging in school</b>		Australia Austria Belgium Brazil Czech Republic Denmark France Germany Greece Iceland Ireland
<b>Low effort and perseverance in schoolwork</b>	Norway Liechtenstein	Austria Switzerland
<b>Miss school frequently</b>	Japan	Austria Brazil Denmark Greece Hungary Iceland Latvia Luxembourg
<b>Skip class frequently</b>	Belgium France Hungary Iceland Italy Japan Korea, Republic of Norway United Kingdom	Mexico Norway Poland Portugal Russian Federation Sweden Switzerland OECD average
<b>Attend remedial courses in the test language regularly outside of school</b>	Australia Belgium Ireland Norway Sweden	Brazil France Germany Hungary Latvia Luxembourg

NOTE: For more information about the selected variables, see the Description of Variables section in appendix A. Relative likelihood (risk) ratio is calculated across two groups: 1) low-performing students (scoring at level 1 or below) and 2) the overall 15-year-old student population (scoring at all proficiency levels: below level 1, level 1, level 2, level 3, level 4, and level 5). A relative likelihood ratio greater than 1 implies that a particular characteristic is more likely to be observed among the low performers than for the overall 15-year-old-student population. A relative likelihood ratio less than 1 implies that a particular characteristic is less likely to be observed among the low performers than for the overall 15-year-old-student population. Private tutoring outside of school is not included among the student educational characteristics as the U.S. likelihood ratio for this variable was not measurably different from 1. Includes PISA 2000 countries that reported relative likelihood ratios higher than 1 in the student characteristics reported.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), 2000.

their counterparts in the United States. Seven other countries reported a lower index value than the United States.

As with engagement in reading, index values for sense of belonging in school from all OECD countries were arrayed and cut points calculated for the bottom quarter and top quarter of students. Students with index values in the bottom quarter (value of -0.61 or lower) were categorized as having a “low” sense of belonging, and students with index values in the top quarter (value of 0.48 or higher) were categorized as having a “high” sense of belonging.

In the United States, 43 percent of students at level 1 or below reported a low sense of belonging, compared to 25 percent overall (table B-14). Hence, in the United States, the likelihood of a low-performing student having a low sense of belonging in school was 1.7 times the average likelihood of a student having a low sense of belonging (table B-23). In 28 of the other 30 PISA 2000 countries, the relative likelihood ratio of a low-performing student having a low sense of belonging in school was higher than 1. However, in Finland and Sweden, the relative likelihood ratio was not different from 1; i.e., the proportion of low-performing students with a low sense of belonging was not different from the average.

Among the countries where the relative likelihood ratio of a low-performing student having a low sense of belonging was higher than 1, the U.S. ratio was not lower than that in any of these countries, while it was higher than in over two-thirds of the countries (21) and the OECD average (exhibit 5). That is, in the United States, low performers were more likely to report a low sense of belonging in school compared to the U.S. average than low performers in most other PISA countries.

### ***Effort and Perseverance in Schoolwork***

Of all of the variables that are believed to affect achievement, effort and perseverance are two that may be particularly within students’ control. Some educators stress that students’ effort and

perseverance are their keys to success (Ablard and Lipschultz 1998; Elliot, McGregor, and Gable 1999; Samimy, Liu, and Matsuta 1994). In order to examine these factors in relation to achievement, PISA 2000 measured students’ level of effort and perseverance in schoolwork by asking how frequently (not at all, very little, to some extent, a lot) they

- work as hard as possible;
- keep working even if the material is difficult;
- try to do their best to acquire the knowledge and skills taught; and
- put forth their best effort.

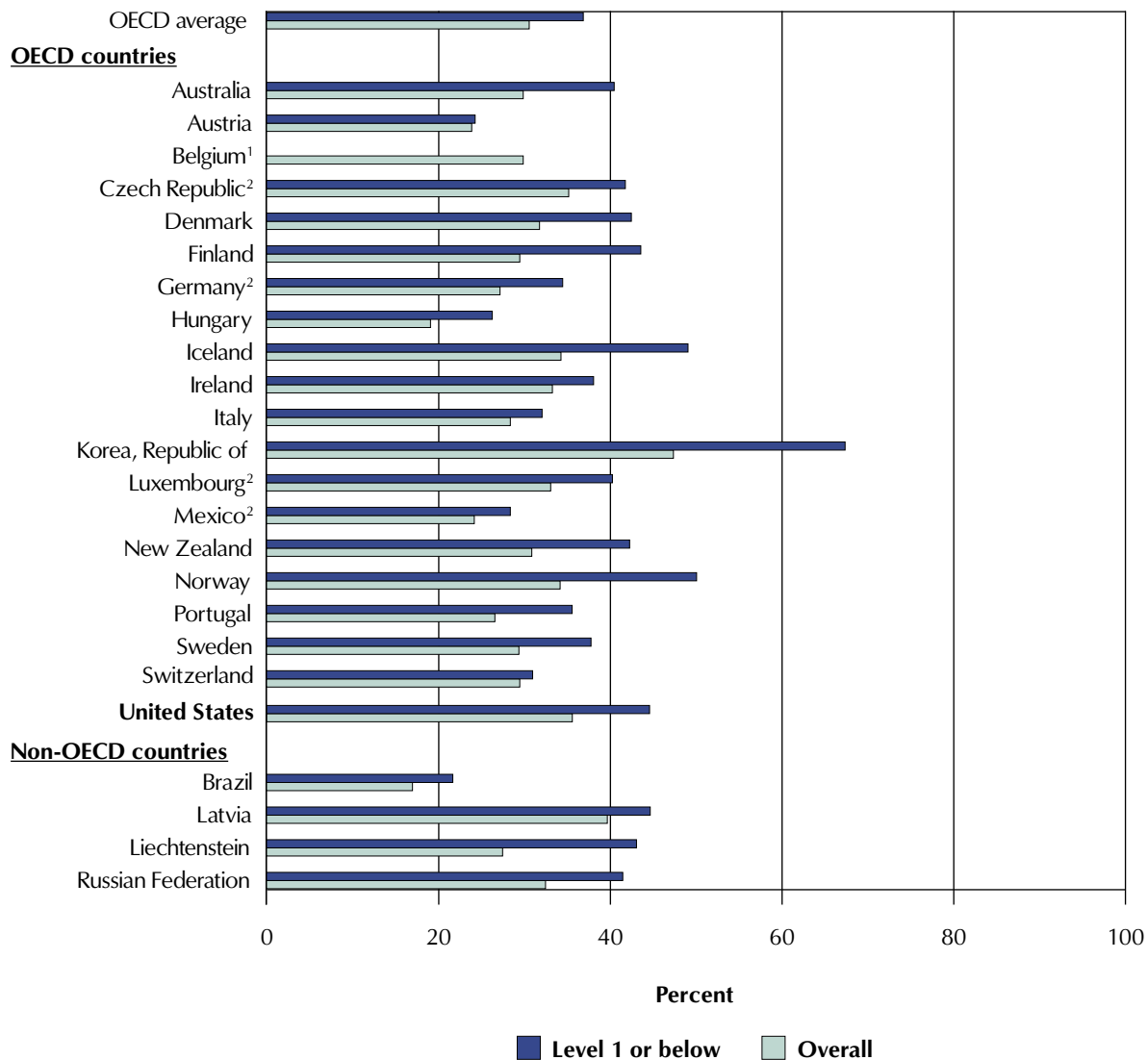
In the United States, the overall index value for effort and perseverance in schoolwork (-0.08) was not measurably different from the OECD average (table B-15).<sup>18</sup> Nine of the other 22 PISA 2000 countries reported higher average index values than the United States, while Latvia and the Republic of Korea had lower values.

As with the other indices, index values for effort and perseverance from all OECD countries were arrayed and cut points calculated for the bottom quarter and top quarter of students. Students with index values in the bottom quarter (value of -0.64 or lower) were categorized as having “low” effort and perseverance, and students with index values in the top quarter (value of 0.69 or higher) were categorized as having “high” effort and perseverance.

Forty-five percent of U.S. students at level 1 or below reported low effort and perseverance, higher than the 36 percent of students overall who reported this (figure 8; table B-16). Hence, in the United States, the likelihood of a low-performing student having low effort and perseverance in schoolwork was 1.3 times the average likelihood of a student having low effort and perseverance (table B-23). The greater likelihood that low-performing students have low effort and perseverance was also the case in 19 other PISA 2000 countries with data available. However, in three countries

<sup>18</sup>The reliability measure for the “Effort and Perseverance in Schoolwork” index was 0.83.

**Figure 8. Percentage of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale who had low effort and perseverance in schoolwork, by country: 2000**



<sup>1</sup>The item response rate for students at level 1 or below is below 50 percent and is therefore not shown.

<sup>2</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Effort and perseverance in schoolwork is based on an index of student reports of the extent to which they agreed with items such as “I work as hard as possible” and “I keep working even if the material is difficult.” Students with index scores in the lowest quartile were categorized as having “low” effort and perseverance (value of -0.64 or lower). See the Description of Variables section in appendix B for more information about the index of effort and perseverance in schoolwork. In the United Kingdom, item response rates for students overall and at level 1 or below are below 50 percent and are therefore not shown. Data for Canada, France, Greece, Japan, Poland, and Spain are not available. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.



(Austria, Ireland, and Switzerland), the relative likelihood ratio of a low-performing student reporting low effort and perseverance was not measurably different from 1. In these countries, low performers were no more likely than students on average to report low effort and perseverance.

Among countries where the relative likelihood ratio of low-performing students having low effort and perseverance was higher than 1, the relative likelihood ratio was lower in the United States compared to Norway and Liechtenstein, but higher than in Austria and Switzerland (exhibit 5). In most countries, then, the extent to which low achievers report low effort and perseverance compared to their respective national averages was not measurably different from that in the United States.

### ***Missing School and Skipping Class***

For most students, an important step to learning is attending school and classes regularly. Chronic absenteeism and truancy can disrupt the learning environment, are associated with delinquent behavior, and are related to lower achievement levels (Lamdin 1996; Reid 1999). PISA 2000 measured the frequency with which students missed school and skipped class by asking two questions:

- How many times in the *previous two weeks* did you miss the entire school day?
- How many times in the *previous two weeks* did you skip a class? (note: count each skipped class separately)

Students' responses were grouped into the categories never, one or two times, and three or more times. Within this section, all of the data presented are based on students' reports from their activities within the past two weeks. In order to further facilitate discussion, the category response of "missed school three or more times in the past two weeks" is referred to as "missed school frequently," while "skipped class three or more times in the past two weeks" is referred to as "skipped class frequently."<sup>19</sup>

In the United States, 8 percent of students reported that they missed school frequently, which is not measurably different from the OECD percentage (9 percent) (figure 9; table B-17). Compared to the United States, fewer students in five countries reported missing school frequently, while in eight of the PISA 2000 countries, more students reported missing school frequently.

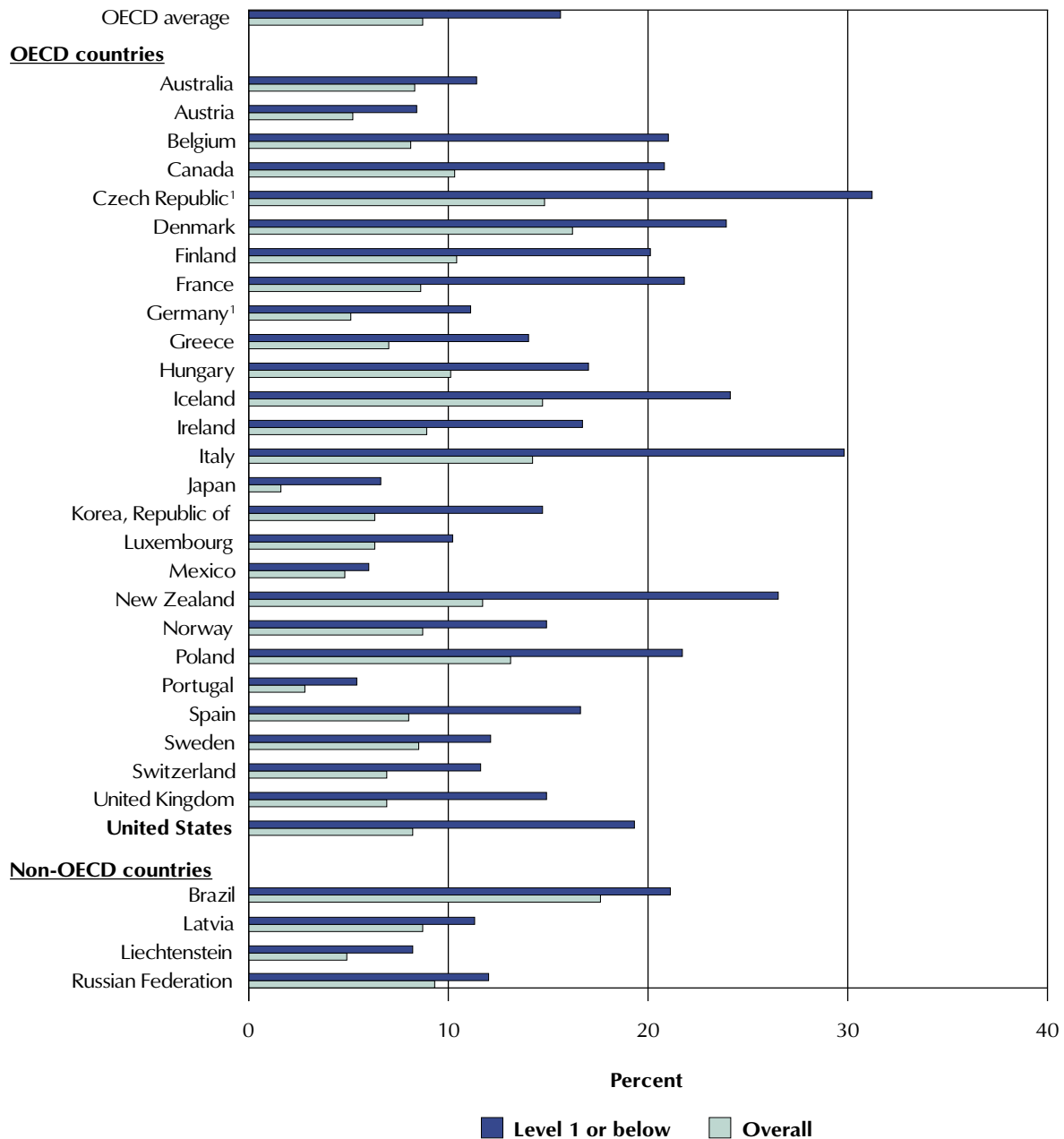
In the United States, 19 percent of U.S. students at level 1 or below missed school frequently. This was higher than the 8 percent of students reporting the same on average. Hence, in the United States, the likelihood of a low-performing student reporting missing school frequently was 2.4 times the average likelihood of a student reporting missing school frequently (table B-23). Low-performing students were more likely to miss school frequently compared to students on average in 28 of the other 30 PISA 2000 countries with data available.

Among the countries where the relative likelihood ratio of a low-performing student reporting missing school frequently was higher than 1, the U.S. ratio was lower than that only in Japan, while it was higher than that in 15 countries and the OECD average (exhibit 5). That is, low-performing students in Japan were more likely to report missing school frequently than low performers in the United States compared to the respective national averages. But low performers in the United States were more likely to report missing school frequently than students on average compared to low achievers in most OECD countries.

Five percent of U.S. students reported that they skipped class frequently. This was not different from the OECD average percentage (5 percent of students) (figure 10; table B-18). A higher percentage of students skipped class frequently in five countries compared to U.S. students, while a lower percentage skipped class frequently in eight other participating countries in PISA 2000.

<sup>19</sup>For more information about the missing school and skipping class variables, see the Description of Variables section in appendix A.

**Figure 9. Percentage of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale who missed school frequently, by country: 2000**

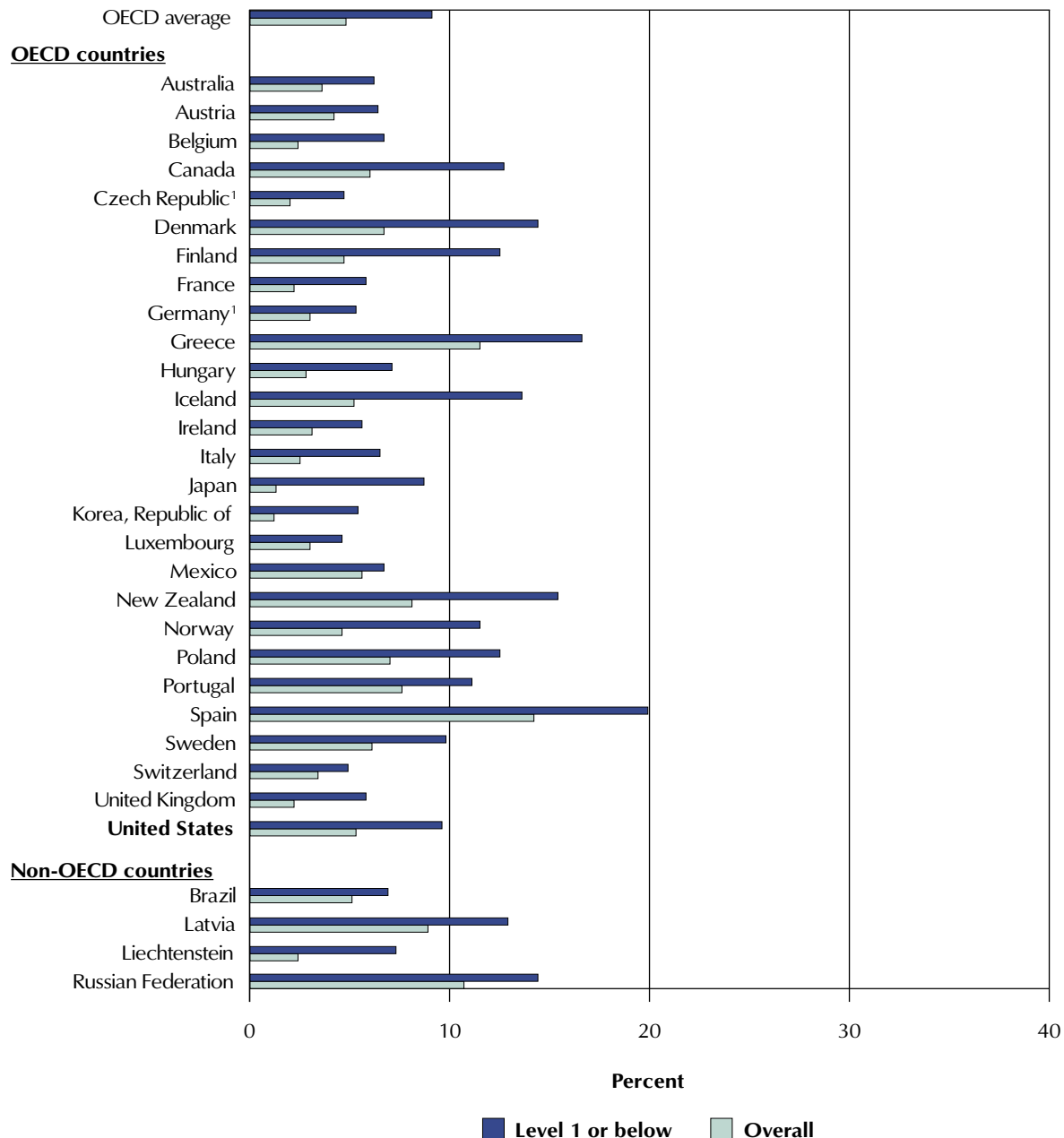


<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Students who reported missing school three or more times in the 2 weeks prior to taking the assessment were classified as missing school frequently. For more information about the missing school variable, see the Description of Variables section in appendix B. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Figure 10. Percentage of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale who skipped class frequently, by country: 2000**



<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Students who reported skipping class three or more times in the 2 weeks prior to taking the assessment were classified as skipping class frequently. For more information about the skipping class variable, see the Description of Variables section in appendix B. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

Ten percent of U.S. students at level 1 or below reported that they skipped class frequently. This was greater than the 5 percent who reported the same overall. Hence, in the United States, the likelihood of a low-performing student reporting skipping class frequently was 1.8 times the average likelihood of a student reporting skipping class frequently (table B-23). This greater likelihood of low-performing students reporting skipping school frequently was the case in 26 other PISA 2000 countries with data available.

Among the countries for which the relative likelihood of a low-performing student reporting skipping school frequently was higher than 1, the U.S. ratio was lower than that in nine countries, while it was higher than that in eight countries (exhibit 5). As with missing school, Japanese low performers (along with those in eight other countries) were again more likely to report skipping school frequently compared to the Japanese average than low performers in the United States compared to the U.S. average.

## Learning Practices and Expectations

A unique aspect of PISA is its exploration of student learning practices outside of the curriculum or the school environment. This is reflected in a set of questions that inquires about whether students supplement training in school through classes of various types, such as remedial or special courses, private tutoring, or training designed to improve skills outside of school. Again, this section presents a profile of students who scored at level 1 or below based on their learning practices and expectations in the United States and compared with other countries.

In the following three sections, students' use of private tutoring and remedial courses in the test language outside of school are examined, as well as students' job expectations. Table 3 provides information about the participating countries with data available for learning practices and expectations. For more information about the participating countries, see tables B-19, B-20, and B-21.

**Table 3. Number of PISA countries with data available for 15-year-old students scoring at level 1 or below on the combined reading literacy scale, by selected student characteristics and career expectations: 2000**

Characteristic	Level 1 or below
Private tutoring outside of school	
Never received private tutoring outside of school	28
Sometimes received private tutoring outside of school	28
Regularly received private tutoring outside of school	28
Remedial courses in the test language outside of school	
Never attended remedial courses in the test language outside of school	24
Sometimes attended remedial courses in the test language outside of school	24
Regularly attended remedial courses in the test language outside of school	23
Student reports of job expectations	
Armed forces	25
Clerks	30
Craft and related trade workers	30
Elementary occupations	29
Legislators, senior officials, and managers	30
Plant and machine operators, and assemblers	30
Professionals	30
Service workers, shop, and market sales workers	30
Skilled agricultural and fishery workers	29
Technicians and associate professionals	30

NOTE: See the Description of Variables section in appendix A for more information about the characteristics.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

### ***Private Tutoring Outside of School***

Studies have found that students who obtain private tutoring become more invested in the learning process and their achievement levels subsequently often increase (Merrett 1998; Cohen, Kulik, and Kulik 1982). PISA 2000 sought to explore the use of private tutoring outside of school by students through the following question:

- During the last three years, have you attended private tutoring outside of your school to improve your learning?

Students were required to report how frequently they attended private tutoring outside of school (regularly, sometimes, or never). All of the data presented are based on student reports of their activities over the course of the previous three years, from ages approximately 12 to 15. For the United States, and for most countries in PISA, the previous three years would include grades seven through ten.<sup>20</sup>

On average in the overall 15-year-old student population, 3 percent of U.S. students reported receiving private tutoring regularly outside of school, which is lower than the OECD average of 8 percent (figure 11; table B-19). Internationally, percentages ranged from 1 percent in Denmark, Finland, and Sweden to 22 percent in Spain. Relative to the United States, more students received private tutoring regularly in 19 of the participating countries, while fewer students received private tutoring regularly in 3 of the countries (Denmark, Finland, and Sweden).

In the United States and 17 other PISA 2000 countries with data available, there was no measurable difference between the proportion of students who received tutoring regularly at level 1 or below compared to the average (table B-19). Hence, in the United States, the likelihood of a low-performing student attending private tutoring regularly was not measurably different from the average likelihood of a student attending private tutoring regularly (table B-23). There were 7 countries (and the OECD average)

where the likelihood of a low-performing student attending private tutoring regularly was smaller than the average likelihood of a student attending private tutoring regularly. In contrast, there were 3 countries (Japan, Luxembourg, and Mexico) where the likelihood of a low-performing student attending private tutoring regularly was higher than the average likelihood of a student attending private tutoring regularly.

### ***Remedial Courses in the Test Language Outside of School***

In addition to private tutoring, PISA 2000 also reported on students' enrollment in remedial courses specifically in the test language outside of school by asking the following question:

- During the last three years, have you attended remedial courses in the test language outside of school to improve your learning?

Students were asked to report how frequently they attended these remedial courses (regularly, sometimes, or never).<sup>21</sup>

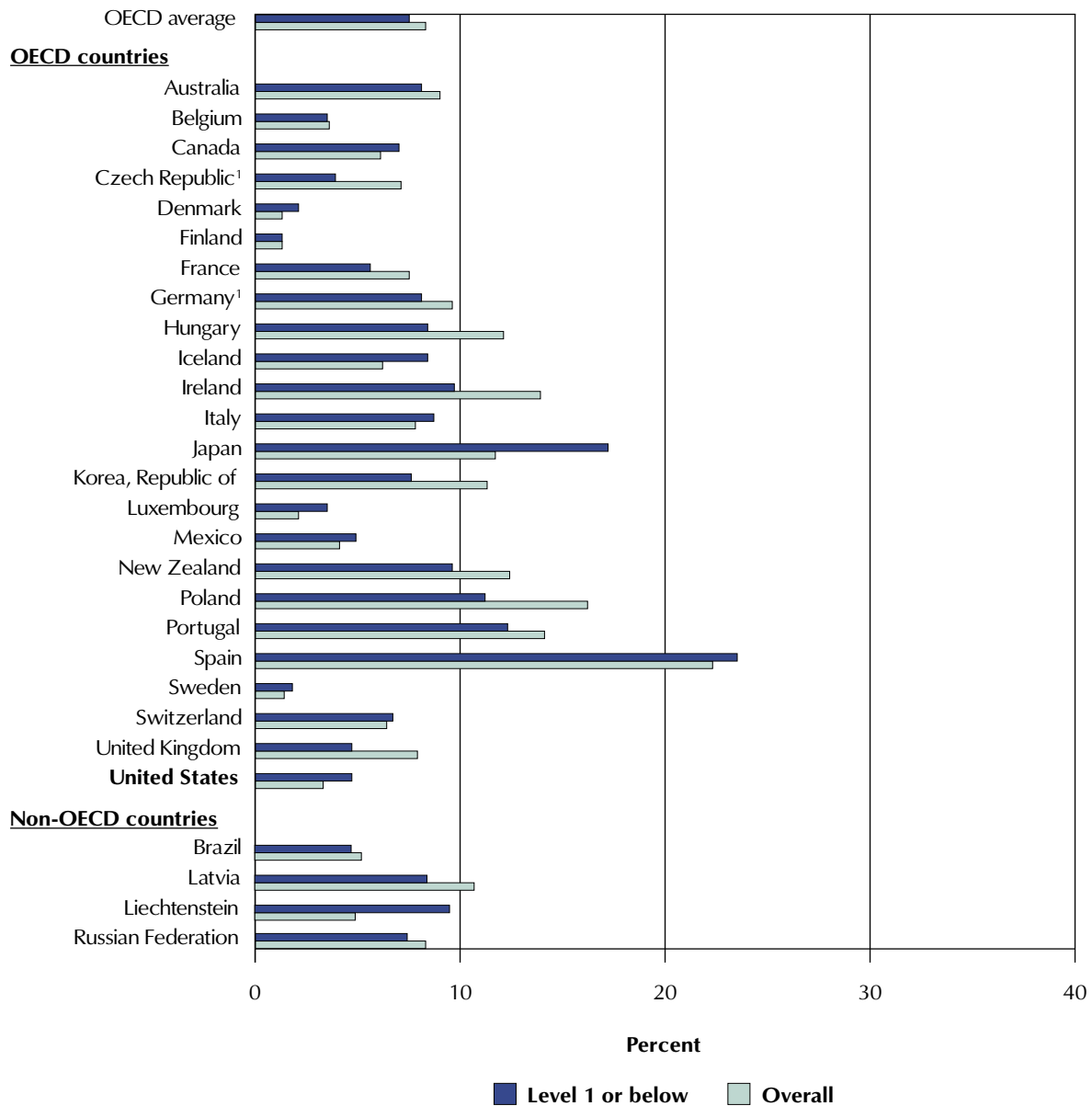
In the United States, on average, 1 percent of students reported taking remedial courses outside of school in the test language regularly (table B-20). This was lower than the OECD average percentage (2 percent), and lower than the percentage of students in 11 of the other 23 PISA 2000 countries with data available.

In the United States, a higher percentage of students at level 1 or below (3 percent) attended remedial classes in the test language outside of school regularly compared to the average (1 percent). Hence, in the United States, the likelihood of a low-performing student attending remedial courses regularly was 3.4 times the average likelihood of a student attending remedial courses regularly (table B-23). The greater likelihood of a low-performing student taking remedial classes regularly compared to students overall was the case in the majority of PISA 2000 countries with data available (19 of the 24 countries).

<sup>20</sup>For more information about the private tutoring outside of school variable, see the Description of Variables section in appendix A.

<sup>21</sup>The test language was English for students in the United States.

**Figure 11. Percentage of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale who received private tutoring regularly outside of school, by country: 2000**



<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Students who reported receiving private tutoring regularly in the 3 years prior to taking the assessment were classified as receiving private tutoring regularly. For more information about the private tutoring variable, see the Description of Variables section in appendix B. Data for Austria, Greece, and Norway are not available. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.



Among the countries where the relative likelihood ratio of a low-performing student taking remedial courses regularly was greater than 1, the U.S. ratio was lower than in 5 countries and higher than in 11 countries and the OECD average (exhibit 5). That is, compared to the average, U.S. low performers were more likely to report taking remedial classes regularly than was the case in about half the PISA countries.

### ***Student Reports of Job Expectations***

Another way to explore the characteristics of low achievers is to examine the ways in which they assess their own abilities and project themselves into the future, particularly with respect to occupational expectations. PISA 2000 asked students the following:

- What kind of job do you expect to have when you are about 30 years old? Write the job title.

The student responses were classified using the International Standard Classification of Occupations (ISCO) into the 10 major occupational groups shown in appendix A, exhibit A-1.

Missing data have not been explicitly accounted for or imputed in the analyses for this report. Categories where more than 15 percent of the student responses are missing are flagged in tables B-21 and B-22. In categories where more than 50 percent of the responses are missing, the data are not presented in the data tables. Particular attention to the problem of missing data should be considered when analyzing the job expectation data.

In the United States, the most frequently reported category among expected jobs was that of a “professional” (59 percent), followed by “technician and associate professional” (18 percent), and “service worker, shop, and market

sales worker” (8 percent) (table B-21). A higher percentage of U.S. 15-year-old students expected to be a professional compared to the OECD average. Conversely, a lower percentage of U.S. 15-year-old students expected to be a craft and related trade worker, worker in the elementary occupations,<sup>22</sup> or service worker, shop, or market sales worker compared to the corresponding OECD averages.

In the United States, there was a higher percentage of low-performing students expecting to hold a job in the elementary occupations or be employed as a service worker, technician and associate professional, plant and machine operator and assembler, clerk, or craft and related trade worker than the average (table B-22).<sup>23</sup> In the United States, the relative likelihood of a low-performing student expecting to be a clerk or a craft and related trade worker was more than 2 times the average likelihood (2.3 and 2.4, respectively) (table B-25). The relative likelihood of a U.S. low-achieving student expecting to be a plant and machine operator and assembler was 3.4 times the average likelihood. There was also a higher likelihood of students expecting to be a technician and associate professional (1.2), service worker (1.8), or work in the elementary occupations (1.5) among U.S. low performers.

Conversely, in the United States, 38 percent of low-performing students expected to be a professional, compared to 59 percent of students overall (table B-22). At level 1 or below, 3 percent expected to work as a legislator, senior official, or manager, compared to 4 percent of students for the overall 15-year-old student population. Hence, the relative likelihood ratio of students expecting to be a professional or to work as a legislator, senior official or manager was 0.7 and 0.8, respectively (table B-25). This implies that low-performing students were less likely to expect to work as a professional, legislator, senior official, or manager than the average.

<sup>22</sup>Elementary occupations consist mainly of simple and routine tasks that mainly require the use of hand-held tools and often some physical effort. Most occupations in this major group require skills at the first ISCO skill level (a primary education, which generally begins at the age of 5, 6, or 7 and lasts about 5 years) (ILO 1990). For more information about the job expectations variable, see the Description of Variables section in appendix A.

<sup>23</sup>Item response rates for job expectations of students overall and for students at level 1 or below are below 85 percent. Missing data have not been explicitly accounted for.





## Conclusion

In the United States, a low performer was more likely to be male, come from a low-SES background, have two foreign-born parents or be foreign born, have parents who have less than a college education, or speak a language other than the test language most of the time at home compared to what is observed on average. A low-performing student in the United States was also more likely to have low engagement in reading, a low sense of belonging in school, and a low level of effort and perseverance in schoolwork compared to what was observed on average. Similarly, students who regularly attended remedial classes in the test language outside of school or regularly missed school or skipped classes were more likely to be observed among the low performers than on average.

However, low performers in many other countries also exhibited these characteristics (exhibits 4 and 5). Indeed, in some countries, low performers had an even greater likelihood of exhibiting certain characteristics than in the United States. In seven countries, for instance, the likelihood of a low performer being male was greater than in the United States (while in five countries, it was lower). In a few countries, similar variables seemed to be more or less strongly related to low performance than in others. For instance, compared to their national averages, in Austria and Germany, low performers were more likely to have foreign-born parents, be foreign born themselves, or speak a language other than the test language than low performers in the United States. This could suggest that the United States is relatively more successful in achieving academic success with immigrant students than these countries are. It could also suggest differences among immigrant communities, or some other factors could be at work. In any case, it could be an area worth further examination.

However, in a number of categories (having low SES, less than a college education, low sense of belonging in school, and missing school frequently), U.S. low performers had a greater likelihood of showing these characteristics than the majority of PISA countries. These may be areas in which further research is warranted, to uncover what factors are associated with these characteristics and what policies or strategies other countries may be using to ameliorate them.



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## Appendix A: Technical Notes



## The Program for International Student Assessment of 2000

The Program for International Student Assessment (PISA) of 2000 was the first in a new system of international assessments that focus on 15-year-olds' capabilities in reading literacy, mathematics literacy, and science literacy. PISA assesses how well prepared students are for life beyond the classroom by focusing on the application of knowledge and skills in everyday situations. As such, PISA results reflect the influences of education systems and societies on young people up to the age of 15. PISA is being implemented on a 3-year cycle with each assessment cycle focusing on one particular subject. In 2000 the primary focus was on reading literacy, with minor emphases on mathematics and science literacy. PISA is intended to complement the portrait of U.S. performance obtained from other studies and to provide a new perspective on U.S. education in an international context. This appendix describes features of the PISA 2000 survey methodology, including sample design, test design, scoring, data reliability, and analysis variables. For further details about the assessment and any of the topics discussed here, see NCES's *PISA 2000 User's Guide* (NCES 2004-006) or the OECD's *PISA 2000 Technical Report* (OECD 2002).

PISA 2000 developed quality standards, procedures, instruments, and verification mechanisms to ensure that national samples yielded comparable data. Experts from the PISA Consortium monitored the sample selection process in each participating country.<sup>1</sup> PISA's data quality standards required minimum participation rates for educational institutions as well as for students. These standards were established to minimize the potential for response biases.

## Sample Design and Response Rates

A minimum response target of 85 percent was required for initially selected educational institutions. In instances in which the initial response rate of educational institutions was between 65 and 85 percent, an acceptable school response rate could still be achieved through the use of replacement schools.

PISA 2000 also required a minimum participation rate of 80 percent of students within participating educational institutions (sampled and replacement). A student was considered to be a participant only if he or she participated in the first testing session. The minimum participation rate had to be met at the national level, not necessarily for each participating educational institution.

In the United States, the public and private schools selected for PISA constituted a nationally representative sample of all schools in the country enrolling 15-year-old students. A three-stage sampling design was implemented: the first stage was a sample of primary sampling units (geographical areas referred to as PSUs); the second stage was a sample of schools within PSUs; and the third stage was a sample of students from the set of all students enrolled in the school who were born in the calendar year 1984.

In the first stage of sampling, 52 PSUs were selected. During the second stage, a total of 220 schools were selected from within the sampled PSUs. International requirements specified that a minimum of 150 schools be selected. This number was increased to 220 in the United States to offset school nonresponse, design effects from the three-stage design, and design effects from oversampling of high-minority schools. The selected schools were located in 33 different U.S. states.

<sup>1</sup>The PISA Project Consortium consists of the Australian Council for Educational Research (ACER), the Netherlands National Institute for Educational Measurement (CITO), Educational Testing Service (ETS, USA), the National Institute for Educational Policy Research (NIER, Japan), and Westat (USA). ACER coordinated the Consortium, under contract to the OECD. In the United States, Westat carried out the PISA assessment.

The school frame was developed from two lists. Regular public, Bureau of Indian Affairs, and Department of Defense Education Activity schools were obtained from the 1999 list of schools maintained by Quality Education Data, Inc. (QED). Catholic and other nonpublic schools were obtained from the Private School Universe Survey (PSS) developed for NCES's 1999–2000 Schools and Staffing Survey. The PSS is almost a census: Most of the private schools in the United States are fully enumerated without any sampling. The PSS has a small area probability component, so that the private schools from this component are sampled rather than fully enumerated. The PSS was treated as the private school frame for PISA 2000, and the PSS sampling weights (called PSSWGT below) were included in PISA frame measures of size for private schools from the area probability component of the PSS.

The U.S. PISA 2000 school frame consists of all public schools on the most current QED frame and all private schools on the PSS frame contained within the 52 PSUs in the PISA sample that have at least one of the following grades: 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, or 12<sup>th</sup>.<sup>2</sup> The school sample was a systematic probability proportional to measure of size sample of 220 schools from this frame. The assigned measures of size have the following factors (explained in detail below):

- AE: an estimate of the number of age-eligible students ("15-year-olds": those born in 1984) in each frame school;
- the PSSWGT factor for private schools in the PSS area probability sample;
- the inverse of the PISA PSU probability of selection (to account for first-stage sampling);
- a doubling factor for public schools with more than 15 percent Black and Hispanic students (to achieve an oversample of these schools); and
- an adjustment factor for schools with small numbers of age-eligible students (to prevent students from those schools from having too-large relative weights, which increases sampling variability).

The certainty and large noncertainty PSUs accounted for 22 PSUs on the sampling frame and 16 PSUs in the PISA PSU sample. There were 1,005 PSUs remaining on the frame, all with 1990 populations of less than 1.8 million. These 1,005 PSUs were assigned to 72 sampling strata, which were paired into 36 stratum pairs, with the primary stratifiers being National Assessment of Educational Progress (NAEP) region and metropolitan/nonmetropolitan PSU status.

As a supplement to the PISA school sample described above, replacement schools were selected from the unsampled schools on the sampling frame. Each school in the original sample was assigned up to two replacement schools selected from the set of "neighboring" schools on the sampling frame. As the sampling frame was ordered by school characteristics, these neighboring schools had similar characteristics to the sampled school, and their addition to the sample could reduce the nonresponse bias incurred from lack of cooperation of the sampled school.

Ten of the 220 schools in the original sample were ineligible because they did not have any students born in 1984, and a further 82 schools refused to participate, leaving 128 schools before replacement. Thirty-two replacement schools agreed to participate with the result that 160 schools in total agreed to participate in the study. Following data collection, decisions by the international Technical Advisory Group (made up of technical advisors from the PISA Consortium) reduced the number of "participating" schools based on the student response rates within schools. Schools with more than 50 percent student participation were classified as "responding schools." Schools in which 25 to 50 percent of the sampled students participated were classified as "partially responding." Schools with less than 25 percent student participation were treated as "nonresponding," and data from these schools were deleted from the database. In the United States, the number of (original/replacement) schools falling into these

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<sup>2</sup>A small number of 15-year-olds are enrolled in schools that end with the seventh grade, and these students were not covered in the PISA frame. The percentage of these students is negligible: Estimates from the Current Population Survey indicate that fewer than .05 percent of 15-year-olds are in the seventh grade or below, and most schools with a seventh grade also contain an eighth grade and are represented on the PISA frame. The undercoverage rate resulting from the exclusion of these schools is therefore well below .05 percent.



categories was as follows: responding (116/29); partially responding (7/1); and nonresponding (5/2). For the purpose of calculating school response rates, only the 145 responding schools (116 original plus 29 replacement) were counted. On this basis, the school response rate before replacement was 56 percent. The weighted school response rate before replacement is given by the formula

$$\text{weighted school response rate before replacement} = \frac{\sum_{i \in Y} W_i E_i}{\sum_{i \in (Y \cup N)} W_i E_i}$$

where Y denotes the set of responding original sample schools with age-eligible students, N denotes the set of eligible nonresponding original sample schools,  $W_i$  denotes the base weight for school  $i$ ,  $W_i = 1/P_i$ , where  $P_i$  denotes the school selection probability for school  $i$ , and  $E_i$  denotes the enrollment size of age-eligible students, as indicated on the sampling frame.

The school response rate after replacement in the United States became 70 percent and is given by the formula

$$\text{weighted school response rate after replacement} = \frac{\sum_{i \in (Y \cup R)} W_i E_i}{\sum_{i \in (Y \cup N)} W_i E_i}$$

where Y denotes the set of responding original sample schools, R denotes the set of responding replacement schools, for which the corresponding original sample school was eligible but was nonresponding, N denotes the set of eligible refusing original sample schools,  $W_i$  denotes the base weight for school  $i$ ,  $W_i = 1/P_i$ , where  $P_i$  denotes the school selection probability for school  $i$ , and for weighted rates,  $E_i$  denotes the enrollment size of age-eligible students, as indicated on the sampling frame.

In the third stage of sampling, a total of 4,752 students were sampled from the 145 responding schools. Eligible students were defined as those born in 1984 and in each school a random sample of up to 35 of these eligible students was selected. Some 221 of these students were subsequently classified as ineligible and/or were withdrawn. Exclusion decisions by schools resulted in a further 211 students being excluded from the assessment. The third-stage sampling

plan provided for sampling from all 15-year-old students within a school. Some of the selected students could have an Individualized Education Program (IEP) or be identified by the school as limited English proficient (LEP). School staff who were knowledgeable about the schools' IEP/LEP students reviewed the list of selected schools to determine whether any of them had an IEP or were identified as LEP. School staff identified those students that they felt were unable to meaningfully participate in the assessment. Not all IEP/LEP students were excluded—the following guidelines were used to determine which students would participate:

- **Functionally disabled students.** These are students who are **permanently** physically disabled in such a way that they cannot perform in the testing situation. Functionally disabled students who can respond were to be included in the testing. Any sampled student who is **temporarily** disabled such that she/he cannot participate in the assessment was considered absent from the assessment.
- **Students with mental or emotional disabilities.** These are students who are considered in the professional opinion of the school principal or by other qualified staff members to be educable mentally retarded or who have been psychologically tested as such. This category includes students who are emotionally or mentally unable to follow even the general instructions of the test. Students were **not** excluded solely because of poor academic performance or normal disciplinary problems.
- **Students with limited proficiency in the test language (English).** These are students who are unable to read or speak the language of the test (English) and would be unable to overcome the language barrier in the test situation. Typically, a student who received less than 1 year of instruction in the language of the test was excluded; others were not.

The students excluded followed the guideline categories as follows: 39 percent were students with mental or emotional disabilities, 33 percent had limited English language proficiency, 24 percent were functionally disabled, and 4 percent were excluded for other reasons, including being home-schooled or participating temporarily in a drug rehabilitation program. In line with the internationally specified procedures, no special attempts were made to accommodate students with physical disabilities over and above those provided by the school itself.

The result of this attrition due to ineligibility, withdrawal, or exclusion was that 4,320 students were eligible to take the assessment. Of these, 620 students failed to take the assessment due to absence and/or parent/student refusals. In total, then, 3,700 students from the 145 responding schools were assessed. The weighted number of students assessed, expressed as a percentage of the weighted number of eligible students, gave the student response rate of 85 percent, a rate which exceeds the PISA international standard of 80 percent. In addition, 146 students in the partially responding schools took the assessment, giving a total of 3,846 students taking the PISA assessment in the United States. All 3,846 students are included in the international database.

While the student response rate exceeded both NCES and PISA standards, the school response rate of 56 percent before replacement failed to meet these standards. In the case of PISA, a rate of 65 percent was required. The United Kingdom and the Netherlands also fell below the PISA standard for response rates. Each nation undertook analyses designed to examine the extent of bias, if any, introduced by this level of nonresponse. Since assessment data are not available for the nonresponding schools, the analysis of the PISA data for the United States compared participants and nonparticipants in the original and original plus replacement samples using logistic regression to predict participation. The predictors in question were sampling frame school variables with a history of association with student achievement in various national assessments—region, metropolitan/

nonmetropolitan status, public/private sector, type of school, percentage minority enrollment, percent eligible for free lunch, estimated number of 15-year-old students, and school grade span. These analyses indicate that there are differences between responding and nonresponding schools in some of these respects. Region, metropolitan/nonmetropolitan status, percentage minority enrollment, and percentage eligible for free lunch were found to be significant predictors of school nonresponse. In addition, there was a nonlinear relationship with minority (Black and Hispanic) enrollment—schools with relatively high, and relatively low, minority enrollment were considerably more likely to participate than those with intermediate levels of minority enrollment. While the implications of these analyses for the direction of any resulting bias achievement are not entirely clear, an attempt was made to minimize any bias by incorporating the four variables in question into the adjustment for school nonresponse that is a component of the sampling weights. In the judgment of the international Technical Advisory Group, this was sufficient to ensure that any remaining bias was likely to be minimal and hence that the data for the United States were included in the international database. A similar judgment was applied to the analyses conducted by the United Kingdom, but not by the Netherlands.

Schools were contacted again approximately 1 week before the assessment to select the student sample and arrange for assessment space in the school. Assessments were conducted in the United States in the spring of 2000 by trained test administration field staff that visited each of the participating schools and administered both the assessments and the questionnaires.

Table A-1 provides summary information on the samples of all countries. A more detailed presentation can be found in the *PISA 2000 Technical Report* (OECD 2002).

**Table A-1. Coverage of target population, student and school samples, and participation rates in the Program for International Student Assessment (PISA), by country: 2000**

Country	Total population of 15-year-olds (number)	Percent		
		Coverage of 15-year-old population	Coverage of national desired population	Overall student exclusion rate
OECD countries				
Australia	266,878	86	98	2
Austria	95,041	75	99	1
Belgium <sup>1</sup>	121,121	91	98	2
Belgium (Flemish)	71,074	86	98	2
Belgium (French)	49,289	99	97	3
Canada	403,803	86	95	5
Czech Republic	134,627	93	98	2
Denmark	53,693	89	97	3
Finland	66,571	94	98	2
France	788,387	93	97	3
Germany	927,473	89	98	2
Greece	128,175	87	99	1
Hungary	120,759	89	99	1
Iceland	4,062	95	98	2
Ireland	65,339	86	97	5
Italy	584,417	87	98	2
Japan	1,490,000	97	98	2
Korea	712,812	81	100	#
Luxembourg	4,556	91	91	9
Mexico	2,127,504	45	100	#
Netherlands	178,924	88	96	4
New Zealand	54,220	86	95	5
Norway	52,165	95	97	3
Poland <sup>2</sup>	665,500	81	90	10
Portugal	132,325	76	97	3
Spain	462,082	86	97	3
Sweden	100,940	93	95	5
Switzerland	81,350	89	98	2
United Kingdom <sup>3</sup>	731,743	88	95	5
England	603,100	93	95	5
Northern Ireland	26,043	99	96	4
Scotland	65,200	87	98	2
United States	3,876,000	81	96	4
Non-OECD countries				
Brazil	3,464,330	69	81	19
Latvia	38,000	79	96	4
Liechtenstein	415	78	99	1
Russian Federation	2,402,000	82	99	1

See notes at end of table.

**Table A-1. Coverage of target population, student and school samples, and participation rates in the Program for International Student Assessment (PISA), by country: 2000—Continued**

Country	Percent			Number of participating schools after replacement	Number of participating students
	Weighted school participation rate before replacement	Weighted school participation rate after replacement	Weighted student participation rate after replacement		
OECD countries					
Australia	81	94	84	228	5,176
Austria	99	100	92	213	4,745
Belgium <sup>1</sup>	69	86	93	214	6,670
Belgium (Flemish)	62	80	95	119	3,890
Belgium (French)	80	94	91	95	2,780
Canada	88	93	85	1,098	29,687
Czech Republic	95	99	93	227	5,365
Denmark	84	95	92	223	4,235
Finland	97	100	93	155	4,864
France	95	95	91	174	4,673
Germany	91	91	86	213	5,073
Greece	84	100	97	139	3,644
Hungary	99	99	95	193	4,887
Iceland	100	100	87	130	3,372
Ireland	86	88	86	135	3,854
Italy	98	100	93	170	4,984
Japan	82	90	96	135	5,256
Korea	100	100	99	146	4,982
Luxembourg	93	93	89	23	3,528
Mexico	93	100	94	182	4,600
Netherlands	27	55	84	100	2,503
New Zealand	78	86	88	152	3,667
Norway	86	92	89	176	4,147
Poland <sup>2</sup>	79	83	88	126	3,654
Portugal	95	95	86	145	4,585
Spain	95	100	92	185	6,214
Sweden	100	100	88	159	4,416
Switzerland	92	96	95	282	6,100
United Kingdom <sup>3</sup>	61	82	81	349	9,340
England	59	82	81	148	4,120
Northern Ireland	71	79	86	113	2,849
Scotland	80	82	78	88	2,371
United States	56	70	85	145	3,846
Non-OECD countries					
Brazil	97	98	87	318	4,893
Latvia	—	—	—	153	3,920
Liechtenstein	100	100	97	11	314
Russian Federation	99	99	96	238	6,701

—Not available.

#Rounds to zero.

<sup>1</sup>The sampling numbers for Belgium exceed the sum of the two parts because German Belgium is also included in these numbers.

<sup>2</sup>Primary schools in Poland were not randomly sampled and therefore these students are not included.

<sup>3</sup>The sampling numbers for the United Kingdom exceed the sum of the three parts because Wales is also included in these numbers.

<sup>3</sup>Brazillian students in grades 5 and 6 were excluded.

SOURCE: Organization for Economic Cooperation and Development (OECD) (2001). *Knowledge and Skills for Life—First Results from the OECD Programme for International Student Assessment*. Paris: Author.

## Quality Assurance

PISA 2000 emphasized the use of standardized procedures in all countries. The PISA Consortium provided comprehensive manuals to explain the survey's implementation, including precise instructions for the work of school coordinators and scripts for test administrators for use in testing sessions. The quality and linguistic equivalence of instruments was ensured by providing countries with source versions of the assessment instruments in two languages (English and French) and recommending countries prepare and consolidate independent translations from both source versions, providing precise translation guidelines that included a description on the features each item was measuring and statistical analysis from the field trial. In cases where one source language was used, independent translations were required and discrepancies reconciled. The PISA Consortium verified the national translation and adaptation of all instrumentation. Additionally, members of the PISA Consortium visited all national centers to review data collection procedures, and members of the PISA Consortium visited a randomly selected subsample of 25 percent of the educational institutions. For a detailed description of the quality assurance procedures, see the OECD's technical report on PISA 2000 (OECD 2002).

## Data Entry and Cleaning Procedures

Country representatives were required to submit their national data in KeyQuest® 2000, the generic data entry package developed by Consortium staff and preconfigured to include the data entry forms.

The data were verified at several points from the time of data entry. Validation rules (or range checks) were specified for each variable defined in KeyQuest®, and a variable datum was only accepted if it satisfied prespecified validation rules. To prevent duplicate records, a set of variables assigned to an instrument were identified as primary keys. For the student test booklets, stratum, school, and student identifications were the primary keys.

Because of the potential impact of PISA results and the scrutiny to which the data were likely to be put, it was essential that no dubious records remained in the data files. During cleaning as many dubious records as possible were identified, and through a process of extensive discussion between each country representative and the data processing center at the Australian Council for Educational Research (ACER), an effort was made to correct and resolve all data issues. When no adequate solution was found, the offending data records were deleted.

Unresolved inconsistencies in student and school identifications also led to the deletion of records in the database. Unsolved systematic errors for a particular item were replaced by *not applicable* codes. For instance, if countries reported a mistranslation or misprint in the national version of a cognitive booklet, data for the variables were recoded as *not applicable* and were not used in the analyses. Finally, errors or inconsistencies for particular students and particular variables were replaced by *not applicable* codes.

## Confidentiality and Disclosure Limitations

The PISA 2000 data are hierarchical and include school data and student data from these schools. The confidentiality analyses are designed to provide reasonable assurance that public-use data files will not allow identification of individual schools or students when compared against public data collections. Disclosure limitation focused on the identification and masking of potential disclosure-risk PISA schools by comparing the study variables with QED, CCD, or PSS data.

## Test Development

The development of the PISA 2000 assessment instruments was an interactive process among the PISA Consortium, various expert committees, and OECD members. The intention was to reflect the national, cultural, and linguistic variety among OECD countries. The assessments included material selected from among items submitted by

participating countries as well as items that were developed by the Consortium's test developers. Each item, or question, was rated by each country on potential cultural, gender, or other type of bias. A small prepilot was conducted in a limited number of countries prior to a field trial, which was conducted in all countries in 1999. Approximately 120 units (passages or pictures with related questions) were developed for the field trial, including more than 800 reading items. The field trial included 69 units with 342 items, and the 2000 reading assessment included 37 units with 141 items. The mathematics instrument included 32 items; the science instrument included 32 items.

The assessment instruments included curricular and noncurricular components following the framework specifications defined by subject matter experts (OECD 1999). One of the characteristics of the PISA 2000 instruments was the large amount of items requiring students to construct their own response. In reading, 45 percent of items required an open-constructed response while this item type accounted for 35 percent of the mathematics and science tests. Five item types were used in the PISA instruments: multiple choice, complex multiple choice, closed-constructed response, short response, and open-constructed response.

The assessments were designed to yield group-level information in a broad range of content while meeting the limitations of 120 minutes of testing time per student. To achieve this goal, an unbalanced rotation design permitted an overall assessment of 270 minutes of reading, 60 minutes of mathematics, and 60 minutes of science. The assessment in each domain was divided into clusters, organized into nine booklets. There were nine 40-minute reading clusters, four 15-minute clusters of mathematics, and four 15-minute clusters of science. In PISA 2000, every student answered reading items; over half the students answered items on science and mathematics.

This assessment design provided several features. First, the reading material was presented in a balanced way in order to avoid position effects and to ensure that each item had equal weight in the assessment. Second, seven of the nine booklets

began with reading, and all booklets contained at least 60 minutes of reading. Five booklets also contained items for science, and five contained items for mathematics. Third, PISA 2000 included a link between PISA and IALS (the International Adult Literacy Study) through two reading blocks containing only IALS items, which were presented in six of the nine booklets. Finally, this design ensures that the representative sample of students responded to each block of items. For more information on the PISA 2000 assessment design, see the OECD's *PISA 2000 Technical Report* (OECD 2002).

## Scoring

PISA's assessment of reading included 270 minutes of testing time, of which 45 percent was devoted to items requiring open-ended responses. The mathematics and science tests included 60 minutes of testing time, of which 35 percent was assessed through open-ended items. The process of scoring these items was an important step in ensuring the quality and comparability of the PISA data.

Detailed guidelines were developed for the scoring guides themselves, training materials to recruit scorers, and workshop materials used for the training of national scorers. Prior to the national training, the PISA Consortium organized training sessions to present the material and train the scoring coordinators from the participating countries, who trained the national scorers.

For each test item, the scoring guide described the intent of the question and how to code the students' responses to each item. This description included the credit labels—full credit, partial credit, or no credit—attached to the possible categories of response. Also included was a system of double-digit coding for the mathematics and science items where the first digit represented the score, and the second digit represented different strategies or approaches that students used to solve the problem. The second digit generated national profiles of student strategies and misconceptions. In addition, the scoring guides included real examples of students' responses accompanied by a rationale for their classification for purposes of clarity and illustration.



To examine the consistency of this marking process in more detail within each country and to estimate the magnitude of the variance components associated with the use of markers, the PISA Consortium conducted an interscorer reliability study on the subsample of assessment booklets. Homogeneity analysis was applied to the national sets of multiple scoring and compared with the results of the field trial. A full description of this process and the results can be found in the technical report on PISA 2000 published by the OECD (OECD 2002).

## Weighting

The use of sampling weights is necessary for the computation of statistically sound, nationally representative estimates. Survey weights help adjust for intentional over- or undersampling of certain sectors of the population, school or student nonresponse, or errors in estimating size of a school at the time of sampling.

For example, the United States oversampled for minorities in public schools with 15 percent or more minority students in order to obtain enough data on these students to report accurately on them. Sampling weights were applied to the data to adjust for over-sampling in order to ensure that the U.S. student sample represents the overall 15-year-old student population. The weight assigned to a student's responses is the inverse of the probability that the student would be selected for the sample. When responses were weighted, none were discarded, and each contributed to the results for the total number of students represented by the individual student assessed. Weighting also adjusts for various situations, such as school and student nonresponse, because data cannot be assumed to be randomly missing. The internationally defined weighting specifications for PISA required that each assessed student's sampling weight be the product of the inverse of the school's probability of selection, an adjustment for school-level nonresponse, the inverse of the student's probability of selection, and an adjustment for student-level nonresponse. In addition, in the United States, two grade nonresponse factors were needed, one for grade 9 and one for grade 10. All PISA analyses were conducted using these sampling weights.

The procedures being used to derive the survey weights for PISA are in accordance with standards of best practice for the analysis of complex survey data. They correspond to procedures that are used to analyze survey data by the world's major statistical agencies including NCES, as well as conforming to Westat's own current best methods. These are also the procedures that have been used in previous international studies of educational achievement, including the Third International Mathematics and Science Study (TIMSS) of 1995 and 1999.

## Scaling and Plausible Values

PISA used Item Response Theory (IRT) methods to produce scale scores that summarized the achievement results. PISA 2000 utilized a mixed coefficients multinomial logit IRT model. This model is similar in principle to the more familiar two-parameter IRT model. With this method, the performance of a sample of students in a subject area or subarea can be summarized on a simple scale or a series of scales, even when different students are administered different items. Because of the reporting requirements for PISA and because of the large number of background variables associated with the assessment, a large number of analyses had to be conducted. The procedures PISA used for the analyses were developed to produce accurate results for groups of students while limiting the testing burden on individual students. Furthermore, these procedures provided data that could be readily used in secondary analyses. IRT scaling provides estimates of item parameters (e.g., difficulty, discrimination) that define the relationship between the item and the underlying variable measured by the test. Parameters of the IRT model are estimated for each test question, with an overall scale being established as well as scales for each predefined content area specified in the assessment framework. For example, PISA 2000 had four scales describing reading (a combined score and subscale scores in three domains) and one each for mathematics and science.

### **Plausible Values**

During the scaling phase, plausible values were used to characterize scale scores for students participating in the assessment. To keep student burden to a minimum, PISA administered few assessment items to each student—too few to produce accurate content-related scale scores for each student. To account for this, PISA generated five possible scale scores for each student that represented selections from the distribution of scale scores of students with similar backgrounds who answered the assessment items the same way. The plausible-values technology is one way to ensure that the estimates of the average performance of student populations and the estimates of variability in those estimates are more accurate than those determined through traditional procedures, which estimate a single score for each student. During the construction of plausible values, careful quality control steps ensured that the subpopulation estimates based on these plausible values were accurate.

It is important to recognize that plausible values are *not* test scores and should not be treated as such. Plausible values are randomly drawn from the distribution of scores that could be reasonably assigned to each individual. As such, the plausible values contain random error variance components and are not optimal as scores for individuals. The PISA student file contains 30 plausible values, five for each of the five PISA 2000 cognitive scales (three reading subscales, one mathematics, and one science scale) and five for the combined reading scale. If an analysis is to be undertaken with one of these five cognitive scales, then (ideally) the analysis should be undertaken five times, once with each of the five relevant plausible value variables. The results of these five analyses are averaged and then significance tests that adjust for variation between the five sets of results are computed.

PISA uses the plausible-value methodology to represent what the true performance of an individual might have been, had it been observed, using a small number of random draws from an empirically derived distribution of score values based on the student's observed responses to assessment items and on

background variables. Each random draw from the distribution is considered a representative value from the distribution of potential scale scores for all students in the sample who have similar characteristics and identical patterns of item responses. The draws from the distribution are different from one another to quantify the degree of precision (the width of the spread) in the underlying distribution of possible scale scores that could have caused the observed performance. The PISA plausible values function like point estimates of scale scores for many purposes, but they are unlike true point estimates in several respects. They differ from one another for any particular student, and the amount of difference quantifies the spread in the underlying distribution of possible scale scores for that student. Because of the plausible-values approach, secondary researchers can use the PISA data to carry out a wide range of analyses.

### **Grade Distribution**

The students in PISA were selected on the basis that they were 15 years old and, as a result, were spread across several grades. Grade distributions for 15-year-old students varied from country to country as a function of policies about age of entry to school or other educational policies. The proportion of students at each grade level in each of the participating nations is shown in table A-2.

### **Data Reliability**

Estimates produced using data from PISA 2000 are subject to two types of error, sampling and nonsampling errors. Nonsampling errors can be due to errors made in the collection and processing of data. Sampling errors can occur because the data were collected from a sample rather than a complete census of the population.

#### **Nonsampling Errors**

Nonsampling error is a term used to describe variations in the estimates that may be caused by population coverage limitations, nonresponse bias, and measurement error, as well as data collection, processing, and reporting procedures. The sources of nonsampling



**Table A-2. Percentage distribution of 15-year-old students, by assessment subject grade and country: 2000**

Country	Reading			
	Grade 8 and below	Grade 9	Grade 10	Grade 11 and above
<b>OECD Average</b>	<b>8</b>	<b>37</b>	<b>49</b>	<b>8</b>
OECD countries				
Australia	‡	7	76	17
Austria	5	45	48	‡
Belgium	6	28	65	1
Canada	2	13	81	1
Czech Republic	3	43	54	#
Denmark	6	89	3	#
Finland	11	89	#	#
France	7	37	53	3
Germany	16	60	23	‡
Greece	2	6	75	16
Hungary	8	57	35	#
Iceland	#	#	100	#
Ireland	3	62	16	19
Italy	1	16	76	6
Japan	#	#	100	#
Korea, Republic of	#	1	99	1
Luxembourg	19	56	25	#
Mexico	14	29	50	‡
New Zealand	#	#	7	93
Norway	‡	1	98	1
Poland	#	100	#	#
Portugal	19	28	51	‡
Spain	2	25	72	‡
Sweden	2	97	‡	#
Switzerland	20	64	14	‡
United Kingdom	#	‡	34	66
United States	4	38	56	‡
Non-OECD countries				
Brazil	42	49	9	#
Latvia <sup>1</sup>	11	39	50	‡
Liechtenstein	17	78	3	#
Russian Federation	2	27	70	1

See notes at end of table.

**Table A-2. Percentage distribution of 15-year-old students, by assessment subject grade and country: 2000—Continued**

Country	Mathematics			
	Grade 8 and below	Grade 9	Grade 10	Grade 11 and above
<b>OECD Average</b>	<b>6</b>	<b>37</b>	<b>48</b>	<b>8</b>
OECD countries				
Australia	‡	7	75	18
Austria	5	46	47	‡
Belgium	6	27	65	1
Canada	2	13	81	2
Czech Republic	3	43	54	#
Denmark	6	89	3	#
Finland	11	89	#	#
France	8	37	53	3
Germany	16	60	23	‡
Greece	3	5	75	16
Hungary	8	56	35	#
Iceland	#	#	100	#
Ireland	3	61	17	19
Italy	1	16	77	6
Japan	#	#	100	#
Korea, Republic of	#	1	98	1
Luxembourg	19	56	24	#
Mexico	13	29	50	‡
New Zealand	#	#	7	93
Norway	‡	1	98	1
Poland	#	100	#	#
Portugal	19	28	51	‡
Spain	2	26	72	‡
Sweden	2	97	1	#
Switzerland	20	64	14	‡
United Kingdom	#	‡	34	66
United States	4	41	55	‡
Non-OECD countries				
Brazil	42	49	9	#
Latvia <sup>1</sup>	11	39	50	‡
Liechtenstein	16	78	3	#
Russian Federation	2	27	70	1

See notes at end of table.

**Table A-2. Percentage distribution of 15-year-old students, by assessment subject grade and country: 2000—Continued**

Country	Science			
	Grade 8 and below	Grade 9	Grade 10	Grade 11 and above
<b>OECD Average</b>	<b>6</b>	<b>37</b>	<b>49</b>	<b>8</b>
OECD countries				
Australia	‡	6	76	17
Austria	5	45	48	‡
Belgium	5	28	65	1
Canada	2	13	82	1
Czech Republic	3	43	54	#
Denmark	6	90	2	#
Finland	11	89	#	#
France	7	37	54	2
Germany	16	60	23	‡
Greece	3	5	76	15
Hungary	8	57	35	#
Iceland	#	#	100	#
Ireland	3	62	16	18
Italy	1	16	77	6
Japan	#	#	100	#
Korea, Republic of	#	1	98	1
Luxembourg	18	56	26	#
Mexico	13	30	50	‡
New Zealand	#	#	7	92
Norway	‡	1	98	1
Poland	#	100	#	#
Portugal	20	27	51	‡
Spain	3	26	71	#
Sweden	2	97	1	#
Switzerland	20	65	14	‡
United Kingdom	#	‡	34	65
United States	3	39	57	‡
Non-OECD countries				
Brazil	42	49	9	#
Latvia <sup>1</sup>	10	39	51	‡
Liechtenstein	18	78	3	1
Russian Federation	2	28	70	1

#Rounds to zero.

‡Reporting standards not met (too few cases).

<sup>1</sup>The grade distributions reported for Latvia are for the reading literacy section of the assessment only. The actual numbers for mathematics and science literacy may vary slightly due to different numbers of 15-year-olds taking each assessment.

NOTE: The OECD average is the average of the national averages of the OECD member countries with data available. Because the Program for International Student Assessment (PISA) is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. Detail may not sum to totals because of rounding or some data not reported, or both.

SOURCE: Organization for Economic Cooperation and Development (OECD) (2001). *Knowledge and Skills for Life—First Results from the OECD Programme for International Student Assessment*. Paris: Author.

errors are typically problems like unit and item nonresponse, the differences in respondents' interpretations of the meaning of the questions, response differences related to the particular time the survey was conducted, and mistakes in data preparation.

In general, it is difficult to identify and estimate either the amount of nonsampling error or the bias caused by this error. In PISA 2000, efforts were made to prevent such errors from occurring and to compensate for them when possible. For example, the design phase entailed a field test that evaluated items as well as the implementation procedures for the survey.

Another potential source of nonsampling error was respondent bias, which occurs when respondents systematically misreport (intentionally or unintentionally) information in a study. One potential source of respondent bias in this survey was social desirability bias. For example, students may overstate their parents' educational attainment or occupational status. If there were no systematic differences among specific groups under study in their tendency to give socially desirable responses, then comparisons of the different groups will accurately reflect *differences* among groups. In order to minimize bias, all items were subjected to field tests. Readers should be aware that respondent bias may be present in this survey as in any survey. It was not possible to state precisely how such bias may affect the results.

### **Sampling Errors**

Sampling errors occur when the discrepancy between a population characteristic and the sample estimate arises because not all members of the reference population are sampled for the survey. The size of the sample relative to the population and the variability of the population characteristics both influence the magnitude of sampling error. The sample of 15-year-old students from the 1999–2000 school year was just one of many possible samples that could have been selected. Therefore, estimates produced from the PISA 2000 sample may differ from estimates that would have been produced from other samples. This type of

variability is called sampling error because it arises from using a sample of 15-year-old students in 1999–2000, rather than all 15-year-old students in that year.

The standard error is a measure of the variability due to sampling when estimating a statistic. Standard errors for estimates presented in this report were computed using Balanced Repeated Replication (BRR)—the Fay method of BRR. Standard errors can be used as a measure for the precision expected from a particular sample.

Standard errors for all of the estimates are included in appendix B to this report. These standard errors can be used to produce confidence intervals. There is a 95 percent chance that the true average lies within the range of 1.96 times the standard errors above or below the estimated score. For example, it was estimated that 49.2 percent of level 1 or below U.S. students had low engagement in reading, and this statistic had a standard error of 3.28. Therefore, it can be stated with 95 percent confidence that the actual percentage of level 1 or below U.S. students with low engagement in reading for the total population in 1999–2000 was between 42.8 and 55.6 percent ( $1.96 \times 3.28 = 6.43$ ; confidence interval =  $49.2 \pm 6.43$ ).

### **Data Limitations**

As with any study, there are limitations to PISA 2000 that researchers should take into consideration. First, there are design constraints. For example, the sampling frame was limited to regular public and private schools in the 50 states and the District of Columbia, and a small percentage of the potential base-year sample was excluded because of serious disability or greatly limited proficiency in English. (For more information about the PISA 2000 base-year sample, and for a discussion of issues of eligibility, inclusion, and the effect of exclusion on national estimates, see OECD 2002.) Second, there are limitations of the data (e.g., small cell sizes for certain groups of individuals that may produce large standard errors). There are also specific limitations of the data relevant to this analysis. For example, a number of the items, such as engagement in reading, were self-reported.

Further details about study limitations as well as further information about the methodology, design, and data contents of PISA 2000 can be found in OECD (2002).

## Description of Variables

### **Construction of Socioeconomic Status (SES) Variable**

Parental occupations were grouped according to the Major Occupational Group Classification of the International Labor Organization's International Standard Classification of Occupations (ISCO-88). Students were assigned a socioeconomic status based on their father's occupation (if the father was not present, then the mother). SES was based on the following breakdowns: "High" if their parents had an occupation in the categories of legislators, senior officials and managers or professionals; "Medium" if their parents had an occupation of technicians and associate professionals, clerks, service workers, or craft and trade workers; "Low" if their parents had an occupation of skilled agricultural and fishery workers, plant and machine operators and assemblers, or elementary occupations.<sup>3</sup>

### **International Standard Classification of Education (ISCED) Levels**

ISCED is a classification framework that allows for the alignment of the educational content of programs using multiple classification criteria. The ISCED standards address the intent (e.g., to study basic subjects or prepare students for university) of each year of a particular education system, but do not indicate the depth or rigor of study in that year. That is, ISCED is useful when comparing the age range of students in upper secondary schools across nations, for example, but it does not indicate whether the curriculum and standards are equivalent within the same year of schooling across nations. ISCED allows researchers to compile statistics on education internationally. There are eight ISCED levels.

ISCED level 0 is classified as preprimary education. ISCED level 1 consists of primary education, which usually lasts 4 to 6 years. At ISCED level 2, or lower secondary school, students continue to learn the basic subjects taught in level 1. At ISCED level 3, or upper secondary education, student coursework is more subject-specific and taught by more specialized teachers. ISCED level 4 programs consist of postsecondary, nontertiary programs.

Tertiary and postsecondary programs are divided into ISCED levels 5, 6, and 7. ISCED level 5b programs are considered tertiary-type B, and levels 5a, 6, and 7 are considered tertiary-type A. Level 5b or tertiary-type B programs are typically shorter than tertiary-type A programs, which are either level 5a or 7. Level 5 programs also tend to focus on practical, technical, or occupational skills. Associate degree programs in the United States qualify as ISCED level 5b programs. ISCED level 5a programs are theory based and are designed to provide qualifications for entry into advanced research programs and professions with high skill requirements. U.S. bachelor's degree programs are tertiary-type A programs at level 6, while graduate degree programs in the United States are considered level 7.

Within this report, the parental education variable utilizes the ISCED levels. Students were asked to respond "yes" or "no" to the questions:

- Did your mother complete <ISCED 5a, 5b, 6>?
- Did your father complete <ISCED 5a, 5b, 6>?

Each country, using the ISCED descriptions, filled in the education level. For example, in the United States, the questions read:

- Did your mother complete a bachelor's, master's or post graduate program?
- Did your father complete a bachelor's, master's or post graduate program?

<sup>3</sup>Elementary occupations consist mainly of simple and routine tasks that mainly require the use of hand-held tools and often some physical effort. Most occupations in this major group require skills at the first ISCO skill level (a primary education, which generally begins at the age of 5, 6, or 7 and lasts about 5 years) (ILO 1990).

Students who responded “yes” to at least one of the two questions were coded as having a parent who completed college. In contrast to the international version of the question, the U.S. adaptation does not include ISCED level 5b programs, which are typically associate’s degree programs. However in the United States, the percentage of those who have completed this level of education is small, and their omission does not create a discrepancy in comparability with other countries.

Student reports of parents’ educational attainment may be inaccurate as some students either do not know or exaggerate parent education. Census data show a much lower percentage of the U.S. population, 35-49 years old, having completed college (28.1 percent compared with 54.5 percent reported by children about their parents).<sup>4</sup>

### **PISA Indices**

Several of PISA’s measures reflect indices that summarize responses from students to a series of related questions. The questions were selected from larger constructs on the basis of theoretical considerations and previous research. Structural equation modeling was used to confirm the theoretically expected behavior of the indices and to validate their comparability across countries. For this purpose, a model was estimated separately for each country and, collectively, for all the OECD countries.

This section explains the three indices derived from the student questionnaires. For a description of other PISA indices and details on the methods, see the *PISA 2000 Technical Report* (OECD 2002).

Where an index involved multiple questions and student responses, the index was scaled using a weighted maximum likelihood estimate, using a one-parameter item response model (referred to as a WARM estimator; see Warm 1985) with three stages:

1. The question parameters were estimated from equal-sized subsamples of students from each OECD country.
2. The estimates were computed for all students and all schools by anchoring the question parameters obtained in the preceding step.

3. The indices were then standardized so that the mean of the index value for the OECD student population was zero and the standard deviation was one (countries being given equal weight in the standardization process).

It is important to note that negative values in an index do not necessarily imply that students responded negatively to the underlying questions. A negative value merely indicates that a group of students (or all students, collectively, in a single country) responded less positively than all students did on average across OECD countries. Likewise, a positive value on an index indicates that a group of students responded more favorably, or more positively, than students did, on average, in OECD countries.

When a student did not respond to one or more of the questions in the index, the student was counted as missing for the whole index. For more information about missing data and response rates, see the Missing Data subsection in this appendix.

The following indices have been used in this report:

### *Engagement in Reading*

PISA 2000 measured student engagement in reading by asking for their level of agreement (strongly disagree, disagree, agree, strongly agree) with the following statements:

- I read only if I have to;
- Reading is one of my favorite hobbies;
- I like talking about books with people;
- I find it hard to finish books;
- I feel happy if I receive a book as a present;
- For me, reading is a waste of time;
- I enjoy going to a bookstore or a library;
- I read only to get information that I need; and
- I cannot sit still and read for more than a few minutes.

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<sup>4</sup>Census data obtained from the U.S. Census Bureau, Population Division, Education & Social Stratification Branch, Table 1a. Percent of High School and College Graduates of the Population 15 Years and Over, by Age, Sex, Race and Hispanic Origin: March 2000. Available: <http://www.census.gov/population/www/socdemo/education/p20-536.html>.

In order to examine differences among low achievers in engagement in reading, in the United States and other countries, student index values from all OECD countries were arrayed and cut points calculated for the bottom quarter and top quarter of students. Students with index values in the bottom quarter (value of -0.66 or lower) were categorized as having “low” engagement in reading and students with index values in the top quarter (value of 0.58 or higher) were categorized as having “high” engagement in reading. Students with all other index values (value of higher than -0.66 but 0.58 or lower) were categorized as having a “medium” sense of effort and perseverance in schoolwork). The resulting cut points were then applied to the index scores from each nation, allowing for the calculation of the percentage of students in each nation who showed high or low levels of engagement.

### *Sense of Belonging in School*

PISA 2000 measured students’ feelings of membership in school through a summary index called “sense of belonging in school” by asking for students’ level of agreement (strongly disagree, disagree, agree, strongly agree) with the following statements about their feelings at school:

- I make friends easily;
- I feel that I belong in school;
- Other students like me;
- I feel like an outsider;
- I feel awkward and out of place; and
- I feel lonely at school.

As with engagement in reading, index values for sense of belonging in school from all OECD countries were arrayed and cut points calculated for the bottom quarter and top quarter of students. Students with index values in the bottom quarter (value of -0.61 or lower) were categorized as having a “low” sense of belonging and students with index values in the top quarter (value of 0.48 or higher) were categorized as having a “high” sense of belonging. Students with all other index values (value of higher than -0.61 but 0.48 or lower) were categorized as having a “medium” sense of belonging.

### *Effort and Perseverance in Schoolwork*

PISA 2000 measured students’ levels of effort and perseverance in schoolwork by asking how frequently (not at all, very little, to some extent, a lot) they

- work as hard as possible,
- keep working even if the material is difficult,
- try to do their best to acquire the knowledge and skills taught, and
- put forth their best effort.

Again, index values for effort and perseverance from all OECD countries were arrayed and cut points calculated for the bottom quarter and top quarter of students. Students with index values in the bottom quarter (value of -0.64 or lower) were categorized as having “low” effort and perseverance and students with index values in the top quarter (value of 0.69 or higher) were categorized as having “high” effort and perseverance. Students with all other index values (value of higher than -0.64 but 0.69 or lower) were categorized as having a “medium” sense of effort and perseverance in schoolwork).

### *Student Educational Characteristics*

All of the data presented related to private tutoring and remedial courses outside of school are based on student reports of their activities over the course of the previous three years, from ages approximately 12 to 15. For the United States, and for most students assessed in PISA, the previous three years would include grades seven through ten.

When responding to the two following questions, students were required to report how frequently they completed the specific activity (regularly, sometimes, or never).



### *Private Tutoring Outside of School*

PISA 2000 sought to explore the use of private tutoring outside of school by students through the following question:

- During the last three years, have you attended private tutoring outside of your school to improve your learning?

### *Remedial Courses in the Test Language Outside of School*

PISA 2000 also reported on students' enrollment in remedial courses in the test language outside of school by asking the question:

- During the last three years, have you attended remedial courses in the test language outside of school to improve your learning?<sup>5</sup>

### *Missing School and Skipping Class*

Data presented related to missing school and skipping class are based on student reports of their activities over the previous two weeks.

Students' responses were grouped into the categories never, one or two times, and three or more times. In order to further facilitate discussion, the category response of "missed school 3 or more times in the past two weeks" is referred to as "miss school frequently," while "skipped class 3 or more times in the past two weeks" is referred to as "skip class frequently."

PISA 2000 measured the frequency with which students miss school and skip class by asking two questions:

- How many times in the *previous two weeks* did you miss the entire school day?
- How many times in the *previous two weeks* did you skip a class? (note: count each skipped class separately)

### *Student Reports of Job Expectations*

PISA 2000 determined students' job expectations by asking the following question:

- What kind of job do you expect to have when you are about 30 years old? Write the job title.

The student responses were classified using the International Standard Classification of Occupations 1988 (ISCO-88) into the 10 major occupational groups shown in exhibit A-1. Created by the International Labor Organization (ILO) in 1988, ISCO is used internationally to classify occupations. For more information about ISCO-88, see International Labor Organization (1990).

## Statistical Procedures

### *Tests of Significance*

Comparisons made in the text of this report have been tested for statistical significance. For example, in the commonly made comparison of country averages against the average of the United States, tests of statistical significance were used to establish whether or not the observed differences from the U.S. average were statistically significant.

In almost all instances, the tests used were standard *t* tests. These fell into two categories according to the nature of the comparison being made. In simple comparisons of independent averages such as the U.S. average with other country averages or against the OECD average, the following formula was used to compute the *t* statistic:

$$t = \text{est}_1 - \text{est}_2 / \text{SQRT}[(\text{se}_1)^2 + (\text{se}_2)^2]$$

$\text{est}_1$  and  $\text{est}_2$  are the estimates being compared (e.g., average of country A and the U.S. average), and  $\text{se}_1$  and  $\text{se}_2$  are the corresponding standard errors of these averages.

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<sup>5</sup>Test language was English for students in the United States.



To guard against errors of inference based on multiple comparisons, as in the case of comparing all countries to the United States, the Bonferroni adjustment procedure was used. This procedure increases the critical value of  $t$  as the number of comparisons increases. When data are available for all the participating countries, the number of comparisons against the United States is 30, and the critical value required for statistical significance is 3.14 at the .05 level.

The second type of comparison used in this report occurred when comparing a subgroup of a population to the total population. Comparing the percentage of males at level 1 or below versus the percentage in the overall U.S. 15-year-old population is an example. In such comparisons, the following formula was used to compute the  $t$  statistic:

$$t = \frac{\text{est}_{\text{sub}} - \text{est}_{\text{total}}}{\text{SQRT}[(\text{se}_{\text{sub}})^2 + (\text{se}_{\text{total}})^2 - 2p(\text{se}_{\text{sub}})^2]}$$

$\text{est}_{\text{sub}}$  is the subgroup estimate being compared, and  $\text{est}_{\text{total}}$  is the total estimate being compared.  $\text{se}_{\text{sub}}$  and  $\text{se}_{\text{total}}$  are the corresponding standard errors of these averages.  $p$  is the proportion of the subgroup to the total population. For example, 18 percent of U.S. students were classified as level 1 or below, and so  $p$ , when making U.S. comparisons, is .18.

In this comparison, the critical value of  $t$  is 1.96.

### Standard Errors

The estimation of the standard errors that are required in order to undertake the tests of significance is complicated by the complex sample and assessment designs which both generate error variance. Together they mandate a set of statistically complicated procedures in order to estimate the correct standard errors. As a consequence, the estimated standard errors contain a sampling variance component estimated by Balanced Repeated Replication (BRR)—the Fay method of BRR; and, where the assessments are concerned, an additional imputation variance component arising from the assessment design. Details on the procedures used can be found in the *WesVar 4.0 User's Guide* (Westat 2000).

### Exhibit A-1. International Standard Classification of Occupations (ISCO) major occupational groups created by the International Labor Organization (ILO)

#### ISCO major occupational groups

- Armed forces
- Clerks
- Craft and related trade workers
- Elementary occupations
- Legislators, senior officials, and managers
- Plant and machine operators and assemblers
- Professionals
- Service workers, shop, and market sales workers
- Skilled agricultural and fishery workers
- Technicians and associate professionals

NOTE: Elementary occupations consist mainly of simple and routine tasks that mainly require the use of hand-held tools and often some physical effort. Most occupations in this major group require skills at the first ISCO skill level (a primary education which generally begins at the age of 5, 6, or 7 and lasts about 5 years).

SOURCE: International Labor Organization (1990). *International Standard Classification of Occupations—ISCO-88*. Geneva, 1988.

### Missing Data

Missing data have not been explicitly accounted for or imputed in the analyses for this report. Cases where more than 15 percent of the student responses are missing are flagged in the supporting statistical data tables in appendix B. In cases where more than 50 percent of the responses are missing, the data are not presented in the data tables. Particular attention to the problem of missing data should be considered when analyzing parents' education and students' reports of job expectations.

There are four kinds of missing data. “Nonresponse” data occurs when a respondent was expected to answer an item but no response is given. Responses that are “missing or invalid” occur in multiple-choice items where an invalid response is given. The code is not used for open-ended questions. An item is “not applicable” when it is not possible for the respondent to answer the question. Finally, items that are “not reached” are consecutive missing values starting from the end of each test session. All four kinds of missing data are coded differently in the PISA 2000 database.

A nonresponse bias analysis was conducted in the United States to determine if substantial bias had been introduced due to school nonresponse. The analysis found no evidence of a systematic bias in the sampling procedures. A nonresponse bias analysis was not conducted at the student level in the United States or in any of the other PISA 2000 countries. PISA data have not been imputed by the OECD, the United States, or any other participating country.

### Literacy Levels

While the basic form of measurement in PISA describes student literacy in each country in terms of a range of scale scores, PISA also treats proficiency in reading literacy in terms of five levels, each representing tasks of increasing complexity. As a result, the literacy findings are reported in terms of percentages of the population proficient at handling tasks of different levels of difficulty.

Each of the four reading literacy scales—the combined score and the three subscale scores—is divided into five levels based on the type of knowledge and skills students need to demonstrate at a particular level. Cut scores for the levels are as follows: below level 1: a score equal to or less than 334.75; level 1: a score greater than 334.75 and equal to or below 407.47; level 2: a score greater than 407.47 and equal to or below 480.18; level 3: a score greater than 480.18 and equal to or below 552.89; level 4: a score greater than 552.89 and equal to or below 625.61; and level 5: a score greater than 625.61.

All students within a level were expected to answer at least half of the items from that level correctly. Students at the bottom of a level had a 62 percent chance of success on the easiest items from that level and a 42 percent chance of success on the hardest items from that level. Students at the top of a level were able to provide the correct answer to about 70 percent of all items from that level, had a 62 percent chance of success on the hardest items from that level, and had a 78 percent chance of success on the easiest items from that level. Students just below the top of a level would score less than 50 percent on an assessment of the next highest level. Students at a particular level not only demonstrated the knowledge and skills associated with that level but also the proficiencies defined by lower levels. Thus, all students proficient at level 3 are also proficient at levels 1 and 2. Patterns of responses for students below level 1 suggested they were unable to answer at least half of the items in level 1 correctly.



## **Appendix B: Supporting Statistical Data**



**Table B-1. Combined reading literacy average scores of 15-year-old students, by country: 2000**

Country	Average score	s.e.
<b>OECD average</b>	<b>500.0</b>	<b>0.64</b>
OECD countries		
Australia	528.3	3.52
Austria	507.1	2.40
Belgium	507.1	3.56
Canada	534.3	1.56
Czech Republic	491.6	2.37
Denmark	496.9	2.35
Finland	546.5	2.58
France	504.7	2.73
Germany	484.0	2.47
Greece	473.8	4.97
Hungary	480.0	3.95
Iceland	506.9	1.45
Ireland	526.7	3.24
Italy	487.5	2.91
Japan	522.2	5.21
Korea, Republic of	524.8	2.42
Luxembourg	441.3	1.59
Mexico	422.0	3.32
New Zealand	528.8	2.78
Norway	505.3	2.80
Poland	479.1	4.46
Portugal	470.2	4.52
Spain	492.6	2.71
Sweden	516.3	2.20
Switzerland	494.4	4.25
United Kingdom	523.4	2.56
United States	504.4	7.05
Non-OECD countries		
Brazil	396.0	3.10
Latvia	458.1	5.27
Liechtenstein	482.6	4.12
Russian Federation	461.8	4.16

NOTE: The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. s.e. means standard error.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items, 2000.

**Table B-2. Percentage of 15-year-old students scoring at selected proficiency levels on the combined reading literacy scale, by country: 2000**

Country	Level 1 or below		Level 5	
	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>18</b>	<b>2.0</b>	<b>9</b>	<b>0.1</b>
OECD countries				
Australia	12	0.9	18	1.2
Austria	15	0.7	9	0.8
Belgium	19	1.3	12	0.7
Canada	10	0.4	17	0.5
Czech Republic	18	0.8	7	0.6
Denmark	18	0.9	8	0.5
Finland	7	0.7	18	0.9
France	15	1.1	8	0.6
Germany	23	1.0	9	0.5
Greece	24	2.1	5	0.7
Hungary	23	1.5	5	0.8
Iceland	15	0.7	9	0.7
Ireland	11	1.0	14	0.8
Italy	19	1.1	5	0.5
Japan	10	1.5	10	1.1
Korea, Republic of	6	0.7	6	0.6
Luxembourg	35	0.8	2	0.3
Mexico	44	1.7	1	0.2
New Zealand	14	0.8	19	1.0
Norway	17	1.1	11	0.7
Poland	23	1.4	6	1.0
Portugal	26	1.9	4	0.5
Spain	16	1.1	4	0.5
Sweden	13	0.7	11	0.7
Switzerland	20	1.3	9	1.0
United Kingdom	13	0.7	16	1.0
United States	18	2.2	12	1.4
Non-OECD countries				
Brazil	56	1.7	1	0.2
Latvia	30	2.0	4	0.6
Liechtenstein	22	2.1	5	1.6
Russian Federation	27	1.7	3	0.5

NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below, while students scoring 626 or above were classified at level 5. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. s.e. means standard error.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items, 2000.

**Table B-3. Combined reading literacy average scores of 15-year-old students, by sex, female-male score point difference, and country: 2000**

Country	Sex				Female-male score point difference	s.e.
	Female		Male			
	Average score	s.e.	Average score	s.e.		
<b>OECD average</b>	<b>516.5</b>	<b>0.75</b>	<b>484.8</b>	<b>0.82</b>	<b>31.7</b>	<b>0.94</b>
OECD countries						
Australia	546.3	4.74	512.7	4.04	33.6	5.44
Austria	520.3	3.59	494.7	3.23	25.6	5.24
Belgium	525.2	4.92	492.4	4.24	32.8	5.99
Canada	551.1	1.70	518.9	1.76	32.2	1.63
Czech Republic	510.1	2.53	472.6	4.11	37.4	4.71
Denmark	510.3	2.87	485.4	2.95	24.8	3.28
Finland	571.4	2.78	520.1	3.00	51.3	2.63
France	519.1	2.72	490.3	3.50	28.8	3.38
Germany	502.2	3.88	467.6	3.17	34.7	5.21
Greece	492.7	4.63	455.7	6.07	37.0	5.01
Hungary	496.2	4.35	464.5	5.34	31.6	5.73
Iceland	528.1	2.14	488.5	2.12	39.7	3.11
Ireland	541.5	3.55	512.8	4.18	28.7	4.56
Italy	507.4	3.57	469.2	5.14	38.2	7.05
Japan	536.9	5.39	507.3	6.74	29.7	6.44
Korea, Republic of	532.7	3.70	518.5	3.77	14.2	6.02
Luxembourg	455.7	2.30	428.8	2.58	26.9	3.77
Mexico	431.8	3.84	411.5	4.18	20.3	4.34
New Zealand	552.6	3.80	506.8	4.18	45.8	6.28
Norway	528.8	2.86	485.6	3.79	43.2	4.04
Poland	497.5	5.52	461.4	5.99	36.1	6.97
Portugal	482.4	4.64	457.7	4.98	24.7	3.77
Spain	505.4	2.76	481.2	3.35	24.1	3.17
Sweden	535.6	2.48	498.6	2.56	37.0	2.70
Switzerland	510.0	4.50	480.1	4.85	30.0	4.17
United Kingdom	537.2	3.45	511.6	3.03	25.6	4.28
United States	518.2	6.20	489.7	8.41	28.6	4.12
Non-OECD countries						
Brazil	404.3	3.41	387.6	3.91	16.7	3.98
Latvia	484.7	5.40	431.9	5.53	52.8	4.20
Liechtenstein	499.6	6.83	468.5	7.33	31.2	11.54
Russian Federation	481.0	4.09	442.8	4.53	38.2	2.92

NOTE: The female-male score point difference is calculated by subtracting average scores of males from average scores of females. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. s.e. means standard error.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.



**Table B-4. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by sex and country: 2000**

Country	Overall				Level 1 or below			
	Male		Female		Male		Female	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>50.1</b>	<b>0.35</b>	<b>49.9</b>	<b>0.35</b>	<b>62.3</b>	<b>0.90</b>	<b>37.7</b>	<b>0.90</b>
OECD countries								
Australia	52.5	2.18	47.5	2.18	67.8	3.10	32.2	3.10
Austria	47.9	2.38	52.1	2.38	59.6	3.14	40.4	3.14
Belgium	52.1	1.65	47.9	1.65	63.7	3.16	36.3	3.16
Canada	49.9	0.52	50.1	0.52	67.7	1.40	32.3	1.40
Czech Republic	48.3	1.78	51.7	1.78	65.7	2.62	34.3	2.62
Denmark	50.3	0.94	49.7	0.94	62.3	2.14	37.7	2.14
Finland	48.6	0.78	51.4	0.78	76.6	3.71	23.4	3.71
France	48.7	1.32	51.3	1.32	64.3	2.53	35.7	2.53
Germany	50.4	1.47	49.7	1.47	59.7	2.41	40.3	2.41
Greece	50.2	1.31	49.8	1.31	63.8	2.68	36.2	2.68
Hungary	50.4	2.11	49.6	2.11	60.7	2.95	39.3	2.95
Iceland	49.6	0.84	50.4	0.84	71.0	2.36	29.0	2.36
Ireland	49.6	1.79	50.4	1.79	61.6	3.64	38.4	3.64
Italy	50.7	2.70	49.3	2.70	66.9	4.38	33.1	4.38
Japan	49.5	2.35	50.5	2.35	69.9	4.28	30.1	4.28
Korea, Republic of	55.9	3.53	44.1	3.53	71.3	5.09	28.7	5.09
Luxembourg	49.9	0.89	50.1	0.89	57.9	1.67	42.1	1.67
Mexico	50.0	1.19	50.0	1.19	56.1	1.43	43.9	1.43
New Zealand	50.3	2.44	49.7	2.44	69.2	2.89	30.8	2.89
Norway	51.0	0.88	49.0	0.88	69.8	2.31	30.2	2.31
Poland	50.9	2.65	49.1	2.65	66.4	3.70	33.6	3.70
Portugal	48.0	0.92	52.0	0.92	57.7	2.05	42.3	2.05
Spain	49.2	1.34	50.8	1.34	63.3	2.51	36.7	2.51
Sweden	50.8	0.86	49.2	0.86	69.0	2.58	31.0	2.58
Switzerland	50.2	1.00	49.8	1.00	61.3	2.18	38.7	2.18
United Kingdom	49.6	1.27	50.4	1.27	60.6	2.51	39.4	2.51
United States	48.4	0.98	51.6	0.98	62.1	2.11	37.9	2.11
Non-OECD countries								
Brazil	46.0	1.16	54.0	1.16	49.3	1.27	50.7	1.27
Latvia	48.7	1.57	51.3	1.57	66.0	1.80	34.0	1.80
Liechtenstein	50.3	2.87	49.7	2.87	63.4	6.98	36.6	6.98
Russian Federation	49.9	0.89	50.1	0.89	64.0	1.62	36.0	1.62

NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-5. Percentage distributions of U.S. 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by race/ethnicity: 2000**

Race/Ethnicity	Overall		Level 1 or below	
	Percent	s.e.	Percent	s.e.
White, non-Hispanic	59.2	4.09	28.2	4.50
Black, non-Hispanic	13.9	1.92	27.9	4.28
Hispanic	18.0	3.97	35.4	6.55
Other	8.8	1.34	8.5	2.21

NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The "other" group comprises students identifying themselves as American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, or multiracial since the numbers of these students are too small to report by individual categories. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-6. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by socioeconomic status and country: 2000**

Country	Overall					
	Low socioeconomic status		Medium socioeconomic status		High socioeconomic status	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>25.9</b>	<b>0.19</b>	<b>45.0</b>	<b>0.20</b>	<b>29.1</b>	<b>0.24</b>
OECD countries						
Australia	24.5	1.05	41.4	0.87	34.1	1.27
Austria	15.0	0.74	53.0	0.98	32.1	0.99
Belgium	21.8	0.72	47.8	0.66	30.4	0.92
Canada	31.9	0.45	37.4	0.44	30.8	0.52
Czech Republic	24.9	0.82	46.0	0.85	29.2	0.72
Denmark	26.2	0.78	40.5	0.96	33.3	1.16
Finland	24.1	0.86	42.6	0.94	33.3	1.05
France	30.0	0.89	47.1	0.85	22.9	0.96
Germany	22.3	0.67	54.3	0.70	23.5	0.79
Greece	24.8	0.97	45.5	0.95	29.7	1.19
Hungary	25.1	0.88	53.9	0.89	21.0	1.01
Iceland	22.8	0.77	42.5	0.93	34.7	0.84
Ireland	30.1	1.15	36.4	1.05	33.5	1.18
Italy	24.4	0.82	48.4	0.96	27.2	0.84
Japan <sup>1</sup>	#	†	#	†	#	†
Korea, Republic of	33.1	1.01	42.3	0.89	24.7	1.10
Luxembourg	32.0	0.74	47.5	0.87	20.5	0.71
Mexico	39.0	1.48	36.8	1.30	24.2	1.76
New Zealand	27.4	1.06	36.1	0.88	36.5	0.98
Norway	19.9	0.90	37.7	0.86	42.5	0.95
Poland	24.9	0.90	56.2	1.11	18.9	0.98
Portugal	24.9	1.02	49.0	0.90	26.1	1.12
Spain	24.5	1.02	52.4	0.95	23.0	1.34
Sweden	27.4	0.95	42.8	0.86	29.9	0.97
Switzerland	21.8	0.82	49.5	0.83	28.7	1.21
United Kingdom	24.6	0.88	40.4	0.84	35.0	1.04
United States	25.0	1.57	41.4	1.02	33.6	1.92
Non-OECD countries						
Brazil	41.3	1.26	42.5	1.10	16.2	1.14
Latvia	34.3	1.14	45.2	1.21	20.5	1.07
Liechtenstein	25.5	2.54	49.8	3.02	24.7	2.43
Russian Federation	40.1	1.29	38.8	0.77	21.1	1.06

See notes at end of table.

**Table B-6. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by socioeconomic status and country: 2000—Continued**

Country	Level 1 or below					
	Low socioeconomic status		Medium socioeconomic status		High socioeconomic status	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>39.1</b>	<b>0.44</b>	<b>46.2</b>	<b>0.44</b>	<b>14.7</b>	<b>0.38</b>
OECD countries						
Australia	40.9	2.82	40.2	3.19	19.0	2.39
Austria	23.9	1.97	60.4	2.17	15.7	1.73
Belgium	35.6	2.08	50.3	2.17	14.1	1.42
Canada	50.2	1.64	34.0	1.61	15.8	0.93
Czech Republic	37.4	2.57	47.4	2.76	15.2	1.60
Denmark	42.4	2.31	40.1	2.65	17.5	1.79
Finland	34.2	3.89	44.4	2.93	21.4	3.46
France	45.7	2.22	46.5	2.20	7.8	1.26
Germany	38.3	2.00	52.7	1.88	9.0	0.98
Greece	34.8	2.61	46.0	2.39	19.2	1.94
Hungary	38.7	2.73	54.4	2.47	6.9	1.01
Iceland	31.3	2.25	43.7	2.37	25.0	1.99
Ireland	44.1	3.00	38.2	2.99	17.7	2.15
Italy	32.6	1.95	47.6	2.24	19.8	2.11
Japan <sup>1</sup>	#	†	#	†	#	†
Korea, Republic of	49.7	4.71	35.3	3.90	15.0	3.65
Luxembourg	42.4	1.59	47.9	1.67	9.7	0.94
Mexico	49.4	2.22	36.1	1.93	14.5	1.48
New Zealand	45.8	3.30	33.3	3.07	20.8	2.24
Norway	31.6	1.85	40.7	1.92	27.7	1.99
Poland	35.0	2.09	56.8	2.38	8.2	1.29
Portugal	36.1	1.71	50.3	1.76	13.5	1.53
Spain	34.6	2.08	55.4	2.00	10.1	1.38
Sweden	41.7	2.60	43.5	2.55	14.7	1.57
Switzerland	35.6	1.86	53.9	2.07	10.5	1.13
United Kingdom	43.8	2.12	41.0	2.25	15.2	1.62
United States	42.0	2.79	41.9	2.36	16.1	2.31
Non-OECD countries						
Brazil	47.0	1.58	42.4	1.69	10.6	1.10
Latvia	41.4	2.23	46.0	2.20	12.7	1.62
Liechtenstein	41.0	6.50	47.5	6.70	11.5	3.93
Russian Federation	52.3	2.28	37.0	1.59	10.7	1.16

†Not applicable.

#Reporting standards not met (too few cases).

<sup>1</sup>The item response rate is below 50 percent.

NOTE: Students were classified into “low,” “medium,” and “high” socioeconomic status based on student reports of their parents’ occupations. For more information about this classification, see “Construction of Socioeconomic Status Variable” in appendix A. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-7. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by parent national origin and country: 2000**

Country	Overall					
	Both parents foreign born		One parent native born and one parent foreign born		Both parents native born	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>8.9</b>	<b>0.18</b>	<b>7.9</b>	<b>0.09</b>	<b>83.2</b>	<b>0.22</b>
OECD countries						
Australia	22.8	1.81	19.0	0.91	58.3	1.56
Austria	9.7	0.88	6.4	0.49	83.9	1.09
Belgium	12.0	1.10	11.6	0.61	76.4	1.32
Canada	20.5	1.02	10.7	0.26	68.8	1.05
Czech Republic <sup>1</sup>	1.0	0.14	7.2	0.37	91.8	0.42
Denmark	6.1	0.56	7.3	0.44	86.6	0.70
Finland	1.2	0.20	2.2	0.22	96.6	0.31
France	12.0	0.87	12.9	0.62	75.1	1.13
Germany <sup>1</sup>	15.3	0.78	6.4	0.40	78.3	0.93
Greece	4.8	0.87	5.8	0.56	89.4	1.11
Hungary	1.7	0.20	2.1	0.21	96.3	0.33
Iceland	0.8	0.16	5.5	0.45	93.8	0.49
Ireland	2.3	0.30	9.3	0.57	88.4	0.66
Italy	0.9	0.21	4.0	0.28	95.0	0.33
Japan <sup>1</sup>	0.1	0.06	0.4	0.08	99.5	0.10
Korea, Republic of	—	—	—	—	—	—
Luxembourg	34.2	0.71	14.6	0.65	51.2	0.84
Mexico	3.6	0.36	1.9	0.17	94.5	0.41
New Zealand	19.7	1.08	17.5	0.62	62.9	1.13
Norway	4.6	0.43	6.3	0.41	89.1	0.61
Poland	0.3	0.12	1.7	0.29	98.0	0.34
Portugal	3.1	0.28	6.8	0.43	90.1	0.49
Spain	2.0	0.38	3.9	0.34	94.1	0.47
Sweden	10.5	0.95	10.8	0.56	78.7	1.04
Switzerland	20.5	0.89	16.0	0.72	63.5	1.06
United Kingdom	9.2	1.22	8.7	0.55	82.0	1.46
United States	13.6	2.13	5.8	0.74	80.6	2.69
Non-OECD countries						
Brazil	0.4	0.10	1.1	0.21	98.5	0.24
Latvia	21.6	2.36	18.2	0.91	60.2	2.79
Liechtenstein	20.2	2.05	24.9	2.58	54.9	2.89
Russian Federation	4.4	0.63	9.0	0.43	86.6	0.83

See notes at end of table.

**Table B-7. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by parent national origin and country: 2000—Continued**

Country	Level 1 or below					
	Both parents foreign born		One parent native born and one parent foreign born		Both parents native born	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>17.5</b>	<b>0.50</b>	<b>7.1</b>	<b>0.22</b>	<b>75.4</b>	<b>0.54</b>
OECD countries						
Australia	27.4	3.11	15.0	2.42	57.6	3.25
Austria	27.2	2.24	6.9	1.35	66.0	2.83
Belgium	32.0	3.70	14.1	1.31	53.9	3.62
Canada	27.4	2.40	8.4	0.94	64.2	2.12
Czech Republic <sup>1</sup>	1.9	0.51	5.6	1.07	92.5	1.23
Denmark	15.6	2.01	8.1	1.36	76.3	2.25
Finland	5.2	1.32	2.2	0.81	92.6	1.67
France	22.2	2.79	14.5	1.69	63.3	3.27
Germany <sup>1</sup>	35.4	2.48	6.4	0.87	58.2	2.40
Greece	9.4	2.19	5.0	1.00	85.6	2.74
Hungary	1.7	0.53	2.1	0.55	96.3	0.77
Iceland	2.0	0.66	6.8	1.34	91.2	1.50
Ireland	1.4	0.66	9.8	1.72	88.8	1.89
Italy	1.7	0.70	2.9	0.64	95.4	0.90
Japan <sup>1</sup>	#	†	#	†	99.7	0.37
Korea, Republic of	—	—	—	—	—	—
Luxembourg	58.9	1.44	12.4	1.08	28.7	1.30
Mexico	6.8	0.75	2.3	0.30	90.9	0.80
New Zealand	29.9	3.22	13.1	1.81	57.0	3.24
Norway	9.2	1.15	5.9	0.95	85.0	1.42
Poland	0.8	0.46	2.1	0.54	97.1	0.82
Portugal	3.8	0.84	4.7	0.98	91.4	1.19
Spain	3.7	1.14	5.7	1.16	90.6	1.57
Sweden	23.5	2.56	9.5	1.76	67.0	2.82
Switzerland	45.6	1.80	11.8	1.22	42.5	1.91
United Kingdom	15.9	3.26	7.6	1.24	76.6	3.98
United States	21.8	3.57	8.0	1.36	70.1	4.54
Non-OECD countries						
Brazil	0.6	0.16	1.1	0.25	98.3	0.29
Latvia	22.1	2.50	18.8	1.88	59.1	3.50
Liechtenstein	38.3	7.04	26.0	6.56	35.7	7.47
Russian Federation	4.8	0.84	8.2	0.86	87.0	1.15

—Not available.

†Not applicable.

#Reporting standards not met (too few cases).

<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding or some data not reported, or both.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-8. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by student national origin and country: 2000**

Country	Overall				Level 1 or below			
	Student foreign born		Student native born		Student foreign born		Student native born	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>6.6</b>	<b>0.12</b>	<b>93.4</b>	<b>0.12</b>	<b>12.4</b>	<b>0.37</b>	<b>87.6</b>	<b>0.37</b>
OECD countries								
Australia	13.0	1.19	87.1	1.19	17.8	2.72	82.2	2.72
Austria	7.2	0.72	92.8	0.72	20.4	2.38	79.6	2.38
Belgium	5.8	0.49	94.2	0.49	11.3	1.61	88.7	1.61
Canada	10.7	0.60	89.4	0.60	18.5	1.83	81.5	1.83
Czech Republic <sup>1</sup>	1.0	0.15	99.0	0.15	1.7	0.53	98.3	0.53
Denmark	6.3	0.48	93.7	0.48	12.3	1.56	87.7	1.56
Finland	2.5	0.29	97.5	0.29	6.3	1.44	93.7	1.44
France	3.5	0.33	96.5	0.33	7.8	1.18	92.2	1.18
Germany <sup>1</sup>	11.3	0.59	88.7	0.59	25.5	2.53	74.5	2.53
Greece	6.6	1.04	93.4	1.04	11.7	2.66	88.3	2.66
Hungary	2.2	0.24	97.8	0.24	2.3	0.63	97.7	0.63
Iceland	5.9	0.40	94.1	0.40	7.5	1.28	92.5	1.28
Ireland	4.2	0.41	95.8	0.41	2.4	0.93	97.6	0.93
Italy	2.2	0.27	97.8	0.27	3.7	0.83	96.3	0.83
Japan	0.2	0.08	99.8	0.08	‡	†	99.4	0.42
Korea, Republic of	—	—	—	—	—	—	—	—
Luxembourg	18.6	0.64	81.4	0.64	33.4	1.51	66.6	1.51
Mexico	3.2	0.39	96.8	0.39	5.8	0.77	94.2	0.77
New Zealand	16.8	0.91	83.3	0.91	22.9	2.69	77.1	2.69
Norway	5.5	0.40	94.5	0.40	9.7	1.11	90.3	1.11
Poland	1.0	0.24	99.0	0.24	2.2	0.84	97.8	0.84
Portugal	6.0	0.48	94.0	0.48	6.6	0.91	93.4	0.91
Spain	2.5	0.43	97.5	0.43	33.3	1.79	66.7	1.79
Sweden	8.3	0.61	91.7	0.61	18.5	2.66	81.5	2.66
Switzerland	14.1	0.68	85.9	0.68	4.4	1.33	95.6	1.33
United Kingdom	5.5	0.63	94.5	0.63	9.9	1.63	90.1	1.63
United States	7.3	0.96	92.7	0.96	12.1	1.97	87.9	1.97
Non-OECD countries								
Brazil	0.2	0.09	99.8	0.09	0.3	0.13	99.8	0.13
Latvia	30.5	3.38	69.5	3.38	30.0	3.77	70.0	3.77
Liechtenstein	12.9	1.83	87.1	1.83	30.4	6.78	69.6	6.78
Russian Federation	5.4	0.51	94.6	0.51	4.8	0.73	95.2	0.73

—Not available.

†Not applicable.

‡Reporting standards not met (too few cases).

<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding or data not reported, or both.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.



**Table B-9. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by parent education and country: 2000**

Country	Overall				Level 1 or below			
	Less than college		Completed college or higher		Less than college		Completed college or higher	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>60.0</b>	<b>0.29</b>	<b>40.0</b>	<b>0.29</b>	<b>73.7</b>	<b>0.49</b>	<b>26.3</b>	<b>0.49</b>
OECD countries								
Australia	55.8	1.37	44.2	1.37	72.0	2.63	28.0	2.63
Austria	71.3	0.91	28.7	0.91	83.8	2.16	16.2	2.16
Belgium	53.3	0.99	46.7	0.99	57.9	2.49	42.1	2.49
Canada	34.5	0.51	65.5	0.51	50.4	1.60	49.6	1.60
Czech Republic	76.3	0.88	23.8	0.88	88.1	1.40	11.9	1.40
Denmark <sup>1</sup>	43.0	1.09	57.0	1.09	63.2	2.28	36.8	2.28
Finland	63.5	1.12	36.5	1.12	72.5	3.67	27.5	3.67
France	54.9	1.14	45.1	1.14	61.4	2.29	38.6	2.29
Germany <sup>2</sup>	58.1	0.97	41.9	0.97	70.5	2.73	29.5	2.73
Greece <sup>1</sup>	56.3	1.36	43.7	1.36	66.4	2.23	33.6	2.23
Hungary	71.9	1.37	28.1	1.37	87.1	1.55	13.0	1.55
Iceland	63.7	0.87	36.3	0.87	69.1	2.48	31.0	2.48
Ireland	60.2	1.30	39.9	1.30	63.4	2.90	36.6	2.90
Italy	79.0	0.93	21.0	0.93	86.0	1.73	14.0	1.73
Japan <sup>3</sup>	‡	†	‡	†	‡	†	‡	†
Korea, Republic of <sup>1</sup>	71.2	1.43	28.8	1.43	‡	†	‡	†
Luxembourg	70.5	0.68	29.5	0.68	81.3	1.72	18.7	1.72
Mexico	77.0	1.82	23.0	1.82	87.8	1.18	12.2	1.18
New Zealand <sup>1</sup>	43.0	1.04	57.0	1.04	49.7	2.97	50.3	2.97
Norway	44.5	1.26	55.5	1.26	48.9	2.85	51.1	2.85
Poland	76.6	1.08	23.4	1.08	88.9	1.50	11.1	1.50
Portugal	78.7	1.32	21.3	1.32	87.8	1.50	12.2	1.50
Spain	72.3	1.63	27.7	1.63	84.7	1.59	15.3	1.59
Sweden	39.9	1.03	60.1	1.03	42.2	2.36	57.8	2.36
Switzerland	61.1	1.19	38.9	1.19	73.4	1.93	26.6	1.93
United Kingdom <sup>1</sup>	48.4	1.05	51.6	1.05	57.8	2.39	42.2	2.39
United States <sup>1,2</sup>	45.5	2.73	54.5	2.73	60.2	3.41	39.8	3.41
Non-OECD countries								
Brazil	77.9	1.21	22.1	1.21	83.5	1.15	16.5	1.15
Latvia	55.4	1.40	44.6	1.40	60.2	2.04	39.8	2.04
Liechtenstein	66.9	2.98	33.1	2.98	80.2	5.58	19.9	5.58
Russian Federation	55.2	1.30	44.8	1.30	59.8	1.54	40.2	1.54

†Not applicable.

‡Reporting standards not met (too few cases).

<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.<sup>2</sup>The item response rate for students overall is below 85 percent. Missing data have not been explicitly accounted for.<sup>3</sup>The item response rate for students at level 1 or below is below 50 percent.

NOTE: The parent education variable is based on students' reports. Students' reports of parents' educational attainment may be inaccurate as some students either do not know or exaggerate parent education. Due to reliability concerns, parent education data for Japan are not presented in this report. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding or data not reported, or both.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-10. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by language spoken at home most of the time and country: 2000**

Country	Overall				Level 1 or below			
	Other than the test language		Test language		Other than the test language		Test language	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>8.6</b>	<b>0.17</b>	<b>91.4</b>	<b>0.17</b>	<b>17.1</b>	<b>0.51</b>	<b>82.9</b>	<b>0.51</b>
OECD countries								
Australia	17.2	1.64	82.9	1.64	24.5	3.27	75.6	3.27
Austria	6.7	0.71	93.3	0.71	20.3	2.24	79.7	2.24
Belgium <sup>1</sup>	22.9	1.01	77.1	1.01	27.3	2.31	72.7	2.31
Canada	11.5	0.59	88.5	0.59	20.7	1.61	79.4	1.61
Czech Republic	0.8	0.19	99.2	0.19	1.9	0.90	98.1	0.90
Denmark	6.7	0.45	93.3	0.45	16.7	1.75	83.3	1.75
Finland	5.8	0.29	94.2	0.29	13.6	2.49	86.4	2.49
France	5.1	0.53	94.9	0.53	12.4	1.71	87.6	1.71
Germany <sup>1</sup>	7.9	0.75	92.1	0.75	21.9	3.26	78.1	3.26
Greece	2.8	0.58	97.2	0.58	6.5	2.02	93.5	2.02
Hungary	—	—	—	—	—	—	—	—
Iceland	1.9	0.28	98.1	0.28	4.7	1.04	95.4	1.04
Ireland	2.0	0.52	98.1	0.52	2.3	1.02	97.7	1.02
Italy	18.0	1.13	82.0	1.13	33.8	2.73	66.3	2.73
Japan	0.3	0.09	99.7	0.09	‡	†	99.6	0.38
Korea, Republic of	—	—	—	—	—	—	—	—
Luxembourg	28.8	0.63	71.2	0.63	50.5	1.47	49.5	1.47
Mexico	1.7	0.47	98.3	0.47	3.0	0.98	97.0	0.98
New Zealand <sup>1</sup>	10.3	0.65	89.7	0.65	25.9	2.85	74.1	2.85
Norway	6.3	0.46	93.7	0.46	13.9	1.44	86.2	1.44
Poland	1.0	0.24	99.0	0.24	2.2	0.73	97.8	0.73
Portugal	1.5	0.22	98.5	0.22	2.6	0.56	97.4	0.56
Spain	14.7	1.45	85.4	1.45	15.0	2.90	85.0	2.90
Sweden	7.4	0.65	92.6	0.65	18.3	2.51	81.7	2.51
Switzerland	18.9	0.81	81.1	0.81	42.4	1.81	57.6	1.81
United Kingdom	4.1	0.68	95.9	0.68	9.5	2.54	90.5	2.54
United States	10.8	2.36	89.2	2.36	23.5	5.40	76.5	5.40
Non-OECD countries								
Brazil	0.8	0.17	99.2	0.17	0.9	0.25	99.1	0.25
Latvia	7.0	0.94	93.0	0.94	9.2	1.61	90.9	1.61
Liechtenstein	26.9	2.38	73.1	2.38	44.8	7.29	55.2	7.29
Russian Federation	7.3	2.07	92.7	2.07	10.2	3.60	89.8	3.60

—Not available.

†Not applicable.

‡Reporting standards not met (too few cases).

<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding or some data not reported, or both.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-11. Average index scores for 15-year-old students' engagement in reading, by country: 2000**

Country	Index score	s.e.
<b>OECD average</b>	<b>0.00</b>	<b>0.004</b>
OECD countries		
Australia	-0.04	0.025
Austria	-0.08	0.034
Belgium	-0.28	0.017
Canada	0.01	0.012
Czech Republic	0.02	0.020
Denmark	0.26	0.016
Finland	0.46	0.020
France	-0.18	0.019
Germany	-0.26	0.025
Greece	-0.09	0.021
Hungary	0.03	0.021
Iceland	0.27	0.015
Ireland	-0.20	0.022
Italy	-0.08	0.025
Japan	0.20	0.027
Korea, Republic of	0.21	0.021
Luxembourg	-0.19	0.017
Mexico	0.07	0.018
New Zealand	0.05	0.021
Norway	0.09	0.018
Poland	-0.10	0.027
Portugal	0.13	0.019
Spain	-0.23	0.020
Sweden	0.14	0.020
Switzerland	#	†
United Kingdom	-0.10	0.020
United States	-0.14	0.033
Non-OECD countries		
Brazil	0.11	0.019
Latvia	-0.04	0.022
Liechtenstein	-0.13	0.058
Russian Federation	0.17	0.014

†Not applicable.

#Rounds to zero.

NOTE: Engagement in reading is based on an index of student reports of the extent to which they agreed with items designed to measure engagement in reading, such as "I read only if I have to" and "I find it hard to finish books." The indices were standardized so that the mean of the index value for the OECD student population was zero and the standard deviation was one (countries being given equal weight in the standardization process). See the Description of Variables section in appendix A for more information about the engagement in reading index. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. s.e. means standard error.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Student Questionnaire, 2000.

**Table B-12. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by level of engagement in reading and country: 2000**

Country	Overall					
	Low engagement		Medium engagement		High engagement	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>25.0</b>	<b>0.20</b>	<b>38.3</b>	<b>0.16</b>	<b>25.0</b>	<b>0.18</b>
OECD countries						
Australia	26.4	1.09	49.0	0.80	24.6	1.03
Austria	31.0	1.05	42.9	0.91	26.1	1.06
Belgium	37.4	0.97	43.3	0.79	19.2	0.58
Canada	26.9	0.49	45.9	0.40	27.3	0.46
Czech Republic	23.6	0.82	51.3	0.91	25.1	0.79
Denmark	18.0	0.69	47.3	0.86	34.7	0.78
Finland	12.9	0.58	45.7	0.88	41.5	0.89
France	31.0	0.79	48.9	0.82	20.1	0.65
Germany	37.1	1.01	41.2	0.77	21.7	0.81
Greece	20.9	0.82	64.5	0.85	14.6	0.68
Hungary	21.6	0.94	53.9	0.82	24.5	0.92
Iceland	15.4	0.59	51.4	0.78	33.3	0.65
Ireland	32.0	1.03	48.4	0.88	19.6	0.88
Italy	27.2	1.04	51.0	0.93	21.8	0.82
Japan	20.2	0.83	49.3	0.74	30.5	1.08
Korea, Republic of	17.5	0.67	52.6	0.74	29.9	0.77
Luxembourg	33.4	0.76	46.0	0.88	20.6	0.64
Mexico	16.3	0.67	62.2	0.87	21.5	0.72
New Zealand	21.3	0.80	53.0	0.94	25.7	0.83
Norway	22.5	0.76	49.4	0.88	28.1	0.79
Poland	25.3	1.13	56.9	1.10	17.9	0.90
Portugal	18.1	0.78	54.9	0.89	27.0	0.84
Spain	32.2	0.97	50.8	0.74	17.0	0.70
Sweden	22.4	0.82	47.2	0.71	30.4	0.73
Switzerland	27.5	0.98	43.8	0.93	28.7	1.12
United Kingdom	28.0	0.74	49.8	0.66	22.2	0.77
United States	30.7	1.42	47.9	1.17	21.5	1.02
Non-OECD countries						
Brazil	21.5	0.82	50.8	0.99	27.7	0.89
Latvia	21.3	0.99	60.4	1.03	18.3	0.89
Liechtenstein	33.3	2.75	43.2	3.08	23.5	2.43
Russian Federation	16.4	0.69	54.7	0.64	28.9	0.85

See notes at end of table.

**Table B-12. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by level of engagement in reading and country: 2000—Continued**

Country	Level 1 or below					
	Low engagement		Medium engagement		High engagement	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>41.9</b>	<b>0.50</b>	<b>48.0</b>	<b>0.45</b>	<b>10.1</b>	<b>0.26</b>
OECD countries						
Australia	50.2	2.93	43.4	2.49	6.4	1.52
Austria	53.1	2.31	39.7	2.13	7.2	1.21
Belgium	53.2	2.94	39.3	2.31	7.6	1.09
Canada	50.1	1.59	41.0	1.36	8.9	1.05
Czech Republic <sup>1</sup>	48.4	2.23	43.8	2.48	7.8	1.39
Denmark	38.2	1.96	48.6	2.13	13.2	1.57
Finland	37.2	4.44	52.9	4.80	9.9	2.26
France	48.7	2.21	42.2	2.21	9.2	1.16
Germany <sup>1</sup>	58.4	2.00	32.9	1.80	8.7	1.26
Greece	31.9	1.59	59.2	1.99	8.9	1.38
Hungary	40.8	2.20	50.6	1.94	8.6	1.31
Iceland	38.5	2.53	50.2	2.69	11.3	1.67
Ireland	55.9	3.30	37.7	3.01	6.4	1.88
Italy	39.9	2.05	47.7	2.09	48.4	3.68
Japan	35.9	2.80	12.1	2.05	12.1	2.05
Korea, Republic of	44.5	2.88	47.9	2.84	7.6	2.17
Luxembourg	43.6	1.58	44.9	1.50	11.5	0.94
Mexico	21.6	1.29	64.4	1.43	14.1	1.02
New Zealand	37.3	2.90	50.8	3.07	11.9	1.94
Norway	44.9	2.97	47.3	2.64	7.8	1.37
Poland	37.8	1.93	51.6	1.98	10.6	1.08
Portugal	29.4	1.89	57.1	1.96	13.5	1.39
Spain	53.5	1.96	41.5	2.04	5.0	1.00
Sweden	45.3	2.89	45.6	2.55	9.1	1.39
Switzerland	48.5	2.02	41.7	1.88	9.8	1.08
United Kingdom	48.1	2.61	43.4	2.61	8.4	1.42
United States	49.2	3.28	39.3	2.73	11.5	1.70
Non-OECD countries						
Brazil	27.4	1.24	52.4	1.24	20.2	0.98
Latvia	33.6	2.03	55.0	1.96	11.3	1.76
Liechtenstein	58.8	6.89	31.8	6.28	9.4	3.99
Russian Federation	23.7	1.76	55.6	1.82	20.7	1.32

<sup>1</sup>The item response rate for students at level 1 or below for this category is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Engagement in reading is based on an index of student reports of the extent to which they agreed with items designed to measure engagement in reading, such as “I read only if I have to” and “I find it hard to finish books.” Students with index scores in the lowest quarter were categorized as having “low” engagement in reading (index value of -0.66 or lower), and students with index scores in the top quarter (index value of 0.58 or higher) were classified as having “high” engagement in reading. See the Description of Variables section in appendix A for more information about the engagement in reading index. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding, or some data not reported, or both. SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-13. Average index scores of 15-year-old students' sense of belonging in school, by country: 2000**

Country	Index score	s.e.
<b>OECD average</b>	<b>0.00</b>	<b>0.004</b>
OECD countries		
Australia	-0.05	0.020
Austria	0.26	0.023
Belgium	-0.21	0.013
Canada	0.12	0.011
Czech Republic	-0.29	0.016
Denmark	0.13	0.022
Finland	0.02	0.014
France	-0.14	0.016
Germany	0.18	0.018
Greece	-0.02	0.020
Hungary	0.14	0.016
Iceland	0.14	0.018
Ireland	0.08	0.017
Italy	#	†
Japan	-0.35	0.019
Korea, Republic of	-0.39	0.016
Luxembourg	0.05	0.018
Mexico	0.09	0.022
New Zealand	-0.02	0.019
Norway	0.12	0.022
Poland	-0.39	0.019
Portugal	0.01	0.019
Spain	-0.01	0.017
Sweden	0.27	0.018
Switzerland	0.20	0.020
United Kingdom	0.13	0.014
United States	-0.06	0.031
Non-OECD countries		
Brazil	0.22	0.024
Latvia	-0.36	0.021
Liechtenstein	0.21	0.055
Russian Federation	-0.24	0.016

†Not applicable.

#Rounds to zero.

NOTE: Sense of belonging in school is based on an index of student reports of the extent to which they agreed with items designed to measure sense of belonging in school, such as "I feel that I belong in school" and "other students like me." The indices were standardized so that the mean of the index value for the OECD student population was zero and the standard deviation was one (countries being given equal weight in the standardization process). See the Description of Variables section in appendix A for more information about the sense of belonging in school index. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. s.e. means standard error.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Student Questionnaire, 2000.

**Table B-14. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by level of sense of belonging in school and country: 2000**

Country	Overall					
	Low sense of belonging		Medium sense of belonging		High sense of belonging	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>25.0</b>	<b>0.16</b>	<b>38.3</b>	<b>0.16</b>	<b>36.7</b>	<b>0.18</b>
OECD countries						
Australia	21.0	0.78	46.4	0.76	32.6	0.90
Austria	20.7	0.69	28.7	0.77	50.6	0.99
Belgium	32.0	0.63	40.9	0.54	27.0	0.62
Canada	20.7	0.37	38.6	0.38	40.7	0.50
Czech Republic	30.7	0.71	48.5	0.75	20.7	0.76
Denmark	21.4	0.70	36.6	0.85	42.0	1.05
Finland	21.7	0.68	39.0	0.71	39.3	0.78
France	30.5	0.75	38.5	0.73	31.0	0.79
Germany	23.2	0.60	30.6	0.91	46.1	0.87
Greece	23.1	0.83	43.5	0.88	33.3	0.95
Hungary	19.2	0.58	38.3	0.88	42.5	0.85
Iceland	22.8	0.73	33.1	0.83	44.1	0.83
Ireland	19.6	0.68	40.9	0.81	39.5	0.78
Italy	23.1	0.85	40.5	0.77	36.3	0.64
Japan	38.3	0.98	39.4	0.70	22.3	0.77
Korea, Republic of	41.6	1.07	38.8	0.87	19.6	0.70
Luxembourg	29.1	0.82	30.3	0.80	40.6	0.75
Mexico	22.4	0.89	37.2	0.79	40.4	1.01
New Zealand	21.8	0.74	43.3	0.76	34.9	0.88
Norway	21.9	0.86	33.7	0.83	44.4	0.95
Poland	42.5	1.18	37.5	1.05	20.0	0.92
Portugal	21.2	0.93	44.0	0.79	34.8	0.94
Spain	24.4	0.72	39.3	1.08	36.3	1.08
Sweden	18.3	0.55	29.7	0.71	52.0	0.86
Switzerland	21.5	0.68	31.9	0.80	46.6	0.88
United Kingdom	17.9	0.55	40.3	0.69	41.8	0.64
United States	25.2	1.01	43.8	0.87	31.0	1.20
Non-OECD countries						
Brazil	17.7	0.74	38.5	0.88	43.8	1.07
Latvia	36.5	1.05	43.0	0.97	20.4	0.78
Liechtenstein	25.0	2.19	26.8	2.45	48.2	2.54
Russian Federation	34.2	0.99	41.0	0.75	24.7	0.77

See notes at end of table.



**Table B-14. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by level of sense of belonging in school and country: 2000—Continued**

Country	Level 1 or below					
	Low sense of belonging		Medium sense of belonging		High sense of belonging	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>35.2</b>	<b>0.36</b>	<b>35.8</b>	<b>0.38</b>	<b>29.1</b>	<b>0.44</b>
OECD countries						
Australia	28.6	2.41	41.2	2.89	30.2	2.83
Austria	28.4	2.44	29.4	1.81	42.1	2.67
Belgium	43.0	1.69	36.2	1.79	20.8	1.26
Canada	31.5	1.37	34.7	1.39	33.8	1.41
Czech Republic	42.9	1.99	44.0	2.35	13.2	1.27
Denmark	27.9	1.90	36.3	2.29	35.8	2.18
Finland	26.1	2.83	36.8	3.25	37.0	3.93
France	39.8	2.33	35.3	2.13	24.9	1.67
Germany	31.7	1.99	30.2	2.09	38.1	1.83
Greece	33.3	2.17	39.1	2.45	27.6	1.91
Hungary	29.2	1.75	39.4	2.52	31.4	2.55
Iceland	29.3	2.12	30.5	2.19	40.2	2.31
Ireland	24.7	2.63	40.3	2.65	35.0	2.56
Italy	29.5	2.12	36.5	1.75	34.5	3.52
Japan	50.3	3.40	32.1	3.21	17.6	1.80
Korea, Republic of	55.0	4.13	32.2	4.05	12.8	2.37
Luxembourg	41.5	1.81	29.2	1.62	29.3	1.68
Mexico	30.2	1.39	39.4	1.36	30.4	1.46
New Zealand	34.6	2.28	41.0	2.38	24.3	2.23
Norway	32.7	2.22	30.4	2.38	36.9	2.09
Poland	61.2	2.22	27.7	1.92	11.1	1.33
Portugal	39.4	1.94	41.3	1.63	19.3	1.59
Spain	33.4	2.19	37.2	2.14	29.4	2.42
Sweden	21.8	2.01	30.4	2.13	47.8	2.42
Switzerland	30.8	1.96	31.3	1.78	37.9	1.64
United Kingdom	27.4	2.28	43.9	2.53	28.7	2.00
United States	42.8	3.07	38.8	2.13	18.4	2.21
Non-OECD countries						
Brazil	19.7	0.98	41.1	1.20	39.2	1.27
Latvia	45.0	1.80	39.9	1.70	15.1	1.24
Liechtenstein	36.7	5.93	26.1	6.15	37.2	5.74
Russian Federation	41.4	1.46	40.4	1.37	18.3	1.02

NOTE: Sense of belonging in school is based on an index of student reports of the extent to which they agreed with items designed to measure sense of belonging in school, such as "I feel that I belong in school" and "other students like me." Students with index scores in the lowest quarter were categorized as having a "low" sense of belonging (value of -0.61 or lower), and students with index scores in the top quarter (value of 0.48 or higher) were categorized as having a "high" sense of belonging. See the Description of Variables section in appendix A for more information about the sense of belonging in school index. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD member countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-15. Average index scores of 15-year-old students' effort and perseverance in schoolwork, by country: 2000**

Country	Index score	s.e.
<b>OECD average</b>	<b>0.00</b>	<b>0.004</b>
OECD countries		
Australia	0.02	0.022
Austria	0.18	0.019
Belgium	0.05	0.021
Canada	—	—
Czech Republic	-0.13	0.016
Denmark	-0.05	0.015
Finland	-0.03	0.017
France	—	—
Germany	0.07	0.015
Greece	—	—
Hungary	0.24	0.022
Iceland	-0.09	0.017
Ireland	-0.03	0.020
Italy	0.04	0.022
Japan	—	—
Korea, Republic of	-0.39	0.022
Luxembourg	-0.02	0.020
Mexico	0.19	0.021
New Zealand	-0.02	0.020
Norway	-0.16	0.018
Poland	—	—
Portugal	0.17	0.020
Spain	—	—
Sweden	0.02	0.019
Switzerland	0.01	0.020
United Kingdom <sup>1</sup>	‡	†
United States	-0.08	0.030
Non-OECD countries		
Brazil	0.40	0.025
Latvia	-0.25	0.015
Liechtenstein	0.09	0.055
Russian Federation	-0.04	0.018

—Not available.

†Not applicable.

‡Reporting standards not met (too few cases).

<sup>1</sup>The item response rate is below 50 percent.

NOTE: Effort and perseverance in schoolwork is based on an index of student reports of the extent to which they agreed with items designed to measure effort and perseverance in schoolwork, such as "I work as hard as possible" and "I keep working even if the material is difficult." The indices were standardized so that the mean of the index value for the OECD student population was zero and the standard deviation was one (countries being given equal weight in the standardization process). See the Description of Variables section in appendix A for more information about the effort and perseverance in schoolwork index. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. s.e. means standard error. SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Student Questionnaire, 2000.

**Table B-16. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by effort and perseverance in schoolwork and country: 2000**

Country	Overall					
	Low effort and perseverance		Medium effort and perseverance		High effort and perseverance	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>30.6</b>	<b>0.17</b>	<b>41.9</b>	<b>0.19</b>	<b>27.5</b>	<b>0.19</b>
OECD countries						
Australia	29.9	0.86	42.9	0.94	27.1	0.99
Austria	23.9	0.70	41.4	0.87	34.7	0.95
Belgium <sup>1</sup>	29.9	0.92	40.8	0.88	29.4	0.86
Canada	—	—	—	—	—	—
Czech Republic	35.2	0.82	44.4	0.72	20.5	0.66
Denmark	31.8	0.74	43.1	0.80	25.0	0.69
Finland	29.5	0.84	46.0	0.85	24.4	0.72
France	—	—	—	—	—	—
Germany	27.2	0.66	42.0	0.78	30.8	0.77
Greece	—	—	—	—	—	—
Hungary	19.1	0.74	47.3	0.83	33.6	0.97
Iceland	34.3	0.78	40.8	0.79	24.9	0.72
Ireland	33.3	0.83	36.5	0.80	30.2	0.75
Italy	28.4	0.77	42.8	0.89	28.8	0.93
Japan	—	—	—	—	—	—
Korea, Republic of	47.4	0.92	34.7	0.78	17.9	0.74
Luxembourg	33.1	0.91	39.5	0.95	27.3	0.81
Mexico	24.2	0.74	40.8	0.92	35.0	1.06
New Zealand	30.9	1.01	44.0	0.94	25.0	0.83
Norway	34.2	0.86	44.5	0.92	21.3	0.67
Poland	—	—	—	—	—	—
Portugal	26.6	0.89	40.9	0.82	32.5	0.89
Spain	—	—	—	—	—	—
Sweden	29.4	0.83	42.9	0.78	27.8	0.89
Switzerland	29.5	0.88	43.3	0.74	27.1	0.86
United Kingdom <sup>2</sup>	‡	†	‡	†	‡	†
United States	35.6	1.08	39.0	1.02	25.4	1.09
Non-OECD countries						
Brazil	17.0	0.84	39.2	0.92	43.9	1.05
Latvia	39.7	0.93	46.0	0.93	14.4	0.68
Liechtenstein	27.5	2.53	39.9	2.36	32.6	2.40
Russian Federation	32.5	0.69	41.1	0.58	26.4	0.76

See notes at end of table.

**Table B-16. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by effort and perseverance in schoolwork and country: 2000—Continued**

Country	Level 1 or below					
	Low effort and perseverance		Medium effort and perseverance		High effort and perseverance	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>36.9</b>	<b>0.57</b>	<b>40.2</b>	<b>0.54</b>	<b>22.8</b>	<b>0.49</b>
OECD countries						
Australia	40.5	3.07	38.5	3.11	21.1	2.55
Austria	24.3	1.69	44.6	2.36	31.1	2.11
Belgium <sup>‡</sup>	‡	†	‡	†	‡	†
Canada	—	—	—	—	—	—
Czech Republic <sup>‡</sup>	41.8	1.91	41.4	2.34	16.8	1.91
Denmark	42.5	2.04	40.5	2.04	17.0	1.73
Finland	43.6	3.66	40.3	3.68	16.1	3.81
France	—	—	—	—	—	—
Germany <sup>‡</sup>	34.5	2.13	44.7	2.15	20.9	2.12
Greece	—	—	—	—	—	—
Hungary	26.3	2.24	45.1	2.17	28.6	2.30
Iceland	49.1	3.43	35.5	2.89	15.4	1.96
Ireland	38.1	2.85	34.0	2.21	27.9	2.96
Italy	32.1	1.91	41.6	1.79	26.3	1.54
Japan	—	—	—	—	—	—
Korea, Republic of	67.4	3.67	22.7	3.35	9.9	2.26
Luxembourg <sup>‡</sup>	40.3	1.79	38.6	1.97	21.2	1.78
Mexico <sup>‡</sup>	28.4	1.39	40.9	1.32	30.7	1.67
New Zealand	42.3	2.62	40.1	2.54	17.6	2.70
Norway	50.1	2.16	38.5	1.98	11.4	1.37
Poland	—	—	—	—	—	—
Portugal	35.6	1.83	42.3	1.76	22.0	1.42
Spain	—	—	—	—	—	—
Sweden	37.8	2.73	40.4	2.92	21.8	2.35
Switzerland	31.0	2.08	44.7	1.97	24.3	1.68
United Kingdom <sup>‡</sup>	‡	†	‡	†	‡	†
United States	44.6	2.78	34.2	2.95	21.2	2.33
Non-OECD countries						
Brazil	21.7	1.29	41.4	1.72	36.9	1.54
Latvia	44.7	1.91	43.6	2.02	11.6	1.22
Liechtenstein	43.1	6.24	31.6	6.16	25.2	5.76
Russian Federation	41.5	1.41	39.3	1.43	19.3	1.31

—Not available.

†Not applicable.

‡Reporting standards not met (too few cases).

<sup>1</sup>The item response rate for students overall is below 85 percent. Missing data have not been explicitly accounted for.

<sup>2</sup>The item response rates are below 50 percent.

<sup>3</sup>The item response rate for students at level 1 or below is below 50 percent.

<sup>4</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Effort and perseverance in schoolwork is based on an index of student reports of the extent to which they agreed with items designed to measure effort and perseverance in schoolwork, such as "I work as hard as possible" and "I keep working even if the material is difficult." Students with index scores in the lowest quarter were categorized as having "low" effort and perseverance (value of -0.64 or lower) and students with index scores in the top quarter (value of 0.69 or higher) were categorized as having "high" effort and perseverance. See the Description of Variables section in appendix A for more information about this index. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding or data not reported, or both.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-17. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by frequency of missing school and country: 2000**

Country	Overall					
	Never missed school		Missed school 1 or 2 times		Missed school 3 or more times	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>63.9</b>	<b>0.18</b>	<b>27.4</b>	<b>0.14</b>	<b>8.7</b>	<b>0.10</b>
OECD countries						
Australia	57.2	1.14	34.5	1.11	8.3	0.47
Austria	63.2	1.00	31.6	0.86	5.2	0.40
Belgium	71.2	0.90	20.8	0.89	8.1	0.49
Canada	52.5	0.43	37.2	0.45	10.3	0.30
Czech Republic	46.9	1.06	38.3	0.80	14.8	0.68
Denmark	50.0	0.83	33.8	0.71	16.2	0.67
Finland	56.7	0.91	32.9	0.76	10.4	0.56
France	65.2	0.93	26.1	0.72	8.6	0.47
Germany	73.4	0.82	21.5	0.69	5.1	0.40
Greece	69.1	0.98	23.9	0.78	7.0	0.46
Hungary	66.6	0.91	23.3	0.84	10.1	0.50
Iceland	63.0	0.83	22.4	0.79	14.7	0.65
Ireland	57.3	0.92	33.8	0.88	8.9	0.46
Italy	44.1	1.16	41.7	0.89	14.2	0.72
Japan	89.3	0.81	9.1	0.70	1.6	0.26
Korea, Republic of	79.8	0.73	13.8	0.50	6.3	0.52
Luxembourg	72.6	0.65	21.1	0.64	6.3	0.40
Mexico	67.5	0.98	27.7	0.88	4.8	0.35
New Zealand	55.0	1.05	33.3	0.93	11.7	0.47
Norway	64.8	0.98	26.5	0.80	8.7	0.53
Poland	55.9	1.48	31.0	1.00	13.1	0.81
Portugal	83.6	0.67	13.6	0.60	2.8	0.29
Spain	66.3	0.91	25.7	0.70	8.0	0.42
Sweden	62.2	0.78	29.4	0.77	8.5	0.42
Switzerland	67.7	0.80	25.4	0.69	6.9	0.47
United Kingdom	65.1	0.86	28.1	0.84	6.9	0.44
United States	59.1	1.53	32.8	1.32	8.2	0.53
Non-OECD countries						
Brazil	45.4	1.48	37.0	1.16	17.6	1.09
Latvia	61.7	1.54	29.6	1.02	8.7	0.83
Liechtenstein	81.6	1.93	13.5	1.74	4.9	1.30
Russian Federation	64.6	1.11	26.2	0.94	9.3	0.44

See notes at end of table.

**Table B-17. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by frequency of missing school and country: 2000—Continued**

Country	Level 1 or below					
	Never missed school		Missed school 1 or 2 times		Missed school 3 or more times	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>54.7</b>	<b>0.43</b>	<b>29.7</b>	<b>0.39</b>	<b>15.6</b>	<b>0.34</b>
OECD countries						
Australia	47.2	2.56	41.3	2.91	11.4	1.83
Austria	62.7	2.61	28.9	2.25	8.4	1.55
Belgium	50.5	2.15	28.5	3.03	21.0	1.93
Canada	42.5	1.61	36.7	1.67	20.8	1.48
Czech Republic <sup>1</sup>	34.1	2.30	34.8	2.02	31.2	2.00
Denmark	43.6	2.41	32.5	1.96	23.9	1.94
Finland	49.7	3.86	30.2	3.89	20.1	2.66
France	46.4	2.73	31.8	2.28	21.8	2.32
Germany <sup>1</sup>	63.9	2.31	25.1	1.67	11.1	1.54
Greece	57.3	1.96	28.7	1.53	14.0	1.23
Hungary	57.5	2.36	25.5	2.04	17.0	1.51
Iceland	53.1	2.51	22.8	2.26	24.1	1.96
Ireland	49.8	2.55	33.5	2.60	16.7	1.98
Italy	25.9	2.12	44.2	2.35	29.8	2.39
Japan	75.5	3.24	18.0	2.77	6.6	1.57
Korea, Republic of	65.2	3.16	20.1	2.85	14.7	2.17
Luxembourg	64.4	1.63	25.5	1.52	10.2	0.94
Mexico	62.3	1.48	31.7	1.33	6.0	0.70
New Zealand	41.0	2.27	32.6	2.56	26.5	2.24
Norway	57.1	2.20	28.1	1.94	14.9	1.41
Poland	45.4	2.29	32.9	1.95	21.7	1.59
Portugal	76.8	1.47	17.8	1.46	5.4	0.81
Spain	50.8	2.48	32.6	2.28	16.6	1.46
Sweden	58.1	2.56	29.8	2.57	12.1	1.56
Switzerland	66.7	2.05	21.7	1.71	11.6	1.46
United Kingdom	48.1	2.62	37.1	2.53	14.9	1.55
United States	42.9	3.01	37.8	2.70	19.3	1.94
Non-OECD countries						
Brazil	40.3	1.63	38.6	1.45	21.1	1.39
Latvia	56.0	2.69	32.7	2.19	11.3	1.42
Liechtenstein	70.7	6.36	21.2	5.93	8.2	3.65
Russian Federation	58.8	2.09	29.2	1.88	12.0	1.09

<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Students were asked how often they missed school in the 2 weeks prior to taking the assessment. For more information about the missing school variable, see the Description of Variables section in appendix A. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding or some data not reported, or both.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-18. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by frequency of skipping classes and country: 2000**

Country	Overall					
	Never skipped class		Skipped class 1 or 2 times		Skipped class 3 or more times	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>81.5</b>	<b>0.13</b>	<b>13.7</b>	<b>0.11</b>	<b>4.8</b>	<b>0.08</b>
OECD countries						
Australia	85.9	0.74	10.5	0.69	3.6	0.45
Austria	85.5	1.01	10.3	0.77	4.2	0.45
Belgium	91.4	0.50	6.2	0.40	2.4	0.19
Canada	76.4	0.52	17.5	0.38	6.0	0.26
Czech Republic	91.6	0.53	6.4	0.47	2.0	0.23
Denmark	76.6	0.84	16.7	0.66	6.7	0.53
Finland	80.8	0.81	14.4	0.62	4.7	0.38
France	90.5	0.56	7.4	0.45	2.2	0.24
Germany	87.6	0.70	9.4	0.64	3.0	0.28
Greece	58.0	1.36	30.5	0.93	11.5	0.67
Hungary	84.0	0.84	13.2	0.67	2.8	0.35
Iceland	81.5	0.65	13.3	0.60	5.2	0.45
Ireland	88.0	0.75	8.9	0.56	3.1	0.35
Italy	89.4	0.59	8.1	0.47	2.5	0.27
Japan	95.8	0.61	3.0	0.37	1.3	0.33
Korea, Republic of	95.2	0.43	3.6	0.29	1.2	0.22
Luxembourg	91.7	0.46	5.3	0.39	3.0	0.31
Mexico	67.5	1.21	27.0	1.12	5.6	0.46
New Zealand	74.4	0.89	17.5	0.71	8.1	0.51
Norway	86.3	0.82	9.1	0.65	4.6	0.36
Poland	74.0	1.25	19.0	0.92	7.0	0.63
Portugal	61.1	0.83	31.3	0.85	7.6	0.49
Spain	51.2	1.11	34.6	0.83	14.2	0.70
Sweden	78.6	0.86	15.3	0.69	6.1	0.43
Switzerland	86.9	0.63	9.8	0.47	3.4	0.32
United Kingdom	90.2	0.45	7.5	0.37	2.2	0.24
United States	80.7	1.07	14.0	0.66	5.3	0.67
Non-OECD countries						
Brazil	77.4	1.38	17.5	1.05	5.1	0.52
Latvia	64.5	1.22	26.6	1.03	8.9	0.64
Liechtenstein	92.4	1.64	5.3	1.39	2.4	0.90
Russian Federation	62.5	1.17	26.8	0.85	10.7	0.53

See notes at end of table.

**Table B-18. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by frequency of skipping classes and country: 2000—Continued**

Country	Level 1 or below					
	Never skipped class		Skipped class 1 or 2 times		Skipped class 3 or more times	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>73.1</b>	<b>0.47</b>	<b>17.8</b>	<b>0.36</b>	<b>9.1</b>	<b>0.30</b>
OECD countries						
Australia	80.0	2.46	13.8	2.06	6.2	1.58
Austria	86.0	2.09	7.6	1.36	6.4	1.53
Belgium	79.5	1.53	13.9	1.11	6.7	0.76
Canada	65.7	1.55	21.6	1.23	12.7	0.95
Czech Republic <sup>1</sup>	85.7	1.86	9.6	1.48	4.7	0.99
Denmark	66.1	2.42	19.6	1.66	14.4	1.75
Finland	68.4	3.81	19.2	2.50	12.5	2.42
France	84.2	1.73	10.0	1.51	5.8	1.04
Germany <sup>1</sup>	81.1	2.46	13.6	2.25	5.3	0.87
Greece	52.6	2.49	30.9	1.73	16.6	1.54
Hungary	73.4	2.24	19.5	1.84	7.1	1.19
Iceland	67.7	2.17	18.7	1.81	13.6	1.91
Ireland	84.0	2.35	10.4	1.74	5.6	1.47
Italy	80.3	2.06	13.3	1.53	6.5	1.27
Japan	80.7	2.90	10.6	1.69	8.7	1.98
Korea, Republic of	85.3	2.46	9.4	1.83	5.4	1.62
Luxembourg	88.6	1.04	6.8	0.81	4.6	0.71
Mexico	67.5	1.54	25.8	1.44	6.7	0.85
New Zealand	61.7	2.65	22.9	1.96	15.4	1.96
Norway	76.5	1.98	12.0	1.34	11.5	1.44
Poland	64.4	2.43	23.1	1.81	12.5	1.42
Portugal	59.4	1.96	29.5	1.83	11.1	1.32
Spain	44.9	2.57	35.2	1.87	19.9	1.89
Sweden	71.8	2.26	18.4	2.01	9.8	1.53
Switzerland	85.4	1.59	9.8	1.32	4.9	0.72
United Kingdom	80.3	1.77	14.0	1.35	5.8	1.04
United States	73.0	2.52	17.4	1.92	9.6	1.63
Non-OECD countries						
Brazil	74.0	1.77	19.1	1.39	6.9	0.66
Latvia	55.6	2.40	31.5	2.12	12.9	1.33
Liechtenstein	86.6	5.06	6.1	3.41	7.3	3.55
Russian Federation	54.5	2.22	31.1	1.56	14.4	1.17

<sup>1</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Students reported how often they skipped class in the 2 weeks prior to taking the assessment. For more information about the skipping class variable, see the Description of Variables section in appendix A. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding or some data not reported, or both.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.



**Table B-19. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by frequency of receiving private tutoring outside of school and country: 2000**

Country	Overall					
	Never		Sometimes		Regularly	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>77.8</b>	<b>0.17</b>	<b>13.9</b>	<b>0.12</b>	<b>8.3</b>	<b>0.11</b>
OECD countries						
Australia	75.9	1.11	15.1	0.68	9.0	0.72
Austria	—	—	—	—	—	—
Belgium	87.6	0.47	8.8	0.34	3.6	0.27
Canada	79.4	0.50	14.5	0.41	6.1	0.27
Czech Republic	80.9	0.78	12.1	0.57	7.1	0.44
Denmark	95.7	0.34	3.0	0.30	1.3	0.23
Finland	96.4	0.37	2.3	0.26	1.3	0.19
France	79.9	0.82	12.6	0.58	7.5	0.48
Germany	73.0	0.88	17.5	0.63	9.6	0.54
Greece	—	—	—	—	—	—
Hungary	72.7	0.80	15.2	0.62	12.1	0.57
Iceland	83.3	0.65	10.6	0.51	6.2	0.44
Ireland	67.5	1.16	18.5	0.79	13.9	0.71
Italy	64.8	0.89	27.4	0.77	7.8	0.55
Japan	82.7	0.85	5.6	0.38	11.7	0.66
Korea, Republic of	67.6	1.02	21.2	0.71	11.3	0.69
Luxembourg	91.9	0.42	6.0	0.39	2.1	0.25
Mexico	78.2	0.73	17.7	0.58	4.1	0.34
New Zealand	71.2	0.82	16.4	0.65	12.4	0.64
Norway	—	—	—	—	—	—
Poland	57.1	1.24	26.7	0.86	16.2	0.96
Portugal	60.1	1.12	25.8	0.81	14.1	0.81
Spain	55.2	0.85	22.5	0.65	22.3	0.75
Sweden	95.0	0.43	3.6	0.31	1.4	0.22
Switzerland	83.0	0.83	10.6	0.57	6.4	0.51
United Kingdom	84.3	0.69	7.8	0.44	7.9	0.43
United States	84.5	0.88	12.2	0.64	3.3	0.43
Non-OECD countries						
Brazil	77.6	1.04	17.2	1.05	5.2	0.55
Latvia	63.8	1.08	25.5	0.84	10.7	0.72
Liechtenstein	83.2	2.28	11.8	1.98	4.9	1.28
Russian Federation	79.5	0.73	12.2	0.51	8.3	0.47

See notes at end of table.

**Table B-19. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by frequency of receiving private tutoring outside of school and country: 2000—Continued**

Country	Level 1 or below					
	Never		Sometimes		Regularly	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>76.6</b>	<b>0.40</b>	<b>15.9</b>	<b>0.32</b>	<b>7.5</b>	<b>0.25</b>
OECD countries						
Australia	75.2	2.74	16.7	2.25	8.1	1.65
Austria	—	—	—	—	—	—
Belgium	86.9	1.14	9.6	0.92	3.5	0.72
Canada	73.6	1.29	19.4	1.11	7.0	0.80
Czech Republic <sup>1</sup>	83.4	1.59	12.8	1.54	3.9	0.84
Denmark	92.2	1.22	5.7	0.96	2.1	0.73
Finland	94.2	1.63	4.5	1.28	1.3	0.79
France	81.4	1.64	13.0	1.30	5.6	0.95
Germany <sup>1</sup>	78.3	1.57	13.6	1.10	8.1	1.38
Greece	—	—	—	—	—	—
Hungary	75.9	1.97	15.7	1.72	8.4	1.19
Iceland	73.0	2.42	18.6	2.23	8.4	1.67
Ireland	77.0	2.80	13.3	2.19	9.7	1.79
Italy	68.2	2.09	23.1	1.96	8.7	1.25
Japan	75.0	2.76	7.8	1.48	17.2	2.28
Korea, Republic of	72.6	3.76	19.8	3.43	7.6	1.96
Luxembourg	87.2	0.98	9.2	0.95	3.5	0.72
Mexico	75.4	1.47	19.7	1.12	4.9	0.66
New Zealand	67.8	2.80	22.6	2.42	9.6	1.54
Norway	—	—	—	—	—	—
Poland	66.8	2.14	22.0	1.73	11.2	1.63
Portugal	60.4	2.11	27.3	1.47	12.3	1.53
Spain	46.8	2.26	29.7	2.64	23.5	1.90
Sweden	90.1	1.79	8.1	1.34	1.8	0.99
Switzerland	84.9	1.39	8.4	0.98	6.7	0.95
United Kingdom	84.3	1.81	11.0	1.62	4.7	1.10
United States	80.1	2.04	15.2	1.53	4.7	1.10
Non-OECD countries						
Brazil	79.4	1.24	15.9	1.16	4.7	0.64
Latvia	68.9	1.91	22.7	1.71	8.4	1.19
Liechtenstein	83.0	5.75	7.5	3.64	9.5	4.17
Russian Federation	80.9	1.02	11.6	0.90	7.4	0.77

—Not available.

<sup>1</sup>The item response rate for students at level 1 or below for this category is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Students were asked how often they received private tutoring outside of school in the 3 years prior to taking the assessment. For more information about the private tutoring variable, see the Description of Variables section in appendix A. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding or some data not reported, or both.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-20. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by frequency of remedial course attendance in the test language outside of school and country: 2000**

Country	Overall					
	Never		Sometimes		Regularly	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>92.6</b>	<b>0.11</b>	<b>5.6</b>	<b>0.09</b>	<b>1.8</b>	<b>0.06</b>
OECD countries						
Australia	94.4	0.38	4.1	0.32	1.5	0.21
Austria	94.2	0.45	4.7	0.41	1.0	0.13
Belgium <sup>1</sup>	97.9	0.37	1.7	0.32	0.4	0.13
Canada	94.4	0.26	4.9	0.22	0.8	0.08
Czech Republic	—	—	—	—	—	—
Denmark	93.5	0.51	4.7	0.41	1.8	0.23
Finland	98.6	0.20	1.2	0.18	0.1	0.07
France	89.6	0.55	8.1	0.50	2.3	0.22
Germany	95.3	0.40	3.2	0.29	1.4	0.19
Greece	—	—	—	—	—	—
Hungary	88.5	0.58	8.9	0.51	2.6	0.28
Iceland	91.9	0.50	6.4	0.47	1.8	0.23
Ireland	97.7	0.32	1.5	0.27	0.8	0.15
Italy	91.4	0.53	7.3	0.53	1.3	0.16
Japan	—	—	—	—	—	—
Korea, Republic of	82.6	0.70	11.8	0.59	5.6	0.41
Luxembourg	91.1	0.55	6.5	0.49	2.4	0.27
Mexico	88.2	0.85	10.6	0.77	1.2	0.21
New Zealand	90.0	0.62	7.2	0.51	2.8	0.30
Norway	96.3	0.26	2.4	0.28	1.3	0.22
Poland	84.8	0.71	11.9	0.65	3.3	0.33
Portugal	—	—	—	—	—	—
Spain	91.1	0.54	5.4	0.37	3.5	0.31
Sweden	98.6	0.21	1.1	0.17	0.4	0.10
Switzerland	93.5	0.51	4.1	0.39	2.4	0.26
United Kingdom	—	—	—	—	—	—
United States	94.6	0.62	4.5	0.51	0.9	0.18
Non-OECD countries						
Brazil	82.7	0.83	15.3	0.75	2.0	0.30
Latvia	84.4	0.93	13.7	0.86	1.9	0.24
Liechtenstein	94.7	1.25	3.6	1.10	1.7	0.77
Russian Federation	—	—	—	—	—	—

See notes at end of table.

**Table B-20. Percentage distributions of 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by frequency of remedial course attendance in the test language outside of school and country: 2000—Continued**

Country	Level 1 or below					
	Never		Sometimes		Regularly	
	Percent	s.e.	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>82.5</b>	<b>0.37</b>	<b>13.4</b>	<b>0.29</b>	<b>4.2</b>	<b>0.22</b>
OECD countries						
Australia	80.6	2.75	12.6	2.24	6.8	1.48
Austria	85.8	1.51	11.7	1.38	2.5	0.75
Belgium <sup>2</sup>	‡	†	‡	†	‡	†
Canada	81.5	1.37	15.4	1.20	3.1	0.49
Czech Republic	—	—	—	—	—	—
Denmark	79.9	2.03	14.5	1.70	5.7	0.97
Finland	93.2	1.73	6.1	1.48	‡	†
France	77.7	2.05	16.8	1.94	5.5	0.97
Germany <sup>3</sup>	90.1	1.20	7.2	0.93	2.7	0.65
Greece	—	—	—	—	—	—
Hungary	76.9	1.66	17.9	1.56	5.2	1.00
Iceland	79.7	2.13	16.6	1.77	3.7	1.27
Ireland	89.5	1.96	6.4	1.67	4.1	1.02
Italy	78.8	1.57	17.4	1.47	3.8	0.70
Japan	—	—	—	—	—	—
Korea, Republic of	83.3	3.02	11.8	2.61	4.9	1.57
Luxembourg	83.6	1.30	11.9	1.11	4.4	0.69
Mexico	81.1	1.29	16.6	1.18	2.4	0.41
New Zealand	72.8	2.60	20.5	2.49	6.7	1.20
Norway	85.1	1.58	8.7	1.45	6.3	1.17
Poland	80.7	1.60	15.1	1.52	4.1	0.83
Portugal	—	—	—	—	—	—
Spain	80.4	1.93	13.3	1.50	6.3	0.98
Sweden	92.1	1.29	5.8	1.11	2.1	0.71
Switzerland	83.7	1.57	10.7	1.28	5.6	0.87
United Kingdom	—	—	—	—	—	—
United States	83.5	1.81	13.5	1.58	3.0	0.68
Non-OECD countries						
Brazil	77.5	1.30	19.9	1.23	2.6	0.45
Latvia	74.0	2.06	23.3	1.89	2.8	0.62
Liechtenstein	79.8	5.14	13.6	4.72	6.6	3.24
Russian Federation	—	—	—	—	—	—

—Not available.

†Not applicable.

‡Reporting standards not met (too few cases).

<sup>1</sup>The item response rate for students overall is below 85 percent. Missing data have not been explicitly accounted for.

<sup>2</sup>The item response rate for students at level 1 or below is below 50 percent.

<sup>3</sup>The item response rate for students at level 1 or below is below 85 percent. Missing data have not been explicitly accounted for.

NOTE: Students were asked how often they attended remedial courses outside of school in the 3 years prior to taking the assessment. For information about the variable remedial courses in the test language outside of school, see the Description of Variables section in appendix A. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding or some data not reported, or both. SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-21. Percentage distributions of 15-year-old students' career expectations, by selected job categories and country: 2000**

Country	Armed forces		Clerks	
	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	#	#	<b>3.3</b>	<b>0.07</b>
OECD countries				
Australia	#	†	1.4	0.26
Austria	1.0	0.04	8.9	0.61
Belgium <sup>1</sup>	#	†	4.5	0.48
Canada	‡	†	0.8	0.07
Czech Republic	#	†	5.8	0.67
Denmark <sup>2</sup>	‡	†	‡	†
Finland <sup>1</sup>	#	†	1.9	0.20
France	‡	†	2.3	0.32
Germany <sup>1</sup>	0.1	0.04	8.1	0.57
Greece	#	†	0.9	0.17
Hungary	#	†	2.8	0.48
Iceland	#	†	0.6	0.13
Ireland	‡	†	1.7	0.23
Italy	‡	†	7.1	0.83
Japan <sup>1</sup>	0.7	0.18	3.5	0.73
Korea, Republic of	#	†	4.9	0.40
Luxembourg <sup>1</sup>	1.1	0.18	4.8	0.41
Mexico	#	†	2.1	0.38
New Zealand	#	†	1.6	0.23
Norway	#	†	1.5	0.27
Poland <sup>1</sup>	#	†	2.1	0.53
Portugal	‡	†	2.8	0.25
Spain	0.1	0.04	3.3	0.32
Sweden	#	†	0.7	0.12
Switzerland	1.2	0.19	7.3	0.47
United Kingdom	#	†	4.2	0.30
United States <sup>1</sup>	#	†	#	†
Non-OECD countries				
Brazil	#	†	4.9	0.46
Latvia	#	†	2.9	0.43
Liechtenstein	1.1	0.65	10.6	1.75
Russian Federation	#	†	0.6	0.11

See notes at end of table.

**Table B-21. Percentage distributions of 15-year-old students' career expectations, by selected job categories and country: 2000—Continued**

Country	Craft and related trade workers		Elementary occupations <sup>3</sup>	
	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>8.8</b>	<b>0.15</b>	<b>13.1</b>	<b>0.13</b>
OECD countries				
Australia	9.3	0.77	12.4	0.58
Austria	11.1	1.02	15.2	0.78
Belgium <sup>1</sup>	14.5	1.43	3.2	0.36
Canada	6.1	0.24	11.0	0.28
Czech Republic	15.0	1.03	15.9	0.67
Denmark <sup>2</sup>	‡	†	‡	†
Finland <sup>1</sup>	10.4	0.58	8.8	0.46
France	8.1	0.59	25.8	1.00
Germany <sup>1</sup>	16.0	1.21	12.7	0.56
Greece	9.2	0.92	5.9	0.51
Hungary	14.8	1.11	10.1	0.53
Iceland	6.3	0.38	20.0	0.71
Ireland	10.3	0.73	11.5	0.52
Italy	4.3	0.80	9.1	0.57
Japan <sup>1</sup>	3.6	0.64	36.5	1.20
Korea, Republic of	1.2	0.18	13.6	0.55
Luxembourg <sup>1</sup>	6.7	0.46	16.7	0.66
Mexico	2.0	0.28	7.9	0.53
New Zealand	6.5	0.69	8.6	0.54
Norway	12.5	0.58	15.7	0.66
Poland <sup>1</sup>	13.9	1.67	‡	†
Portugal	4.8	0.45	7.7	0.57
Spain	7.6	0.54	12.6	0.49
Sweden	7.1	0.45	16.4	0.64
Switzerland	12.7	0.80	22.6	0.91
United Kingdom	7.4	0.49	18.5	0.92
United States <sup>1</sup>	4.5	0.43	5.5	0.48
Non-OECD countries				
Brazil	2.2	0.31	0.1	0.06
Latvia	12.4	1.21	2.6	0.32
Liechtenstein	13.5	1.82	31.2	3.16
Russian Federation	9.9	0.69	16.7	0.78

See notes at end of table.

**Table B-21. Percentage distributions of 15-year-old students' career expectations, by selected job categories and country: 2000—Continued**

Country	Legislators, senior officials, and managers		Plant and machine operators and assemblers	
	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>4.9</b>	<b>0.08</b>	<b>0.9</b>	<b>0.04</b>
OECD countries				
Australia	6.5	0.45	#	†
Austria	7.8	0.66	0.7	0.16
Belgium <sup>1</sup>	4.9	0.53	1.7	0.29
Canada	4.0	0.16	0.7	0.07
Czech Republic	6.4	0.49	1.4	0.20
Denmark <sup>2</sup>	‡	†	‡	†
Finland <sup>1</sup>	5.7	0.38	2.8	0.29
France	2.3	0.25	0.7	0.23
Germany <sup>1</sup>	2.5	0.34	0.6	0.12
Greece	11.0	0.71	0.8	0.12
Hungary	5.8	0.48	1.7	0.25
Iceland	2.2	0.30	#	†
Ireland	6.2	0.43	0.6	0.15
Italy	7.0	0.41	0.8	0.24
Japan <sup>1</sup>	0.6	0.12	0.9	0.14
Korea, Republic of	9.2	0.71	#	†
Luxembourg <sup>1</sup>	1.3	0.16	0.8	0.18
Mexico	1.5	0.21	#	†
New Zealand	6.6	0.48	0.8	0.15
Norway	3.8	0.35	1.4	0.20
Poland <sup>1</sup>	5.1	0.55	1.6	0.30
Portugal	6.0	0.47	1.3	0.21
Spain	3.9	0.31	#	†
Sweden	4.3	0.31	2.1	0.22
Switzerland	1.7	0.28	0.6	0.12
United Kingdom	5.0	0.29	0.6	0.13
United States <sup>1</sup>	4.1	0.45	0.7	0.22
Non-OECD countries				
Brazil	10.7	0.71	2.2	0.34
Latvia	8.8	0.57	2.9	0.38
Liechtenstein	1.5	0.76	1.1	0.38
Russian Federation	7.2	0.40	6.8	0.50

See notes at end of table.

**Table B-21. Percentage distributions of 15-year-old students' career expectations, by selected job categories and country: 2000—Continued**

Country	Professionals		Service workers, shop, and market sales workers	
	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>40.8</b>	<b>0.21</b>	<b>10.5</b>	<b>0.13</b>
OECD countries				
Australia	41.5	1.05	10.4	0.52
Austria	27.9	1.06	8.3	0.72
Belgium <sup>1</sup>	51.5	1.34	9.7	0.75
Canada	50.8	0.53	9.4	0.27
Czech Republic	23.7	1.06	16.2	1.00
Denmark <sup>2</sup>	‡	†	‡	†
Finland <sup>1</sup>	40.3	1.00	13.9	0.61
France	29.5	0.92	12.4	0.75
Germany <sup>1</sup>	22.9	0.81	12.7	0.61
Greece	48.4	1.22	10.7	0.58
Hungary	32.1	1.37	16.2	1.48
Iceland	43.5	0.96	12.0	0.59
Ireland	44.7	1.03	10.4	0.56
Italy	37.5	1.34	8.1	0.66
Japan <sup>1</sup>	35.9	1.30	9.4	0.70
Korea, Republic of	49.9	1.07	8.4	0.56
Luxembourg <sup>1</sup>	30.9	0.90	9.5	0.57
Mexico	72.9	1.17	1.6	0.25
New Zealand	41.5	1.05	13.5	0.64
Norway	37.4	0.99	11.2	0.61
Poland <sup>1</sup>	45.2	1.80	13.3	1.54
Portugal	55.6	1.25	6.7	0.49
Spain	45.3	1.06	8.9	0.53
Sweden	34.0	0.77	9.5	0.51
Switzerland	24.4	1.10	9.1	0.55
United Kingdom	35.5	0.92	12.1	0.59
United States <sup>1</sup>	58.6	1.34	7.8	0.53
Non-OECD countries				
Brazil	62.1	1.06	3.0	0.30
Latvia	40.7	1.87	15.2	1.05
Liechtenstein	18.1	2.01	6.5	1.66
Russian Federation	40.2	1.11	6.4	0.51

See notes at end of table.



**Table B-21. Percentage distributions of 15-year-old students' career expectations, by selected job categories and country: 2000—Continued**

Country	Skilled agricultural and fishery workers		Technicians and associate professionals	
	Percent	s.e.	Percent	s.e.
<b>OECD average</b>	<b>1.0</b>	<b>0.04</b>	<b>16.5</b>	<b>0.16</b>
OECD countries				
Australia	1.1	0.19	17.0	0.58
Austria	0.6	0.15	19.5	0.96
Belgium <sup>1</sup>	0.8	0.14	8.7	0.43
Canada	1.0	0.09	16.1	0.27
Czech Republic	1.2	0.31	14.4	0.98
Denmark <sup>2</sup>	‡	†	‡	†
Finland <sup>1</sup>	1.8	0.29	14.5	0.52
France	1.8	0.32	17.1	0.61
Germany <sup>1</sup>	1.1	0.22	23.3	0.90
Greece	0.3	0.09	13.0	0.58
Hungary	1.9	0.44	14.8	0.77
Iceland	1.6	0.24	13.2	0.68
Ireland	1.4	0.20	13.1	0.65
Italy	1.4	0.54	24.6	1.69
Japan <sup>1</sup>	0.4	0.12	8.5	0.63
Korea, Republic of	0.4	0.14	12.2	0.78
Luxembourg <sup>1</sup>	1.9	0.25	26.3	0.93
Mexico	0.1	0.06	11.7	0.73
New Zealand	2.0	0.27	19.0	0.73
Norway	0.4	0.10	16.1	0.79
Poland <sup>1</sup>	#	†	18.5	1.86
Portugal	#	†	14.8	0.56
Spain	0.6	0.10	17.3	0.67
Sweden	1.0	0.14	25.0	0.70
Switzerland	2.4	0.31	17.9	0.70
United Kingdom	#	†	16.6	0.66
United States <sup>1</sup>	0.6	0.17	17.6	0.96
Non-OECD countries				
Brazil	#	†	14.6	0.67
Latvia	1.0	0.20	13.7	0.73
Liechtenstein	‡	†	15.6	2.41
Russian Federation	1.0	0.27	10.9	0.80

†Not applicable.

#Rounds to zero.

‡Reporting standards not met (too few cases).

<sup>1</sup>The item response rate is below 85 percent. Missing data have not been explicitly accounted for.

<sup>2</sup>The item response rate is below 50 percent.

<sup>3</sup>Elementary occupations consist mainly of simple and routine tasks that mainly require the use of hand-held tools and often some physical effort. Most occupations in this major group require skills at the first ISCO skill level (a primary education, which generally begins at the age of 5, 6, or 7 and lasts about 5 years) (ILO 1990). For more information about the job expectations variable, see the Description of Variables section in appendix A.

NOTE: For information about the job expectations variable, see the Description of Variables section in appendix A. The OECD average is the average of the national averages of the OECD member countries with data available. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and are not included in the OECD average. s.e. means standard error. Detail may not sum to totals because of rounding or some data not reported, or both.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Student Questionnaire, 2000.

**Table B-22. Percentage distributions of U.S. 15-year-old students overall and scoring at level 1 or below on the combined reading literacy scale, by selected job expectations: 2000**

Job expectation	Overall		Level 1 or below	
	Percent	s.e.	Percent	s.e.
Armed forces <sup>1</sup>	#	†	#	†
Clerks <sup>1</sup>	0.4	0.08	0.9	0.38
Craft and related trade workers <sup>1</sup>	4.5	0.43	10.7	2.06
Elementary occupations <sup>1,2</sup>	5.5	0.48	8.6	1.74
Legislators, senior officials, and managers <sup>1</sup>	4.1	0.45	3.2	2.91
Plant and machine operators and assemblers <sup>1</sup>	0.7	0.22	2.3	1.15
Professionals <sup>1</sup>	58.6	1.34	38.4	2.91
Service workers, shop, and market sales workers <sup>1</sup>	7.8	0.53	14.1	2.28
Skilled agricultural and fishery workers <sup>1</sup>	0.6	0.17	1.1	0.60
Technicians and associate professionals <sup>1</sup>	17.6	0.96	20.8	2.57

†Not applicable.

#Rounds to zero.

<sup>1</sup>Item response rates for students overall and for students at level 1 or below are below 85 percent. Missing data have not been explicitly accounted for.

<sup>2</sup>Elementary occupations consist mainly of simple and routine tasks that mainly require the use of hand-held tools and often some physical effort. Most occupations in this major group require skills at the first ISCO skill level (a primary education, which generally begins at the age of 5, 6, or 7 and lasts about 5 years) (ILO 1990). For more information about the job expectations variable, see the Description of Variables section in appendix A.

NOTE: For information about the how the job expectations variable was created, see the Description of Variables section in appendix A. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. The overall percentage refers to the sample estimate for the overall 15-year-old student population. s.e. means standard error. Detail may not sum to totals because of rounding or some data not reported, or both.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.

**Table B-23. Relative likelihood ratios for selected student characteristics of 15-year-old students scoring at level 1 or below on the combined reading literacy scale compared to the overall 15-year-old student population, by country: 2000**

Country	Male		Low SES		Both parents foreign born	
	Ratio	s.e.	Ratio	s.e.	Ratio	s.e.
<b>OECD average</b>	<b>1.2</b>	<b>0.01</b>	<b>1.5</b>	<b>0.01</b>	<b>2.0</b>	<b>0.02</b>
OECD countries						
Australia	1.3	0.01	1.7	0.04	1.2	0.04
Austria	1.2	#	1.6	0.05	2.8	0.02
Belgium	1.2	0.02	1.6	0.04	2.7	0.06
Canada	1.4	0.01	1.6	0.03	1.3	0.05
Czech Republic	1.4	#	1.5	0.05	1.9	0.23
Denmark	1.2	0.02	1.6	0.04	2.6	0.09
Finland	1.6	0.05	1.4	0.11	4.3	0.37
France	1.3	0.02	1.5	0.03	1.9	0.01
Germany	1.2	0.01	1.7	0.04	2.3	0.04
Greece	1.3	0.02	1.4	0.05	2.0	0.10
Hungary	1.2	0.01	1.5	0.05	1.0	0.20
Iceland	1.4	0.02	1.4	0.05	2.6	0.32
Ireland	1.2	0.03	1.5	0.04	0.6	0.21
Italy	1.3	0.02	1.3	0.04	1.9	0.32
Japan	1.4	0.02	1.2	0.16	—	—
Korea, Republic of	1.3	0.01	1.5	0.01	—	—
Luxembourg	1.2	0.01	1.3	0.02	1.7	0.01
Mexico	1.1	#	1.3	0.01	1.9	0.02
New Zealand	1.4	0.01	1.7	0.06	1.5	0.08
Norway	1.4	0.02	1.6	0.02	2.0	0.06
Poland	1.3	#	1.4	0.03	3.1	0.38
Portugal	1.2	0.02	1.5	0.01	1.2	0.16
Spain	1.3	0.02	1.4	0.03	1.8	0.22
Sweden	1.4	0.03	1.5	0.04	2.2	0.04
Switzerland	1.2	0.02	1.6	0.02	2.2	0.01
United Kingdom	1.2	0.02	1.8	0.02	1.7	0.13
United States	1.3	0.02	1.7	0.01	1.6	0.01
Non-OECD countries						
Brazil	1.1	#	1.1	#	1.5	0.03
Latvia	1.4	0.01	1.2	0.03	1.0	#
Liechtenstein	1.3	0.07	1.6	0.01	1.9	0.16
Russian Federation	1.3	0.00	1.3	0.02	1.1	0.03

See notes at end of table.

**Table B-23. Relative likelihood ratios for selected student characteristics of 15-year-old students scoring at level 1 or below on the combined reading literacy scale compared to the overall 15-year-old student population, by country: 2000—Continued**

Country	Foreign born		Non-test-language		Non-college-educated parents	
	Ratio	s.e.	Ratio	s.e.	Ratio	s.e.
<b>OECD average</b>	<b>1.9</b>	<b>0.02</b>	<b>2.0</b>	<b>0.02</b>	<b>1.2</b>	<b>#</b>
OECD countries						
Australia	1.4	0.08	1.4	0.05	1.3	0.02
Austria	2.8	0.05	3.0	0.02	1.2	0.02
Belgium	1.9	0.11	1.2	0.05	1.1	0.03
Canada	1.7	0.07	1.8	0.05	1.5	0.02
Czech Republic	1.6	0.28	2.3	0.57	1.2	#
Denmark	2.0	0.10	2.5	0.01	1.5	0.02
Finland	2.5	0.29	2.3	0.31	1.1	0.04
France	2.2	0.13	2.5	0.08	1.1	0.02
Germany	2.3	0.11	2.8	0.15	1.2	0.03
Greece	1.8	0.12	2.3	0.24	1.2	0.01
Hungary	1.0	0.17	—	—	1.2	#
Iceland	1.3	0.13	2.4	0.18	1.1	0.02
Ireland	0.6	0.17	1.2	0.21	1.1	0.03
Italy	1.7	0.18	1.9	0.03	1.1	0.01
Japan	—	—	—	—	—	—
Korea, Republic of	—	—	—	—	1.1	0.02
Luxembourg	1.8	0.02	1.8	0.01	1.2	0.01
Mexico	1.8	0.02	1.8	0.07	1.1	0.01
New Zealand	1.4	0.09	2.5	0.12	1.2	0.04
Norway	1.8	0.07	2.2	0.07	1.1	0.03
Poland	2.2	0.32	2.2	0.19	1.2	#
Portugal	1.1	0.06	1.7	0.12	1.1	#
Spain	13.5	1.64	1.0	0.01	1.2	#
Sweden	2.2	0.16	2.5	0.12	1.1	0.03
Switzerland	0.3	0.08	2.2	#	1.2	0.01
United Kingdom	1.8	0.09	2.3	0.24	1.2	0.02
United States	1.7	0.05	2.2	0.02	1.3	#
Non-OECD countries						
Brazil	1.0	0.16	1.1	0.08	1.1	#
Latvia	1.0	0.01	1.3	0.05	1.1	0.01
Liechtenstein	2.4	0.19	1.7	0.12	1.2	0.03
Russian Federation	0.9	0.05	1.4	0.01	1.1	#

See notes at end of table.

**Table B-23. Relative likelihood ratios for selected student characteristics of 15-year-old students scoring at level 1 or below on the combined reading literacy scale compared to the overall 15-year-old student population, by country: 2000—Continued**

Country	Low engagement in reading		Low sense of belonging in school		Low effort and perseverance in schoolwork	
	Ratio	s.e.	Ratio	s.e.	Ratio	s.e.
<b>OECD average</b>	<b>1.7</b>	<b>0.01</b>	<b>1.4</b>	<b>0.01</b>	<b>1.2</b>	<b>0.01</b>
OECD countries						
Australia	1.9	0.03	1.4	0.06	1.4	0.06
Austria	1.7	0.02	1.4	0.07	1.0	0.04
Belgium	1.4	0.04	1.3	0.03	1.2	0.09
Canada	1.9	0.03	1.5	0.04	—	—
Czech Republic	2.1	0.02	1.4	0.03	1.2	0.03
Denmark	2.1	0.03	1.3	0.05	1.3	0.03
Finland	2.9	0.22	1.2	0.09	1.5	0.08
France	1.6	0.03	1.3	0.04	—	—
Germany	1.6	0.01	1.4	0.05	1.3	0.05
Greece	1.5	0.02	1.4	0.04	—	—
Hungary	1.9	0.02	1.5	0.05	1.4	0.06
Iceland	2.5	0.07	1.3	0.05	1.4	0.07
Ireland	1.7	0.05	1.3	0.09	1.1	0.06
Italy	1.5	0.02	1.3	0.04	1.1	0.04
Japan	1.8	0.07	1.3	0.06	—	—
Korea, Republic of	2.5	0.07	1.3	0.07	1.4	0.05
Luxembourg	1.3	0.02	1.4	0.02	1.2	0.02
Mexico	1.3	0.02	1.4	0.01	1.2	0.02
New Zealand	1.8	0.07	1.6	0.05	1.4	0.04
Norway	2.0	0.06	1.5	0.04	1.5	0.03
Poland	1.5	0.01	1.4	0.01	—	—
Portugal	1.6	0.03	1.9	0.01	1.3	0.02
Spain	1.7	0.01	1.4	0.05	—	—
Sweden	2.0	0.05	1.2	0.07	1.3	0.06
Switzerland	1.8	0.01	1.4	0.05	1.1	0.04
United Kingdom	1.7	0.05	1.5	0.08	1.3	0.06
United States	1.6	0.03	1.7	0.05	1.3	0.04
Non-OECD countries						
Brazil	1.3	0.01	1.1	0.01	1.3	0.01
Latvia	1.6	0.02	1.2	0.01	1.1	0.02
Liechtenstein	1.8	0.06	1.5	0.11	1.6	0.08
Russian Federation	1.4	0.05	1.2	0.01	1.3	0.02

See notes at end of table.

**Table B-23. Relative likelihood ratios for selected student characteristics of 15-year-old students scoring at level 1 or below on the combined reading literacy scale compared to the overall 15-year-old student population, by country: 2000—Continued**

Country	Miss school frequently		Skip class frequently	
	Ratio	s.e.	Ratio	s.e.
<b>OECD average</b>	<b>1.8</b>	<b>0.02</b>	<b>1.9</b>	<b>0.03</b>
OECD countries				
Australia	1.4	0.14	1.7	0.22
Austria	1.6	0.17	1.5	0.20
Belgium	2.6	0.08	2.8	0.10
Canada	2.0	0.08	2.1	0.07
Czech Republic	2.1	0.04	2.3	0.22
Denmark	1.5	0.06	2.2	0.09
Finland	1.9	0.15	2.6	0.30
France	2.5	0.13	2.6	0.19
Germany	2.2	0.13	1.8	0.13
Greece	2.0	0.05	1.4	0.05
Hungary	1.7	0.07	2.5	0.11
Iceland	1.6	0.06	2.6	0.14
Ireland	1.9	0.12	1.8	0.27
Italy	2.1	0.06	2.6	0.23
Japan	4.1	0.31	6.9	0.22
Korea, Republic of	2.3	0.15	4.6	0.52
Luxembourg	1.6	0.05	1.5	0.08
Mexico	1.2	0.06	1.2	0.05
New Zealand	2.3	0.10	1.9	0.12
Norway	1.7	0.06	2.5	0.12
Poland	1.7	0.02	1.8	0.04
Portugal	1.9	0.09	1.5	0.08
Spain	2.1	0.07	1.4	0.06
Sweden	1.4	0.11	1.6	0.14
Switzerland	1.7	0.10	1.4	0.08
United Kingdom	2.2	0.09	2.6	0.19
United States	2.4	0.09	1.8	0.08
Non-OECD countries				
Brazil	1.2	0.01	1.3	0.01
Latvia	1.3	0.04	1.4	0.05
Liechtenstein	1.7	0.30	3.1	0.32
Russian Federation	1.3	0.06	1.3	0.04

See notes at end of table.

**Table B-23. Relative likelihood ratios for selected student characteristics of 15-year-old students scoring at level 1 or below on the combined reading literacy scale compared to the overall 15-year-old student population, by country: 2000—Continued**

Country	Attend private tutoring outside of school regularly		Attend remedial classes in the test language outside of school regularly	
	Ratio	s.e.	Ratio	s.e.
<b>OECD average</b>	<b>0.9</b>	<b>0.02</b>	<b>2.3</b>	<b>0.05</b>
OECD countries				
Australia	0.9	0.11	4.6	0.35
Austria	—	—	2.4	0.43
Belgium	1.0	0.13	6.7	0.36
Canada	1.1	0.08	4.0	0.24
Czech Republic	0.5	0.08	—	—
Denmark	1.6	0.28	3.1	0.14
Finland	0.9	0.45	—	—
France	0.7	0.08	2.4	0.20
Germany	0.8	0.10	1.9	0.20
Greece	—	—	—	—
Hungary	0.7	0.07	2.0	0.17
Iceland	1.4	0.17	2.1	0.45
Ireland	0.7	0.09	5.0	0.32
Italy	1.1	0.08	2.9	0.19
Japan	1.5	0.11	—	—
Korea, Republic of	0.7	0.13	0.9	0.22
Luxembourg	1.7	0.15	1.8	0.08
Mexico	1.2	0.06	2.0	#
New Zealand	0.8	0.08	2.4	0.18
Norway	—	—	4.7	0.11
Poland	0.7	0.06	1.3	0.12
Portugal	0.9	0.06	—	—
Spain	1.1	0.05	1.8	0.12
Sweden	1.3	0.52	6.0	0.30
Switzerland	1.0	0.07	2.3	0.11
United Kingdom	0.6	0.11	—	—
United States	1.4	0.15	3.4	0.08
Non-OECD countries				
Brazil	0.9	0.03	1.3	0.03
Latvia	0.8	0.06	1.5	0.14
Liechtenstein	1.9	0.34	3.8	0.17
Russian Federation	0.9	0.04	—	—

—Not available.

#Rounds to zero.

NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. For more information about the selected characteristic variables, see the Description of Variables section in appendix A. The overall percentage refers to the sample estimate for the overall 15-year-old student population in the United States. s.e. means standard error. Relative likelihood (risk) ratio is calculated across two groups: 1) low-performing students (scoring at level 1 or below) and 2) the overall 15-year-old student population (scoring at all proficiency levels: below level 1, level 1, level 2, level 3, level 4, and level 5). A relative likelihood ratio greater than 1 implies that a particular characteristic is more likely to be observed among the low performers than for the overall 15-year-old-student population. A relative likelihood ratio less than 1 implies that a particular characteristic is less likely to be observed among the low performers than for the overall 15-year-old-student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Questionnaire, 2000.

**Table B-24. Relative likelihood ratios of U.S. 15-year-old students scoring at level 1 or below on the combined reading literacy scale compared to the overall U.S. 15-year-old student population, by race/ethnicity: 2000**

Race/ethnicity	Ratio	s.e.
White, non-Hispanic	0.5	0.04
Black, non-Hispanic	2.0	0.03
Hispanic	2.0	0.07
Other	1.0	0.10

NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. For more information about the race/ethnicity variable, see the Description of Variables section in appendix A. The “other” group comprises students identifying themselves as American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, or multiracial since the numbers of these students are too small to report by individual categories. The overall percentage refers to the sample estimate for the overall 15-year-old student population in the United States. s.e. means standard error. Relative likelihood (risk) ratio is calculated across two groups: 1) low-performing students (scoring at level 1 or below) and 2) the overall 15-year-old student population (scoring at all proficiency levels: below level 1, level 1, level 2, level 3, level 4, and level 5). A relative likelihood ratio greater than 1 implies that a particular characteristic is more likely to be observed among the low performers than for the overall 15-year-old-student population. A relative likelihood ratio less than 1 implies that a particular characteristic is less likely to be observed among the low performers than for the overall 15-year-old-student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.



**Table B-25. Relative likelihood ratios of U.S. 15-year-old students scoring at level 1 or below on the combined reading literacy scale compared to the overall U.S. 15-year-old student population, by selected job expectations: 2000**

Job expectation	Ratio	s.e.
Clerks <sup>1</sup>	2.3	0.51
Craft and related trade workers <sup>1</sup>	2.4	0.23
Elementary occupations <sup>1,2</sup>	1.5	0.18
Legislators, senior officials, and managers <sup>1</sup>	0.8	0.62
Plant and machine operators and assemblers <sup>1</sup>	3.4	0.62
Professionals <sup>1</sup>	0.7	0.03
Service workers, shop, and market sales workers <sup>1</sup>	1.8	0.17
Technicians and associate professionals <sup>1</sup>	1.2	0.08

<sup>1</sup>Item response rates for students overall and for students at level 1 or below are below 85 percent. Missing data have not been explicitly accounted for.

<sup>2</sup>Elementary occupations consist mainly of simple and routine tasks that mainly require the use of hand-held tools and often some physical effort. Most occupations in this major group require skills at the first ISCO skill level (a primary education, which generally begins at the age of 5, 6, or 7 and lasts about 5 years) (ILO 1990). For more information about the job expectations variable, see the Description of Variables section in appendix A.

NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring 407 or below on the combined reading scale were classified at level 1 or below. For information about the how the job expectations variable was created, see the Description of Variables section in appendix A. The overall percentage refers to the sample estimate for the overall 15-year-old student population in the United States. s.e. means standard error. Relative likelihood (risk) ratio is calculated across two groups: 1) low-performing students (scoring at level 1 or below) and 2) the overall 15-year-old student population (scoring at all proficiency levels: below level 1, level 1, level 2, level 3, level 4, and level 5). A relative likelihood ratio greater than 1 implies that a particular characteristic is more likely to be observed among the low performers than for the overall 15-year-old-student population. A relative likelihood ratio less than 1 implies that a particular characteristic is less likely to be observed among the low performers than for the overall 15-year-old-student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), Assessment Items and Student Questionnaire, 2000.



## Appendix C: Sample Items



## Sample Items

These PISA sample items illustrate a range of questions across the PISA reading literacy domain. Included are both multiple-choice and free-response item formats. For each sample item, information is provided on the level of the item and specific reading processes or aspects such as retrieving information, interpreting texts, and reflecting on texts. The items show actual student responses from level 1 or below and level 5 students as well as the U.S. percent correct and the OECD average percent correct for level 1 or below and level 5 students. For information on the percent correct for each of the 31 other PISA countries, see *Knowledge and Skills for Life: First Results from the OECD Programme for International Student Assessment* (OECD 2001).

## The Gift

5 How many days, she wondered, had she sat like this, watching the cold brown water inch up the dissolving bluff. She could just faintly remember the beginning of the rain, driving in across the swamp from the south and beating against the shell of her house. Then the river itself started rising, slowly at first until at last it paused to turn back. From hour to hour it slithered up creeks and ditches and poured over low places. In the night, while she slept, it claimed the road and surrounded her so that she sat alone, her boat gone, the house like a piece of drift lodged on its bluff. Now even against the tarred planks of the supports the waters touched. And still they rose.

10 As far as she could see, to the treetops where the opposite banks had been, the swamp was an empty sea, awash with sheets of rain, the river lost somewhere in its vastness. Her house with its boat bottom had been built to ride just such a flood, if one ever came, but now it was old. Maybe the boards underneath were partly rotted away. Maybe the cable mooring the house to the great live oak would snap loose and let her go turning downstream, the way her boat had gone.

15 No one could come now. She could cry out but it would be no use, no one would hear. Down the length and breadth of the swamp others were fighting to save what little they could, maybe even their lives. She had seen a whole house go floating by, so quiet she was reminded of sitting at a funeral. She thought when she saw it she knew whose house it was. It had been bad seeing it drift by, but the owners must have escaped to higher ground. Later, with the rain and darkness pressing in, she had heard a panther scream upriver.

20 Now the house seemed to shudder around her like something alive. She reached out to catch a lamp as it tilted off the table by her bed and put it between her feet to hold it steady. Then creaking and groaning with effort the house struggled up from the clay, floated free, bobbing like a cork and swung out slowly with the pull of the river. She gripped the edge of the bed. Swaying from side to side, the house moved to the length of its mooring. There was a jolt and a complaining of old timbers and then a pause. Slowly the current released it and let it swing back, rasping across its resting place. She caught her breath and sat for a long time feeling the slow pendulous sweeps. The dark sifted down through the incessant rain, and, head on arm, she slept holding on to the bed.

30 Sometime in the night the cry awoke her, a sound so anguished she was on her feet before she was awake. In the dark she stumbled against the bed. It came from out there, from the river. She could hear something moving, something large that made a dredging, sweeping sound. It could be another house. Then it hit, not head on but glancing and sliding down the length of her house. It was a tree. She listened as the branches and leaves cleared themselves and went on downstream, leaving only the rain and the lappings of the flood, sounds so constant now that they seemed a part of the silence. Huddled on the bed, she was almost asleep again when another cry sounded, this time so close it could have been in the room. Staring into the dark, she eased back on the bed until her hand caught the cold shape of the rifle. 35 Then crouched on the pillow, she cradled the gun across her knees. "Who's there?" she called.

The answer was a repeated cry, but less shrill, tired sounding, then the empty silence closing in. She drew back against the bed. Whatever was there she could hear it moving about on the porch. Planks creaked and she could distinguish the sounds of objects being knocked over. There was a scratching on the wall as if it would tear its way in. She knew now what it was, a big cat, deposited by the uprooted tree that had passed her. It had come with the flood, a gift. 40

Unconsciously she pressed her hand against her face and along her tightened throat. The rifle rocked across her knees. She had never seen a panther in her life. She had heard about them from others and heard their cries, like suffering, in the distance. The cat was scratching on the wall again, rattling the window by the door. As long as she guarded the window and kept the cat hemmed in by the wall and

45 water, caged, she would be all right. Outside, the animal paused to rake his claws across the rusted outer screen. Now and then, it whined and growled.

When the light filtered down through the rain at last, coming like another kind of dark, she was still sitting on the bed, stiff and cold. Her arms, used to rowing on the river, ached from the stillness of holding the rifle. She had hardly allowed herself to move for fear any sound might give strength to the cat. Rigid, she  
50 swayed with the movement of the house. The rain still fell as if it would never stop. Through the grey light, finally, she could see the rain-pitted flood and far away the cloudy shape of drowned treetops. The cat was not moving now. Maybe he had gone away. Laying the gun aside she slipped off the bed and moved without a sound to the window. It was still there, crouched at the edge of the porch, staring up at the live oak, the mooring of her house, as if gauging its chances of leaping to an overhanging branch. It did not  
55 seem so frightening now that she could see it, its coarse fur napped into twigs, its sides pinched and ribs showing. It would be easy to shoot it where it sat, its long tail whipping back and forth. She was moving back to get the gun when it turned around. With no warning, no crouch or tensing of muscles, it sprang at the window, shattering a pane of glass. She fell back, stifling a scream, and taking up the rifle, she fired through the window. She could not see the panther now, but she had missed. It began to pace again. She  
60 could glimpse its head and the arch of its back as it passed the window.

Shivering, she pulled back on the bed and lay down. The lulling constant sound of the river and the rain, the penetrating chill, drained away her purpose. She watched the window and kept the gun ready. After waiting a long while she moved again to look. The panther had fallen asleep, its head on its paws, like a housecat. For the first time since the rains began she wanted to cry, for herself, for all the people, for  
65 everything in the flood. Sliding down on the bed, she pulled the quilt around her shoulders. She should have got out when she could, while the roads were still open or before her boat was washed away. As she rocked back and forth with the sway of the house a deep ache in her stomach reminded her she hadn't eaten. She couldn't remember for how long. Like the cat, she was starving. Easing into the kitchen, she made a fire with the few remaining sticks of wood. If the flood lasted she would have to burn the chair, maybe even the table itself. Taking down the remains of a smoked ham from the ceiling, she cut  
70 thick slices of the brownish red meat and placed them in a skillet. The smell of the frying meat made her dizzy. There were stale biscuits from the last time she had cooked and she could make some coffee. There was plenty of water.

While she was cooking her food, she almost forgot about the cat until it whined. It was hungry too. "Let  
75 me eat," she called to it, "and then I'll see to *you*." And she laughed under her breath. As she hung the rest of the ham back on its nail the cat growled a deep throaty rumble that made her hand shake.

After she had eaten, she went to the bed again and took up the rifle. The house had risen so high now it no longer scraped across the bluff when it swung back from the river. The food had warmed her. She could get rid of the cat while light still hung in the rain. She crept slowly to the window. It was still there,  
80 mewling, beginning to move about the porch. She stared at it a long time, unafraid. Then without thinking what she was doing, she laid the gun aside and started around the edge of the bed to the kitchen. Behind her the cat was moving, fretting. She took down what was left of the ham and making her way back across the swaying floor to the window she shoved it through the broken pane. On the other side there was a hungry snarl and something like a shock passed from the animal to her. Stunned by what she had  
85 done, she drew back to the bed. She could hear the sounds of the panther tearing at the meat. The house rocked around her.

The next time she awoke she knew at once that everything had changed. The rain had stopped. She felt for the movement of the house but it no longer swayed on the flood. Drawing her door open, she saw through the torn screen a different world. The house was resting on the bluff where it always had. A few  
90 feet down, the river still raced on in a torrent, but it no longer covered the few feet between the house and the live oak. And the cat was gone. Leading from the porch to the live oak and doubtless on into the swamp were tracks, indistinct and already disappearing into the soft mud. And there on the porch, gnawed to whiteness, was what was left of the ham.

Use the story “The Gift” to answer the questions which follow. (Note that line numbers are given in the margin of the story to help you find parts which are referred to in the questions.)

## Released Question 35: The Gift

Aspect: Developing an interpretation

Level: 4

Text format: Continuous

Situation: Personal

When the woman says, “and then I’ll see to you” (line 75) she means that she is

*0 out of 1 Point: No Credit Sample Response at Level 1 or below*

- A. sure that the cat won’t hurt her.
- B. trying to frighten the cat.
- C. intending to shoot the cat.
- D. planning to feed the cat.

*1 Point: Full Credit Sample Response at Level 5*

- A. sure that the cat won’t hurt her.
- B. trying to frighten the cat.
- C. intending to shoot the cat.
- D. planning to feed the cat.

	Average percent correct	
	Level 1 or below	Level 5
U.S. average	17	71
OECD average	20	76

## Released Question 32: The Gift

Aspect: Developing an interpretation

Level: 4

Text format: Continuous

Situation: Personal

Here are some of the early references to the panther in the story.

“the cry awoke her, a sound so anguished...” (line 27)

“The answer was a repeated cry, but less shrill, tired sounding...” (line 36)

“She had...heard their cries, like suffering, in the distance.” (lines 42–43)

Considering what happens in the rest of the story, why do you think the writer chooses to introduce the panther with these descriptions?

*0 out of 2 Points: No Credit Sample Response at Level 1 or below*

To one no that the panther was only wanting some to help him out.

*2 Points: Full Credit Sample Response at Level 5*

Because the writer wanted to establish the fact that the woman in the story later realizes that even though it is a wild animal, it suffers just like her during the flood.

	Average percent correct	
	Level 1 or below	Level 5
U.S. average	5	80*
OECD average	6	70

\*Significant difference between U.S. and OECD average.



## Released Question 36: The Gift

Aspect: Reflecting on text  
 Level: 4  
 Text format: Continuous  
 Situation: Personal

Do you think that the last sentence of “The Gift” is an appropriate ending?

Explain your answer, demonstrating your understanding of how the last sentence relates to the story’s meaning.

*1 out of 2 Points: Partial Credit Sample Response at Level 1 or below*

Yes, Because she was hungry, and she wanted to be happy and have something to eat, and the panter was feeling the same way. They wanted to be treated equal.

*2 Points: Full Credit Sample Response at Level 5*

Yes I think the last sentence is an appropriate ending for the story because when the cat left the bone gnawed to whiteness it shows the appreciation for "The Gift" of ham.

	Average percent correct	
	Level 1 or below	Level 5
U.S. average	3	70
OECD average	6	65

Source: Organization for Economic Cooperation and Development, Program for International Student Assessment (PISA), 2000 Reading Literacy Assessment.

## Lake Chad

Figure 1 shows changing levels of Lake Chad, in Saharan North Africa. Lake Chad disappeared completely in about 20,000 BC, during the last Ice Age. In about 11,000 BC it reappeared. Today, its level is about the same as it was in AD 1000.

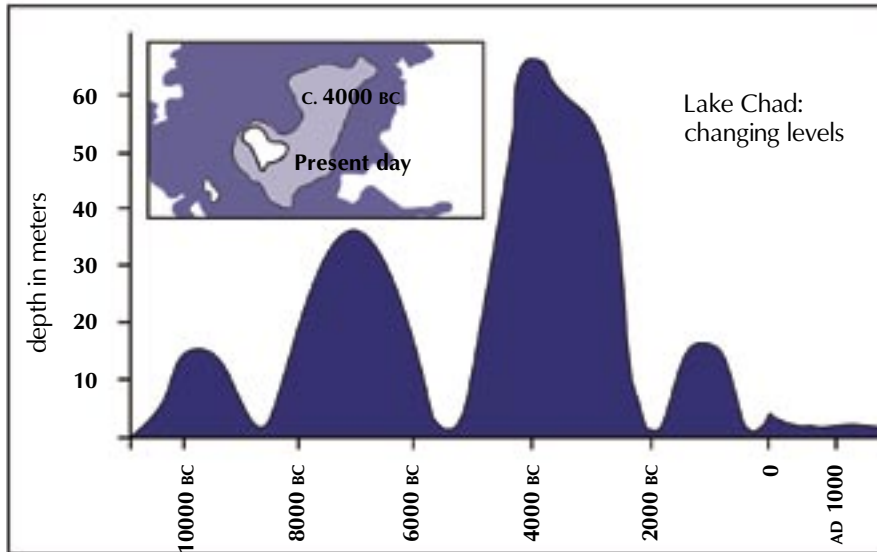


Figure 1

Figure 2 shows Saharan rock art (ancient drawings or paintings found on the walls of caves) and changing patterns of wildlife.

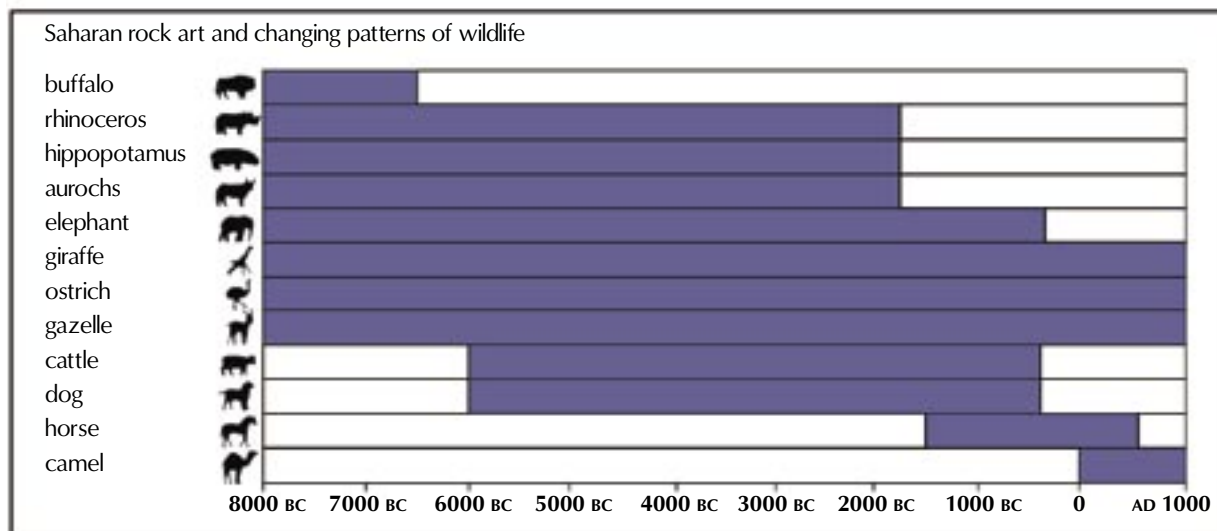


Figure 2

Use the information about Lake Chad to answer the question below.

### Released Question 3: Lake Chad

Aspect: Reflecting on text

Level: 4

Text format: Noncontinuous

Situation: Public

Why has the author chosen to start the graph at this point?

*1 Point: Full Credit Sample Response at Level 1 or below*

In about 11,000 BC it reappeared.

*1 Point: Full Credit Sample Response at Level 5*

It shows how deep the lake was thousands of years ago when the last ice age was and when the lake reappeared.

	Average percent correct	
	Level 1 or below	Level 5
U.S. average	6	75
OECD average	8	80

Source: Organization for Economic Cooperation and Development, Program for International Student Assessment (PISA), 2000 Reading Literacy Assessment.

# Personnel



CANCO Manufacturing Company  
Personnel Department

## Center on Internal and External Mobility

### What is CIEM?

CIEM stands for Center on Internal and External Mobility, an initiative of the personnel department. A number of workers of this department work in CIEM, together with members from other departments and outside career consultants.

CIEM is available to help employees in their search for another job inside or outside the Canco Manufacturing Company.

### What does CIEM do?

CIEM supports employees who are seriously considering other work through the following activities:

- **Job Data Bank**  
After an interview with the employee, information is entered into a data bank that tracks job seekers and job openings at Canco and at other manufacturing companies.
- **Guidance**  
The employee's potential is explored through career counselling discussions.
- **Courses**  
Courses are being organized (in collaboration with the department for information and training) that will deal with job search and career planning.
- **Career Change Projects**  
CIEM supports and coordinates projects to help employees prepare for new careers and new perspectives.
- **Mediation**  
CIEM acts as a mediator for employees who are threatened with dismissal resulting from reorganisation, and assists with finding new positions when necessary.

### How much does CIEM cost?

Payment is determined in consultation with the department where you work. A number of services of CIEM are free. You may also be asked to pay, either in money or in time.

### How does CIEM work?

CIEM assists employees who are seriously considering another job within or outside the company.

That process begins by submitting an application. A discussion with a personnel counsellor can also be useful. It is obvious that you should talk with the counsellor first about your wishes and the internal possibilities regarding your career. The counsellor is familiar with your abilities and with developments within your unit.

Contact with CIEM in any case is made via the personnel counsellor. He or she handles the application for you, after which you are invited to a discussion with a CIEM representative.

### For more information

The personnel department can give you more information.

Use the announcement from a personnel department to answer the questions below.

## Released Question 43: Personnel

Aspect: Retrieving information

Level: 4

Text format: Continuous

Situation: Occupational

List two ways in which CIEM helps people who will lose their jobs because of a departmental reorganisation.

*1 Point: Full Credit Sample Response at Level 1 or below*

acts as a mediator for employees who are threatened with dismissal resulting from reorganization, and assists with finding new positions when necessary.

*1 Point: Full Credit Sample Response at Level 5*

They provide mediation & help find a new position.

	Average percent correct	
	Level 1 or below	Level 5
U.S. average	6*	58
OECD average	13	64

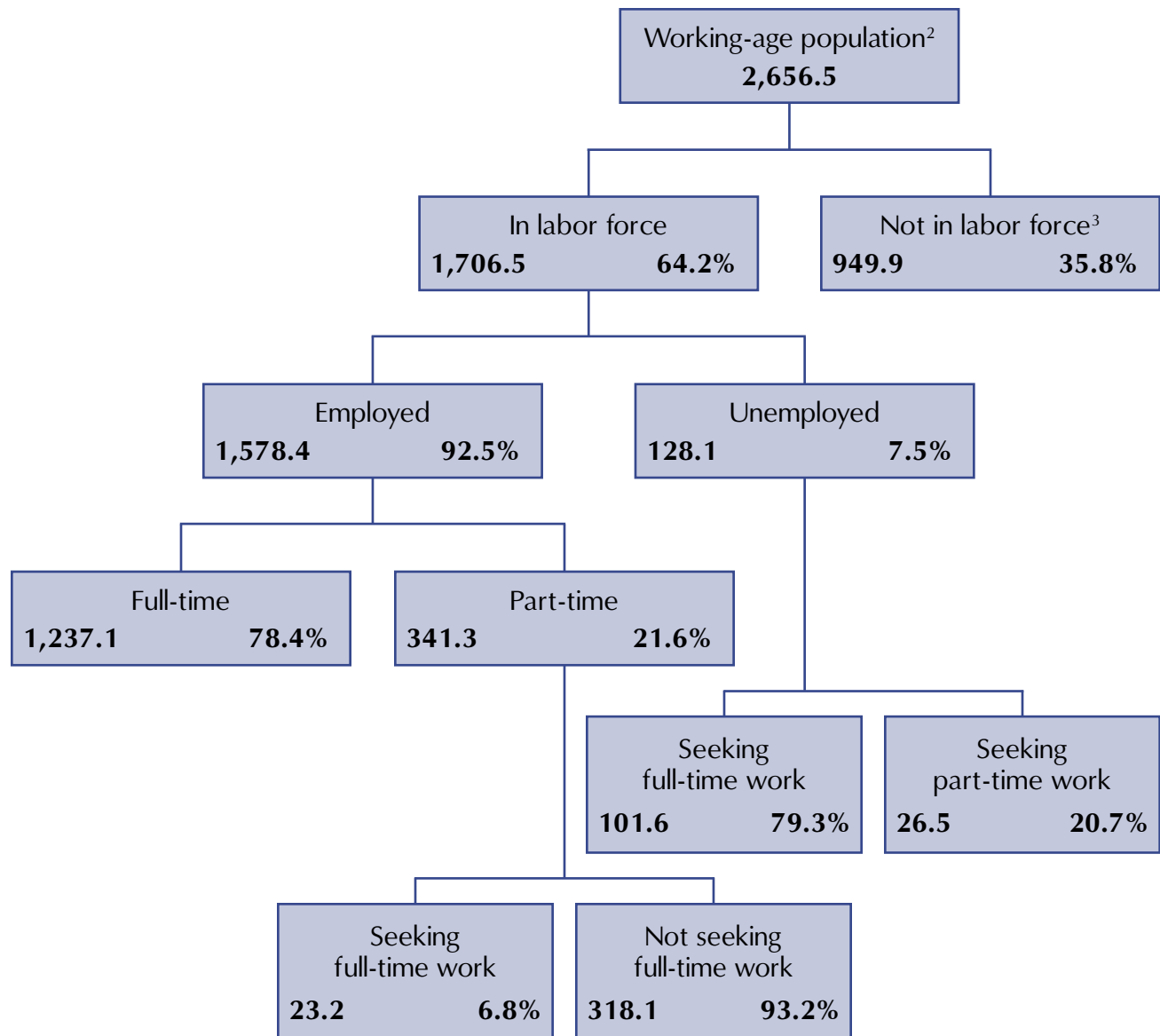
\*Significant difference between U.S. and OECD average.

Source: Organization for Economic Cooperation and Development, Program for International Student Assessment (PISA), 2000 Reading Literacy Assessment.

# Labor

The tree diagram below shows the structure of a country's labor force or "working-age population." The total population of the country in 1995 was about 3.4 million.

**The Labor Force Structure year ended March 31, 1995 (000s)<sup>1</sup>**



<sup>1</sup>Numbers of people are given in thousands (000s).

<sup>2</sup>The working-age population is defined as people between the ages of 15 and 65.

<sup>3</sup>People "Not in labour force" are those not actively seeking work and/or not available for work.

Use the information about a country's labor force on the page 115 to answer the questions below.

## Released Question 16: Labor

Aspect: Retrieving information

Level: 4

Text format: Noncontinuous

Situation: Educational

How many people of working age were not in the labor force?  
(Write the number of people, not the percentage.)

*2 Points: Full Credit Sample Response at Level 1 or below*

949,900

*2 Points: Full Credit Sample Response at Level 5*

949900 people

	Average percent correct	
	Level 1 or below	Level 5
U.S. average	1*	67
OECD average	4	71

\*Significant difference between U.S. and OECD average.

## Released Question 17: Labor

Aspect: Developing an interpretation

Level: 5

Text format: Noncontinuous

Situation: Educational

In which part of the tree diagram, if any, would each of the people listed in the table below be included?

Show your answer by placing a cross in the correct box in the table.

The first one has been done for you.

*2 Points: Full Credit Sample Response at Level 1 or below*

	"In labor force: employed"	"In labor force: unemployed"	"Not in labor force"	Not included in any category
A part-time waiter, aged 35	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A business woman, aged 43, who works a sixty-hour week	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A full-time student, aged 21	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A man, aged 28, who recently sold his shop and is looking for work	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A woman, aged 55, who has never worked or wanted to work outside the home	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A grandmother, aged 80, who still works a few hours a day at the family's market stall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



## Released Question 17: Labor—Continued

2 Points: Full Credit Sample Response at Level 5

	"In labor force: employed"	"In labor force: unemployed"	"Not in labor force"	Not included in any category
A part-time waiter, aged 35	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A business woman, aged 43, who works a sixty-hour week	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A full-time student, aged 21	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A man, aged 28, who recently sold his shop and is looking for work	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A woman, aged 55, who has never worked or wanted to work outside the home	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A grandmother, aged 80, who still works a few hours a day at the family's market stall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Average percent correct	
	Level 1 or below	Level 5
U.S. average	1	50
OECD average	1	43

Source: Organization for Economic Cooperation and Development, Program for International Student Assessment (PISA), 2000 Reading Literacy Assessment.

# Amanda and the Duchess

## TEXT 1

### *Amanda and the Duchess*

**Summary:** Since Léocadia's death, the Prince, who was in love with her, has been inconsolable. At a shop called Réséda Soeurs, the Duchess, who is the Prince's aunt, has met a young shop assistant, Amanda, who looks amazingly like Léocadia. The Duchess wants Amanda to help her set the Prince free from the memories which haunt him.

*A crossroads in the castle grounds, a circular bench around a small obelisk...evening is falling...*

**AMANDA:** I still don't understand. What can I do for him, ma'am? I can't believe you could possibly have thought...And why me? I'm not particularly pretty. And even if someone were very pretty—who could suddenly come between him and his memories like that?

**THE DUCHESS:** No-one but you.

AMANDA, sincerely surprised: Me?

**THE DUCHESS:** The world is so foolish, my child. It sees only parades, gestures, badges of office...that must be why you have never been told. But my heart hasn't deceived me—I almost cried out at Réséda Soeurs the first time I saw you. To someone who knew more of her than just her public image, you are the living likeness of Léocadia.

A silence. The evening birds have now taken over from the afternoon birds. The grounds are filled with shadows and twittering.

**AMANDA, very gently:** I really don't think I can, ma'am. I have nothing, I am nothing, and those lovers...that was my fancy, don't you see?

She has got up. As if about to leave, she has picked up her small suitcase.

**THE DUCHESS, gently also, and very wearily:** Of course, my dear. I apologise. She in turn gets up, with difficulty, like an old woman. A bicycle bell is heard in the evening air; she gives a start.

Listen...it's him! Just show yourself to him, leaning against this little obelisk where he first met her. Let him see you, even if it's just this once, let him call out, take a sudden interest in this likeness, in this stratagem which I shall confess to him tomorrow and for which he will hate me—in anything but this dead girl who'll take him away from me one of these days, I'm sure...(She has taken her by the arm.) You will do that, won't you? I beg you most humbly, young lady. (She looks at her, beseechingly, and quickly adds:) And then, that way, you'll see him too. And...I can feel that I'm blushing again from saying this to you—life is just too mad! That's the third time I've blushed in sixty years, and the second time in ten minutes—you'll see him; and if he could ever (why not him, since he's handsome and charming and he wouldn't be the first?) if he could ever have the good fortune, for himself and for me, to take your fancy for one moment...The bell again in the shadows, but very close now.

**AMANDA, in a whisper:** What should I say to him?

**THE DUCHESS, gripping her arm:** Simply say: "Excuse me, Sir, can you tell me the way to the sea?"

She has hurried into the deeper shadows of the trees. Just in time. There is a pale blur. It is the Prince on his bicycle. He passes very close to the pale blur of Amanda by the obelisk. She murmurs.

**AMANDA:** Excuse me, Sir...

He stops, dismounts from the bicycle, takes off his hat and looks at her.

**THE PRINCE:** Yes?

**AMANDA:** Can you tell me the way to the sea?

**THE PRINCE:** Take the second turning on your left.

*He bows, sadly and courteously, gets back on the bicycle and rides away. The bell is heard again in the distance. The Duchess comes out of the shadows, very much an old woman.*

**AMANDA,** *gently, after a while:* He didn't recognise me...

**THE DUCHESS:** It was dark...And then, who knows what face he gives her now, in his dreams? (*She asks timidly:*) The last train has gone, young lady. In any case, wouldn't you like to stay at the castle tonight?

**AMANDA,** *in a strange voice:* Yes, ma'am.

*It is completely dark. The two of them can no longer be seen in the shadows, and only the wind can be heard in the huge trees of the grounds.*

### **THE CURTAIN FALLS**

#### **TEXT 2**

#### **Definitions of some theatrical occupations**

**Actor:** plays a character on stage.

**Director:** controls and oversees all aspects of a play. He not only positions the actors, arranges their entrances and exits and directs their acting, but also suggests how the script is to be interpreted.

**Wardrobe staff:** produce the costumes from a model.

**Set designer:** designs models of the sets and costumes. These models are then transformed into their full size in the workshop.

**Props manager:** in charge of finding the required props. The word "props" is used to mean everything that can be moved: armchairs, letters, lamps, bunches of flowers, etc. The sets and costumes are not props.

**Sound technician:** in charge of all sound effects required for the production. He is at the controls during the show.

**Lighting assistant or lighting technician:** in charge of lighting. He is also at the controls during the show. Lighting is so sophisticated that a well-equipped theatre can employ up to ten lighting technicians.

On the previous two pages there are two texts. Text 1 is an extract from the play *Léocadia* by Jean Anouilh and Text 2 gives definitions of theatrical occupations. Refer to the texts to answer the question which follows.

## Released Question 40: Amanda and the Duchess

Aspect: Retrieving information

Level: 4

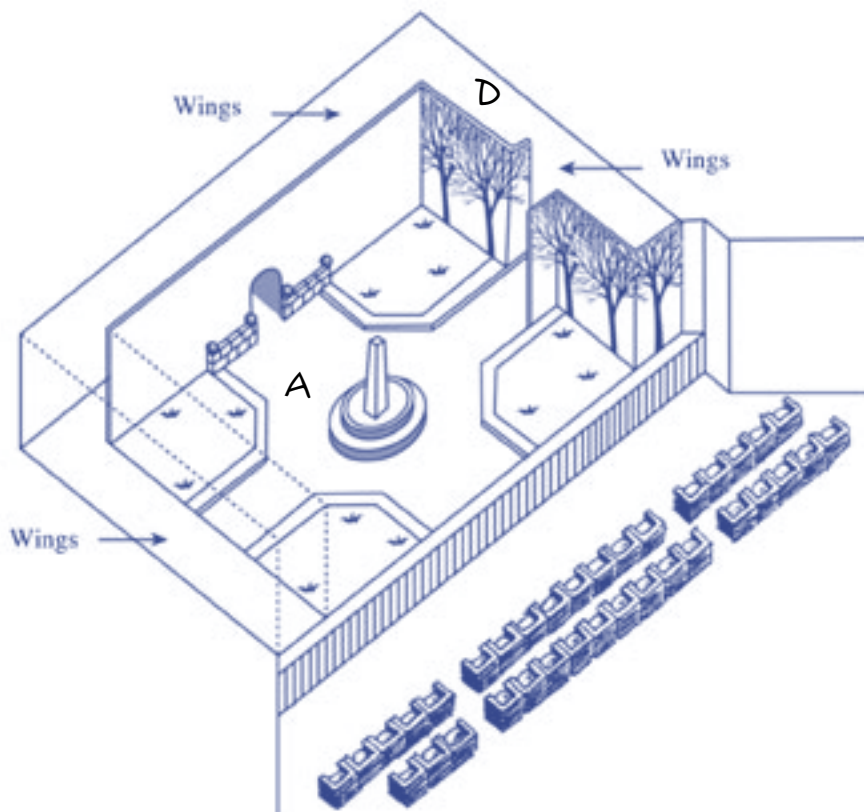
Text format: Continuous

Situation: Personal

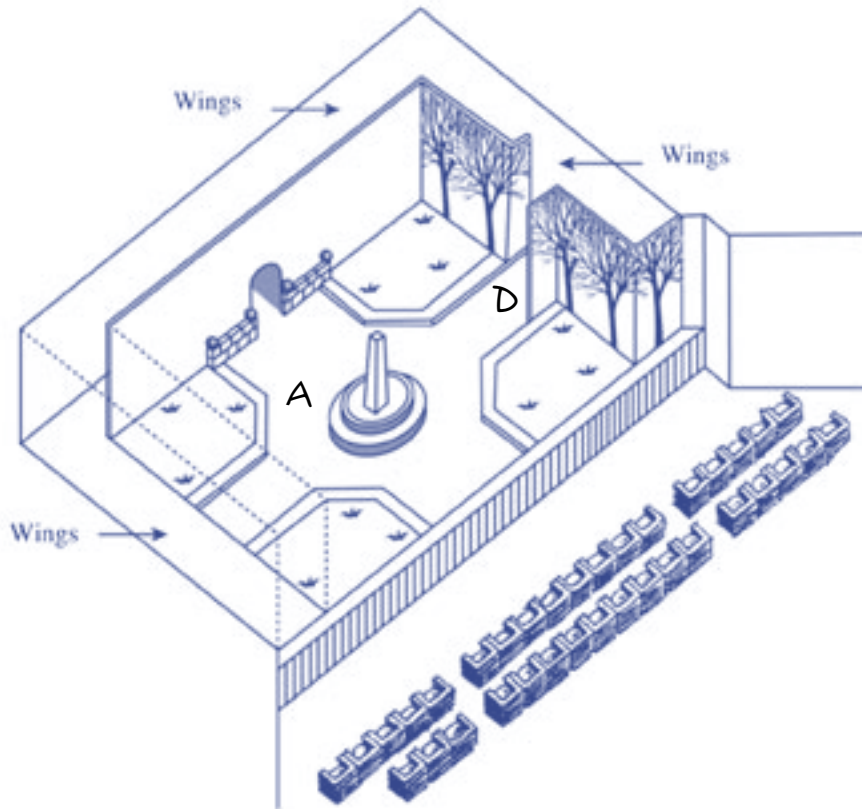
The director positions the actors on the stage. On a diagram, the director represents Amanda with the letter A and the Duchess with the letter D.

Put an A and a D on the following diagram of the set to show approximately where Amanda and the Duchess are when the Prince arrives.

*0 out of 1 Point: No Credit Sample Response at Level 1 or below*



1 Point: Full Credit Sample Response at Level 5



	Average percent correct	
	Level 1 or below	Level 5
U.S. average	7	75
OECD average	14	80

Source: Organization for Economic Cooperation and Development, Program for International Student Assessment (PISA), 2000 Reading Literacy Assessment.