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TECHNICAL NOTES



SAMPLING PROCEDURES AND RESPONSE RATES

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.¹ 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.

A minimum response rate 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-olds. A three-stage sampling design was implemented: the first stage was a sample of primary sampling units (geographic 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 sample of 220 schools was 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.

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 is ordered by school characteristics, these neighboring frame schools have similar characteristics to the sampled school, and their addition to the sample can reduce the nonresponse bias incurred from the 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

¹ 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), National Institute for Educational Research (NIER, Japan), and Westat (USA). ACER coordinates the Consortium, under contract to the OECD. In the United States, Westat carried out the PISA assessment.

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 categories was as follows: responding, (116/29); partially responding, (7/1); and nonresponding, (5/2). For the purposes of calculating school response rates only the 145 responding schools (116 originals plus 29 replacements) were counted. On this basis the school response rate before replacement was 56 percent, and after replacement became 70 percent.

In total some 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 sampling plan provided for sampling from all 15-year-old students within a school. Some of the selected students could have an Individualized Education Plan (IEP) or be identified by the school as limited English proficient (LEP). School staff who were knowledgeable about the school’s IEP/LEP students reviewed the list of selected students 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 should be included in the testing. Any sampled student who is **temporarily** disabled such that s/he cannot participate in the assessment will be 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 includes students who are emotionally or mentally unable to follow even the general instructions of the test. Students should **not** be excluded solely because of a poor academic performance or normal disciplinary problems.
- **Students with limited proficiency in the test language (English).** These are students who are actually 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 has received less than 1 year of instruction in the language of the test should be excluded; all others should be included.

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 and 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 exceeds both NCES and PISA standards, the school response rate of 56 percent before replacement fails 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, public/private, type of school, percentage minority, percent eligible for free lunch, estimated number of 15-year-olds, 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, 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 in

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 for 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 A1.1 provides summary information on the samples of all countries. A more detailed presentation can be found in the OECD's forthcoming PISA 2000 technical report.

GRADE DISTRIBUTIONS

The students in PISA are selected on the basis that they are 15 years old and, as a result, are spread across several grades. Grade distributions for 15-year-olds vary from country to country as a function of policies about age of entry to school or other educational policies. The proportions of students at each grade level in each of the participating nations are shown in table A1.2.

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 co-coordinators and scripts for test administrators

Table A1.1.—Coverage of target population, student and school samples, and participation rates, by country: 2000

Country	Total population of 15-year-olds		Coverage of 15-year-old population		Coverage of national desired population		Overall student exclusion rate		Weighted school participation rate before replacement		Weighted school participation rate after replacement		Weighted student participation rate after replacement		Number of participating schools after replacement (unweighted)		Number of participating students after replacement (unweighted)		
	Number	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Number	Number	Number	Number		
Australia	266,878	86	98	2.3	81	94	84	228	5,154										
Austria	95,041	75	99	0.7	99	100	92	213	4,745										
Belgium ¹	121,121	91	98	2.3	69	86	93	214	6,648										
Belgium (Flemish)	71,074	86	98	2.0	62	80	95	119	3,874										
Belgium (French)	49,289	99	97	2.7	80	94	91	95	2,774										
Canada	403,803	86	95	4.9	88	93	85	1,098	29,461										
Czech Republic	134,627	93	97	1.9	95	99	93	227	5,343										
Denmark	53,693	89	97	3.1	84	95	92	223	4,212										
Finland	66,571	94	98	1.9	97	100	93	155	4,864										
France	788,387	93	97	3.5	95	95	91	174	4,657										
Germany	927,473	89	98	1.7	95	95	86	213	4,983										
Greece	128,175	87	99	0.8	84	100	97	139	4,672										
Hungary	120,759	89	99	0.7	99	99	95	193	4,883										
Iceland	4,062	95	98	2.4	100	100	87	130	3,372										
Ireland	65,339	86	95	4.8	86	88	86	135	3,786										
Italy	584,417	87	98	2.5	98	100	93	170	4,984										
Japan	1,490,000	97	98	2.3	82	90	96	135	5,256										
Korea	712,812	81	100	0.4	100	100	99	146	4,982										
Luxembourg	4,556	91	91	9.1	93	93	89	23	3,434										
Mexico	2,127,504	45	100	0.1	93	100	94	182	4,600										
Netherlands	178,924	88	96	4.4	27	55	84	100	2,503										
New Zealand	54,220	86	95	5.1	78	86	88	152	3,667										
Norway	52,165	95	97	2.7	86	92	89	176	4,147										
Poland ²	665,500	81	90	9.7	79	83	88	126	3,639										
Portugal	132,325	76	97	2.7	95	95	86	145	4,517										
Spain	462,082	86	97	2.7	95	100	92	185	6,214										
Sweden	100,940	93	95	4.7	100	100	88	159	4,416										
Switzerland	81,350	89	98	2.3	92	96	95	282	6,084										
United Kingdom ³	731,743	88	95	4.9	61	82	81	349	9,250										
England	603,100	93	95	5.4	59	82	81	148	4,099										
Northern Ireland	26,043	99	96	4.2	71	79	86	113	2,825										
Scotland	65,200	87	98	1.8	80	82	78	88	2,326										
United States	3,876,000	81	96	4.1	56	70	85	145	3,700										
Non-OECD countries																			
Brazil ⁴	3,464,330	69	99	0.7	97	98	87	318	4,885										
Latvia	38,000	79	96	3.8	82	89	91	153	3,915										
Liechtenstein	415	78	99	0.6	100	100	97	11	314										
Russian Federation	2,268,566	87	99	0.7	99	99	96	238	6,701										

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

²Primary schools in Poland were not randomly sampled and therefore these students could not be used.

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

⁴Brazilian students in grades 5 and 6 were excluded.

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

Table A1.2.—Percentage distributions of 15-year-olds by grade and assessment subject, by country: 2000

Country	READING			MATHEMATICS			SCIENCE				
	Grade 8 and below	Grade 9	Grade 10	Grade 8 and below	Grade 9	Grade 10	Grade 8 and below	Grade 9	Grade 10	Grade 11 and above	
	Percent #	Percent #	Percent #	Percent #	Percent #	Percent #	Percent #	Percent #	Percent #	Percent #	
Australia	7	45	76	7	46	75	18	6	45	76	17
Austria	5	28	48	5	27	47	#	5	28	48	#
Belgium	6	13	65	6	13	65	1	5	13	65	1
Canada	2	43	81	2	43	81	2	2	13	82	1
Czech Republic	3	89	54	3	89	54	0	3	43	54	0
Denmark	6	37	3	6	37	3	0	6	90	2	0
Finland	11	60	0	11	60	0	0	11	89	0	0
France	7	37	53	7	37	53	3	7	37	54	2
Germany	16	60	23	16	60	23	#	16	60	23	#
Greece	2	6	75	2	5	75	16	3	5	76	15
Hungary	8	57	35	8	56	35	0	8	57	35	0
Iceland	0	0	100	0	0	100	0	0	0	100	0
Ireland	3	62	16	3	61	17	19	3	62	16	18
Italy	1	16	76	1	16	77	6	1	16	77	6
Japan	0	0	100	0	0	100	0	0	0	100	0
Korea, Republic of	0	1	99	0	1	98	1	0	1	98	1
Luxembourg	19	56	25	19	56	24	0	18	56	26	0
Mexico	14	29	50	13	29	50	#	13	30	50	#
New Zealand	0	0	7	0	0	7	93	0	0	7	92
Norway	#	1	98	#	1	98	1	#	1	98	1
Poland	0	100	0	0	100	0	0	0	100	0	0
Portugal	19	28	51	19	28	51	#	20	27	51	#
Spain	2	25	72	2	26	72	#	3	26	71	0
Sweden	2	97	#	2	97	1	0	2	97	1	0
Switzerland	20	64	14	20	64	14	#	20	65	14	#
United Kingdom	0	#	34	0	#	34	66	0	#	34	65
United States	4	40	56	4	41	55	#	3	39	57	#
OECD average	6	37	49	6	37	48	8	6	37	49	8
Non-OECD countries											
Brazil	42	49	9	42	49	9	0	42	49	9	0
Latvia	11	39	50	11	39	50	#	10	39	51	#
Liechtenstein	17	78	3	16	78	3	0	18	78	3	0
Russian Federation	2	27	70	2	27	70	1	2	28	70	1

Too small to report.

NOTE: Percentages do not necessarily sum to 100 due to rounding and/or because of small percentages of unclassifiable grade levels in some nations. 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). The grade distributions reported for Latvia are for the reading literacy section of the assessment. The actual numbers for mathematics and science literacy may vary slightly due to different numbers of 15-year-olds taking each assessment. The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average.

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

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 forthcoming technical report on PISA 2000.

TEST DEVELOPMENT

The development of the PISA 2000 assessment instruments was an interactive process among the PISA Consortium, various expert committees, and OECD governments. 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 types 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 main study included

37 units with 141 items. The mathematics instrument included 32 items; the science instrument included 35 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 limitation 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 30-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 provides 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 a representative sample of students responded to each block of items. The OECD will publish further information on the PISA 2000 assessment design in a forthcoming technical report.

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 a 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 a technical report on PISA 2000 to be published by the OECD.

WEIGHTING

Students included in the final PISA sample for a given country are not all equally representative of the full student population, even though random sampling of schools and students is used to select the sample. The use of sampling weights is necessary for the computation of statistically sound, nationally representative estimators. Survey weights help adjust for intentional over- or under-sampling 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 over-sampled 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 this 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 are weighted, none are discarded, and each contributes 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 require 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 are 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, 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 TIMSS and TIMSS-R.

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 to produce score scales that summarized the achievement results. 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 single 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 random numbers that are 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 values 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-values 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 performances. 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.

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 country averages against the U.S. average or against the OECD average, the following formula was used to compute the *t* statistic:

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

Est_1 and Est_2 are the estimates being compared (e.g., average of country A and the U.S. average) and se_1 and se_2 are the corresponding standard errors of these averages.

In several places, between-country comparisons of group differences within countries were made. Comparisons of gender differences in other PISA countries against gender differences in the United States are an example. In these instances the following formula was used:

$$t = (\text{Est}_{11} - \text{Est}_{21}) - (\text{Est}_{12} - \text{Est}_{22}) / \text{SQRT}[(\text{se}_{11}^2 + \text{se}_{21}^2) + (\text{se}_{12}^2 + \text{se}_{22}^2)]$$

Est_{11} and Est_{21} are the estimates being compared within country A (e.g., female reading average and male reading average), Est_{12} and Est_{22} are the corresponding estimates for the United States, and se_{11} , se_{21} , se_{12} , and se_{22} are their corresponding standard errors.

Since the International Socio-Economic Index (ISEI) is a continuous measure with no obvious cut-points that would allow the identification of socioeconomic groups, the linkage of socioeconomic status to average literacy scores is shown as a relationship rather than a difference between group averages. The measure of relationship in this case is a regression coefficient. For reading, mathematics, and science literacy measures, simple bivariate regressions were estimated within each country. The five plausible values available for each literacy measure were treated as the dependent variable and the ISEI index as the independent variable. These analyses were undertaken within Wesvar in order to obtain the correct standard errors for these statistics. Regression coefficients

for other PISA countries could then be tested against the U.S. coefficient.

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. For example, when making a simple pairwise comparison, the t value must be 1.96 or greater to achieve statistical significance at the .05 level of confidence. When making comparisons of all countries against the United States, the number of comparisons is 30 and the critical value required for statistical significance is 3.14 at the .05 level.

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).

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 are expected to answer at least half of the items from that level correctly. Students at the bottom of a level have 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 are able to provide the correct answers to about 70 percent of all items from that level, have a 62 percent chance of success on the hardest items from that level, and have 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 higher level. Students at a particular level not only demonstrate 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. All students within a level are expected to answer at least half of the items in that level correctly. Patterns of responses for students below level 1 suggest they are unable to answer at least half of the items in level 1 correctly.

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DESCRIPTIONS OF INTERNATIONAL STUDIES OF READING, MATHEMATICS, AND SCIENCE

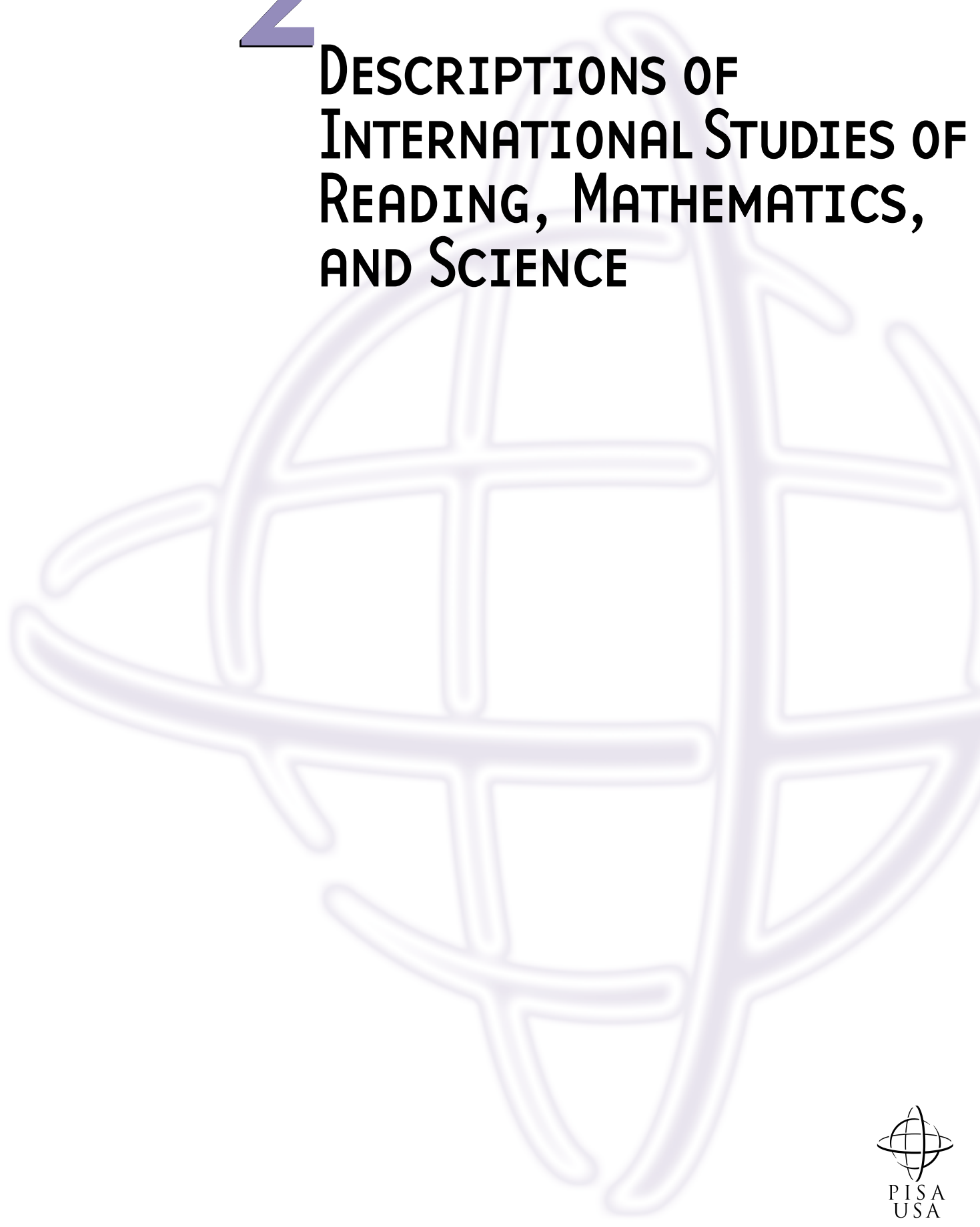


Table A2.1.—Descriptions of international assessments of reading

	PISA	PIRLS	ALL
Age	15-year-olds	9-year-olds	16 through 65-year-olds
Periodicity	Every 3 years 2000, 2003, 2006, 2009...	Every 4 years 2001, 2005, 2009...	Follow-up to International Adult Literacy Study (IALS) 1994, 2002...
Domains	Reading literacy, mathematics literacy, and science literacy	Reading literacy	Document literacy, prose literacy, numeracy, and analytic reasoning
Definition	Understanding, using, and reflecting on written texts in order to achieve one's goals, to develop knowledge and potential, and to participate in society.	Understanding and using those written language forms required by society and/or valued by the individual. Young readers can construct meaning from a variety of texts. They read to learn, to participate in a community of readers, and for enjoyment.	Using printed and written information to function in society to achieve one's goals and to develop one's knowledge and potential.
Framework components	Types of text: (1) continuous, e.g., narrative and (2) non-continuous, e.g., map Situations: (1) Reading for public use; (2) reading for private use; (3) reading for work; and (4) reading for education Processes: (1) retrieving information; (2) broad understanding; (3) developing an interpretation; (4) reflecting on content; and (5) reflecting on form	Processes: (1) focus on and retrieve explicitly stated information; (2) make straightforward inferences; (3) interpret and integrate ideas and information; and (4) examine and evaluate context, language, and text elements Purposes of reading: (1) reading for literary experience and (2) reading to acquire and use information	Prose literacy: (1) locating information; (2) integrating information; and (3) generating information Document literacy: (1) locating information; (2) cycling information; (3) integrating information; and (4) generating information Contexts and contents: (1) home and family; (2) health and safety; (3) community and citizenship; (4) consumer electronics; (5) work; and (6) leisure and recreation
Reporting scales	Overall and processes of reading	Overall and purposes of reading	Prose and document literacy

NOTE: PISA is the Program for International Student Assessment. PIRLS is the Progress in International Reading Literacy Study. ALL is the Adult Literacy and Lifeskills survey.

SOURCE: Adult Literacy and Lifeskills survey (2001b). *Prose and Document Literacy Framework*. Available: <http://etsi1.ets.org/pub/corp/Prose-final.pdf>; Campbell, J.R., Kelly, D.L., Mullis, I.V.S., Martin, M.O., and Sainsbury, M. (2001). *Framework and Specifications for PIRLS Assessment 2001*. Chestnut Hill, MA: Boston College; Organization for Economic Cooperation and Development (1999). *Measuring Student Knowledge and Skills: A New Framework for Assessment*. Paris: Author.

Table A2.2.—Descriptions of international assessments of mathematics

	PISA	TIMSS-R	ALL
Age	15-year-olds	13-year-olds	16 through 65-year-olds
Periodicity	Every 3 years 2000, 2003, 2006, 2009...	Every 4 years 1995, 1999, 2003...	Follow-up to International Adult Literacy Study (IALS) 1994, 2002...
Domains	Reading literacy, mathematics literacy, and science literacy	Mathematics and science	Document literacy, prose literacy, numeracy, and analytic reasoning
Definition	An individual's capacity to identify and understand the role that mathematics plays in the world, to make well-founded judgments and to engage in mathematics, in ways that meet the needs of that individual's life as a constructive, concerned and reflective citizen.	Curricular mathematics as defined by content areas (see framework components) agreed upon by participating countries.	The knowledge and skills required to effectively manage the mathematical demands of diverse situations.
Framework components	<p>Major topics: (1) quantity; (2) space and shape; (3) change and relationships; and (4) uncertainty</p> <hr/> <p>Competency classes/processes: (1) reproduction and routine procedures; (2) connections and integration for standard problem solving; and (3) reasoning, argumentation, insight and generalization for original problem solving</p> <hr/> <p>Situations: (1) personal; (2) educational; (3) occupational; (4) public; and (5) scientific</p>	<p>Content areas: (1) fractions and number sense; (2) data representation, analysis, and probability; (3) algebra; (4) measurement; and (5) geometry</p> <hr/> <p>Performance expectations: (1) knowing; (2) using routine procedures; (3) investigation and solving problems; (4) mathematical reasoning; and (5) communicating</p>	Facets: numerate behavior involves managing a situation or solving a problem in a real context by responding to mathematical information that is represented in a range of ways and requires activation of a range of enabling knowledge, behaviors, and processes.
Reporting scales	Overall and by sub-scales to be determined (2003)	Overall and by content area	Numeracy

NOTE: PISA is the Program for International Student Assessment. TIMSS-R is the Third International Mathematics and Science Study-Repeat. ALL is the Adult Literacy and Lifeskills survey.

SOURCE: Adult Literacy and Lifeskills survey (2001a). *Numeracy Framework*. Available: <ftp://etsi1.ets.org/pub/corp/Numeracy%20Framework.pdf>; Organization for Economic Cooperation and Development (1999). *Measuring Student Knowledge and Skills: A New Framework for Assessment*. Paris: Author; Robitaille, D.E., Schmidt, W.H., Raizen, S., McKnight, C., Britton, E., and Nicol, C. (1993). *Curriculum Frameworks for Mathematics and Science*. TIMSS monograph no. 1. Vancouver, BC: Pacific Education Press.

Table A2.3.—Descriptions of international assessments of science

	PISA	TIMSS-R
Age	15-year-olds	13-year-olds
Periodicity	Every 3 years 2000, 2003, 2006, 2009...	Every 4 years 1995, 1999, 2003...
Domains	Reading literacy, mathematics literacy, and science literacy	Mathematics and science
Definition	The capacity to use scientific knowledge, to identify questions, and to draw evidence-based conclusions in order to understand and help make decisions about the natural world and the changes made to it through human activity.	Curricular science as defined by content areas (see framework components) agreed upon by participating countries.
Framework components	Scientific applications: (1) science in life and health; (2) science in Earth and environment; and (3) science in technology	Content areas: (1) earth science; (2) life science; (3) physics; (4) chemistry; (5) environment and resource issues; and (6) scientific inquiry and the nature of science
	Scientific processes: (1) recognizing scientifically investigable questions; (2) identifying evidence needed in a scientific investigation; (3) drawing or evaluating conclusions; (4) communicating valid conclusions; and (5) demonstrating comprehension of scientific concepts	Performance expectations: (1) understanding simple information; (2) understanding complex information; (3) theorizing, analyzing, and solving problems; (4) using tools, routine procedures, and science processes; and (5) investigating the natural world
	Situations: (1) personal; (2) public; (3) global; and (4) historical relevance	
Reporting scales	Overall and by sub-scales to be determined (2006)	Overall and by content area

NOTE: PISA is the Program for International Student Assessment. TIMSS-R is the Third International Mathematics and Science Study-Repeat. The framework for the Program for International Student Assessment (PISA) does include a list of 13 concepts to be assessed by PISA. However, in PISA 2000 these concepts are assessed through the scientific applications listed above.

SOURCE: Organization for Economic Cooperation and Development (1999). *Measuring Student Knowledge and Skills: A New Framework for Assessment*. Paris: Author; Martin, M.O., Mullis, I.V.S., Gonzalez, E.J., Gregory, K.D., Smith, T.A., Chrostowski, S.J., Garden, R.A., and O'Connor, K.M. (2000). *TIMSS 1999 International Science Report: Findings from IEA's Repeat of the Third International Mathematics and Science Study at the Eighth Grade*. Chestnut Hill, MA: Boston College.

3

SUPPORTING STATISTICAL DATA

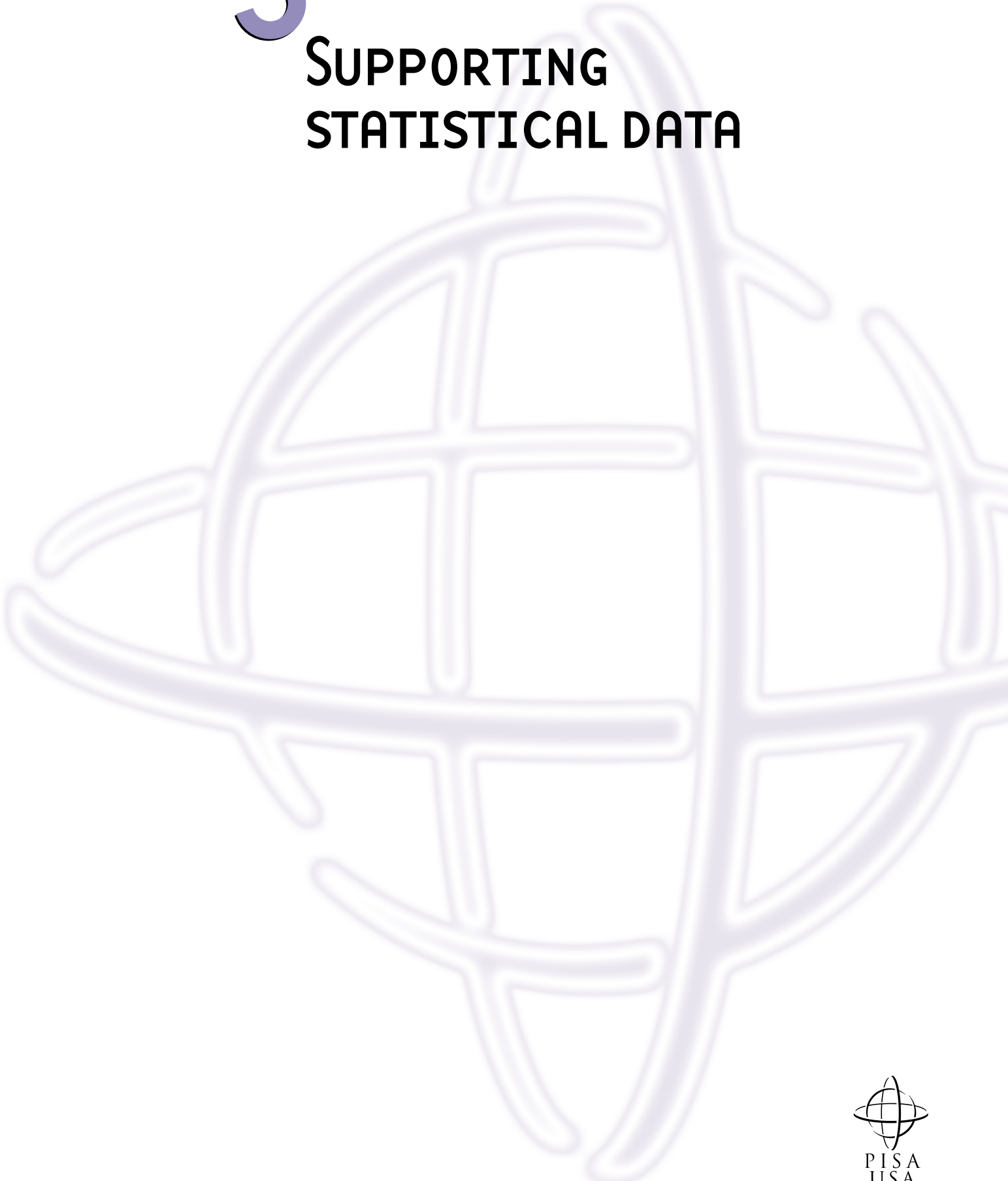


Table A3.1.—Combined reading literacy averages and subscale scores of 15-year-olds with standard errors, by country: 2000

Country	Combined reading literacy		Retrieving information		Interpreting texts		Reflecting on texts	
	Average	s.e.	Average	s.e.	Average	s.e.	Average	s.e.
Australia	528	3.5	536	3.7	527	3.5	526	3.4
Austria	507	2.4	502	2.3	508	2.4	512	2.7
Belgium	507	3.6	515	3.9	512	3.2	497	4.3
Canada	534	1.6	530	1.7	532	1.6	542	1.6
Czech Republic	492	2.4	481	2.7	500	2.4	485	2.6
Denmark	497	2.4	498	2.8	494	2.4	500	2.6
Finland	546	2.6	556	2.8	555	2.9	533	2.7
France	505	2.7	515	3.0	506	2.7	496	2.9
Germany	484	2.5	483	2.4	488	2.5	478	2.9
Greece	474	5.0	450	5.4	475	4.5	495	5.6
Hungary	480	4.0	478	4.4	480	3.8	481	4.3
Iceland	507	1.5	500	1.6	514	1.4	501	1.3
Ireland	527	3.2	524	3.3	526	3.3	533	3.1
Italy	487	2.9	488	3.1	489	2.6	483	3.1
Japan	522	5.2	526	5.5	518	5.0	530	5.4
Korea, Republic of	525	2.4	530	2.5	525	2.3	526	2.6
Luxembourg	441	1.6	433	1.6	446	1.6	442	1.9
Mexico	422	3.3	402	3.9	419	2.9	446	3.7
New Zealand	529	2.8	535	2.8	526	2.7	529	2.9
Norway	505	2.8	505	2.9	505	2.8	506	3.0
Poland	479	4.5	475	5.0	482	4.3	477	4.7
Portugal	470	4.5	455	4.9	473	4.3	480	4.5
Spain	493	2.7	483	3.0	491	2.6	506	2.8
Sweden	516	2.2	516	2.4	522	2.1	510	2.3
Switzerland	494	4.2	498	4.4	496	4.2	488	4.8
United Kingdom	523	2.6	523	2.5	514	2.5	539	2.5
United States	504	7.0	499	7.4	505	7.1	507	7.1
OECD average	500	0.6	498	0.7	501	0.6	502	0.7
Non-OECD countries								
Brazil	396	3.1	365	3.4	400	3.0	417	3.3
Latvia	458	5.3	451	5.7	459	4.9	458	5.9
Liechtenstein	483	4.1	492	4.9	484	4.5	468	5.7
Russian Federation	462	4.2	451	4.9	468	4.0	455	4.0

NOTE: 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.2.—Correlations of combined reading literacy and subscales, mathematics literacy and science literacy, by subject: 2000

Subject	Total scores			Reading Subscales			
	Reading literacy	Mathematics literacy	Science literacy	Retrieving information	Interpreting texts	Reflecting on texts	
Reading literacy	1.00	†	†	†	†	†	†
Mathematics literacy	0.92	1.00	†	†	†	†	†
Science literacy	0.95	0.93	1.00	1.00	†	†	†
Retrieving information	0.99	0.94	0.94	1.00	†	†	†
Interpreting texts	0.99	0.91	0.94	0.98	1.00	†	†
Reflecting on texts	0.96	0.82	0.91	0.91	0.93	†	1.00

†Not applicable.

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

Table A3.3.—Average combined reading literacy scores of 15-year-olds by percentiles with standard errors, by country: 2000

Country	Average	s.e.	Standard deviation	s.e.	5th percentile		10th percentile		25th percentile		75th percentile		90th percentile		95th percentile	
					Score	s.e.	Score	s.e.	Score	s.e.	Score	s.e.	Score	s.e.	Score	s.e.
Australia	528	3.5	102	1.6	354	4.8	394	4.4	458	4.4	602	4.6	656	4.2	685	4.5
Austria	507	2.4	93	1.6	341	5.4	383	4.2	447	2.8	573	3.0	621	3.2	648	3.7
Belgium	507	3.6	107	2.4	308	10.3	354	8.9	437	6.6	583	2.3	634	2.5	659	2.4
Canada	534	1.6	95	1.1	371	3.8	410	2.4	472	2.0	600	1.5	652	1.9	681	2.7
Czech Republic	492	2.4	96	1.9	320	7.9	368	4.9	433	2.8	557	2.9	610	3.2	638	3.6
Denmark	497	2.4	98	1.8	326	6.2	367	5.0	434	3.3	566	2.7	617	2.9	645	3.6
Finland	546	2.6	89	2.6	390	5.8	429	5.1	492	2.9	608	2.6	654	2.8	681	3.4
France	505	2.7	92	1.7	344	6.2	381	5.2	444	4.5	570	2.4	619	2.9	645	3.7
Germany	484	2.5	111	1.9	284	9.4	335	6.3	417	4.6	563	3.1	619	2.8	650	3.2
Greece	474	5.0	97	2.7	305	8.2	342	8.4	409	7.4	543	4.5	595	5.1	625	6.0
Hungary	480	4.0	94	2.1	320	5.6	354	5.5	414	5.3	549	4.5	598	4.4	626	5.5
Iceland	507	1.5	92	1.4	345	5.0	383	3.6	447	3.1	573	2.2	621	3.5	647	3.7
Ireland	527	3.2	94	1.7	360	6.3	401	6.4	468	4.3	593	3.6	641	4.0	669	3.4
Italy	487	2.9	91	2.7	331	8.5	368	5.8	429	4.1	552	3.2	601	2.7	627	3.1
Japan	522	5.2	86	3.0	366	11.4	407	9.8	471	7.0	582	4.4	625	4.6	650	4.3
Korea, Republic of	525	2.4	70	1.6	402	5.2	433	4.4	481	2.9	574	2.6	608	2.9	629	3.2
Luxembourg	441	1.6	100	1.5	267	5.1	311	4.4	378	2.8	513	2.0	564	2.8	592	3.5
Mexico	422	3.3	86	2.1	284	4.4	311	3.4	360	3.6	482	4.8	535	5.5	565	6.3
New Zealand	529	2.8	108	2.0	337	7.4	382	5.2	459	4.1	606	3.0	661	4.4	693	6.1
Norway	505	2.8	104	1.7	320	5.9	364	5.5	440	4.5	579	2.7	631	3.1	660	4.6
Poland	479	4.5	100	3.1	304	8.7	343	6.8	414	5.8	551	6.0	603	6.6	631	6.0
Portugal	470	4.5	97	1.8	300	6.2	337	6.2	403	6.4	541	4.5	592	4.2	620	3.9
Spain	493	2.7	85	1.2	344	5.8	379	5.0	436	4.6	553	2.6	597	2.6	620	2.9
Sweden	516	2.2	92	1.2	354	4.5	392	4.0	456	3.1	581	3.1	630	2.9	658	3.1
Switzerland	494	4.2	102	2.0	316	5.5	355	5.8	426	5.5	567	4.7	621	5.5	651	5.3
United Kingdom	523	2.6	100	1.5	352	4.9	391	4.1	458	2.8	595	3.5	651	4.3	682	4.9
United States	504	7.0	105	2.7	320	11.7	363	11.4	436	8.8	577	6.8	636	6.5	669	6.8
OECD average	500	0.6	100	0.4	324	1.3	366	1.1	435	1.0	571	0.7	623	0.8	652	0.8
Non-OECD countries																
Brazil	396	3.1	86	1.9	255	5.0	288	4.5	339	3.4	452	3.4	507	4.2	539	5.5
Latvia	458	5.3	102	2.3	283	9.7	322	8.2	390	6.9	530	5.3	586	5.8	617	6.6
Liechtenstein	483	4.1	96	3.9	310	15.9	350	11.8	419	9.4	551	5.8	601	7.1	626	8.2
Russian Federation	462	4.2	92	1.8	306	6.9	340	5.4	400	5.1	526	4.5	579	4.4	608	5.3

NOTE: 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.4.—Percentage of 15-year-olds reaching the PISA top 10 percent, top 25 percent, top 50 percent, and top 75 percent on the combined reading literacy scale, by country: 2000

Country	Top 10 percent		Top 25 percent		Top 50 percent		Top 75 percent	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Australia	18	1.2	36	1.6	59	1.5	81	1.1
Austria	9	0.8	26	1.2	53	1.3	78	1.0
Belgium	13	0.6	31	1.0	56	1.4	75	1.4
Canada	18	0.6	37	0.6	63	0.7	85	0.5
Czech Republic	7	0.6	20	0.9	46	1.2	74	0.9
Denmark	9	0.5	23	1.0	49	1.0	75	1.0
Finland	19	0.9	42	1.2	70	1.0	89	0.8
France	9	0.5	25	0.9	51	1.3	78	1.3
Germany	9	0.6	23	0.8	45	1.1	70	1.0
Greece	5	0.7	16	1.4	39	2.0	66	2.3
Hungary	5	0.8	17	1.3	41	1.9	68	1.8
Iceland	10	0.7	26	0.8	53	0.8	79	0.8
Ireland	15	0.9	34	1.3	61	1.5	84	1.2
Italy	6	0.5	18	0.9	44	1.3	73	1.3
Japan	11	1.2	30	2.1	61	2.5	85	1.9
Korea, Republic of	6	0.7	26	1.4	63	1.5	89	1.0
Luxembourg	2	0.3	9	0.6	27	0.7	55	0.9
Mexico	1	0.2	4	0.7	17	1.4	43	1.8
New Zealand	19	1.0	38	1.1	60	1.2	81	0.9
Norway	12	0.7	28	1.0	53	1.2	76	1.1
Poland	6	1.0	19	1.8	41	2.1	69	1.7
Portugal	5	0.6	15	1.2	38	1.9	65	2.0
Spain	5	0.4	18	0.9	46	1.4	75	1.4
Sweden	12	0.7	29	1.1	57	1.1	81	0.8
Switzerland	10	1.1	24	1.6	48	1.8	72	1.6
United Kingdom	16	1.0	33	1.2	58	1.0	81	0.8
United States	13	1.4	27	2.1	51	2.8	75	2.5
OECD average	10	0.7	25	1.2	50	1.4	75	1.3
Non-OECD countries								
Brazil	1	0.2	2	0.4	10	0.8	32	1.4
Latvia	4	0.7	13	1.4	33	2.0	60	2.2
Liechtenstein	5	1.5	18	2.0	43	3.2	71	2.0
Russian Federation	3	0.5	12	1.0	32	1.7	62	1.9

NOTE: 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.5.—Percentage distribution and standard errors of 15-year-olds by combined reading literacy level, by country: 2000

Country	Below level 1		Level 1		Level 2		Level 3		Level 4		Level 5	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Australia	3	0.5	9	0.8	19	1.1	26	1.1	25	0.9	18	1.2
Austria	4	0.4	10	0.6	22	0.9	30	1.2	25	1.0	9	0.8
Belgium	8	1.0	11	0.7	17	0.7	26	0.9	26	0.9	12	0.7
Canada	2	0.3	7	0.3	18	0.4	28	0.5	28	0.6	17	0.5
Czech Republic	6	0.6	11	0.7	25	1.2	31	1.1	20	0.8	7	0.6
Denmark	6	0.6	12	0.7	23	0.9	29	1.0	22	0.9	8	0.5
Finland	2	0.5	5	0.4	14	0.7	29	0.8	32	0.9	18	0.9
France	4	0.6	11	0.8	22	0.8	31	1.0	24	0.9	8	0.6
Germany	10	0.7	13	0.6	22	0.8	27	1.0	19	1.0	9	0.5
Greece	9	1.2	16	1.4	26	1.4	28	1.7	17	1.4	5	0.7
Hungary	7	0.7	16	1.2	25	1.1	29	1.3	18	1.1	5	0.8
Iceland	4	0.3	11	0.6	22	0.8	31	0.9	24	1.1	9	0.7
Ireland	3	0.5	8	0.8	18	0.9	30	1.1	27	1.1	14	0.8
Italy	5	0.9	14	0.9	26	1.0	31	1.0	19	1.1	5	0.5
Japan	3	0.6	7	1.1	18	1.3	33	1.3	29	1.7	10	1.1
Korea, Republic of	1	0.2	5	0.6	17	0.9	39	1.1	31	1.2	6	0.6
Luxembourg	14	0.7	21	0.8	27	1.3	25	1.1	11	0.5	2	0.3
Mexico	16	1.2	28	1.4	30	1.1	19	1.2	6	0.7	1	0.2
New Zealand	5	0.5	9	0.5	17	0.9	25	1.1	26	1.1	19	1.0
Norway	6	0.6	11	0.8	20	0.8	28	0.8	24	0.9	11	0.7
Poland	9	1.0	15	1.0	24	1.4	27	1.3	19	1.3	6	1.0
Portugal	10	1.0	17	1.2	25	1.0	27	1.2	17	1.1	4	0.5
Spain	4	0.5	12	0.9	26	0.7	33	1.0	21	0.9	4	0.5
Sweden	3	0.4	9	0.6	20	0.7	30	1.0	26	1.0	11	0.7
Switzerland	7	0.7	13	0.9	21	1.0	28	1.0	21	1.0	9	1.0
United Kingdom	4	0.4	9	0.5	20	0.7	27	0.9	24	0.9	16	1.0
United States	6	1.2	12	1.2	21	1.2	27	1.3	21	1.4	12	1.4
OECD average	6	0.1	12	0.2	22	0.2	29	0.2	22	0.2	9	0.1
Non-OECD countries												
Brazil	23	1.4	33	1.2	28	1.3	13	1.1	3	0.5	1	0.2
Latvia	13	1.3	18	1.3	26	1.1	25	1.3	14	1.1	4	0.6
Liechtenstein	8	1.5	15	2.1	23	2.9	30	3.4	19	2.2	5	1.6
Russian Federation	9	1.0	18	1.1	29	0.8	27	1.1	13	1.0	3	0.5

NOTE: PISA uses five levels of performance to describe student performance. In order to reach a particular level, a student must be able to correctly answer a majority of items at that level. Students were classified into reading levels according to their scores. 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.6.—Percentage distribution and standard errors of 15-year-olds by retrieving information level, by country: 2000

Country	Below level 1		Level 1		Level 2		Level 3		Level 4		Level 5	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Australia	4	0.4	9	0.8	17	1.0	25	1.0	25	1.0	21	1.2
Austria	5	0.5	11	0.7	23	0.9	29	1.0	23	0.9	9	0.7
Belgium	9	1.0	10	0.6	15	0.7	22	0.8	25	0.9	18	0.7
Canada	3	0.3	8	0.3	18	0.5	27	0.6	26	0.6	17	0.6
Czech Republic	9	0.7	14	0.8	24	0.8	27	0.8	18	1.0	8	0.6
Denmark	7	0.7	12	0.6	21	0.8	28	0.8	22	0.8	10	0.7
Finland	2	0.5	6	0.4	14	0.9	24	1.2	28	0.8	26	0.9
France	5	0.6	10	0.9	19	0.8	27	0.9	25	1.1	13	1.0
Germany	11	0.8	13	0.7	22	0.9	27	1.1	19	1.0	9	0.5
Greece	15	1.6	18	1.1	25	1.2	24	1.2	14	1.0	4	0.6
Hungary	10	0.9	16	1.1	23	0.9	25	1.2	18	1.2	8	0.9
Iceland	6	0.4	12	0.6	22	0.9	28	1.2	21	0.9	11	0.6
Ireland	4	0.5	9	0.7	18	0.9	28	1.0	26	0.9	15	0.8
Italy	8	0.8	13	0.8	23	0.9	28	0.9	19	0.9	8	0.6
Japan	4	0.8	8	1.0	17	1.1	30	1.1	27	1.3	15	1.2
Korea, Republic of	1	0.3	6	0.6	19	0.9	32	1.0	30	1.0	12	0.8
Luxembourg	18	0.7	21	0.9	25	0.8	22	0.9	11	0.8	2	0.4
Mexico	26	1.4	26	1.3	25	1.0	16	1.1	6	0.8	1	0.3
New Zealand	6	0.5	9	0.6	16	0.7	23	1.2	25	1.1	22	1.0
Norway	7	0.6	11	0.6	19	0.9	27	1.3	23	1.2	13	0.8
Poland	12	1.1	15	1.0	23	1.2	24	1.1	18	1.3	8	1.2
Portugal	14	1.3	18	1.1	24	1.0	25	1.2	15	1.0	4	0.5
Spain	6	0.6	14	1.0	26	0.8	30	1.0	19	0.9	5	0.4
Sweden	5	0.4	10	0.8	20	0.9	27	0.9	24	0.9	15	0.8
Switzerland	9	0.8	12	0.8	19	0.9	26	1.1	22	0.9	12	1.1
United Kingdom	4	0.4	9	0.6	19	0.7	27	0.9	24	0.9	17	0.9
United States	8	1.4	12	1.1	21	1.0	26	1.2	21	1.4	13	1.4
OECD average	8	0.2	12	0.2	21	0.2	26	0.2	21	0.2	12	0.2
Non-OECD countries												
Brazil	37	1.6	30	1.3	20	1.2	9	0.6	2	0.5	#	0.2
Latvia	17	1.6	18	1.2	24	1.1	22	1.0	14	1.1	6	0.7
Liechtenstein	9	1.6	13	2.1	20	2.5	28	3.6	22	3.6	9	1.6
Russian Federation	14	1.3	19	0.8	26	0.8	23	1.0	12	0.9	5	0.6

#Too small to report.

NOTE: The Program for International Student Assessment (PISA) uses five levels of performance to describe student performance. In order to reach a particular level, a student must be able to correctly answer a majority of items at that level. Students were classified into reading levels according to their scores. Although the Netherlands participated in 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.7.—Percentage distribution and standard errors of 15-year-olds by interpreting texts level, by country: 2000

Country	Below level 1		Level 1		Level 2		Level 3		Level 4		Level 5	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Australia	4	0.4	10	0.7	19	1.0	26	1.1	24	1.2	18	1.3
Austria	4	0.4	11	0.6	22	1.0	30	1.1	24	1.0	10	0.8
Belgium	6	0.7	11	0.8	18	0.7	25	0.9	26	0.9	13	0.7
Canada	2	0.2	8	0.4	18	0.4	29	0.6	26	0.5	16	0.5
Czech Republic	5	0.6	11	0.6	23	0.9	30	0.7	22	0.9	9	0.7
Denmark	6	0.6	13	0.8	23	0.8	29	0.9	21	1.0	8	0.7
Finland	2	0.5	5	0.4	14	0.8	26	0.9	30	0.9	24	0.9
France	4	0.5	12	0.8	22	1.0	30	1.0	23	1.1	9	0.7
Germany	9	0.8	13	0.9	22	1.0	26	1.0	20	0.7	9	0.5
Greece	7	1.1	16	1.4	27	1.2	30	1.5	16	1.2	4	0.6
Hungary	6	0.7	16	1.3	26	1.1	30	1.3	18	1.1	4	0.6
Iceland	4	0.4	10	0.6	21	0.7	29	1.1	24	1.0	12	0.6
Ireland	3	0.5	8	0.7	18	0.9	29	1.1	26	1.1	15	1.0
Italy	4	0.7	13	0.8	27	1.2	32	1.3	19	0.9	5	0.4
Japan	2	0.7	8	1.1	20	1.4	34	1.5	27	1.6	8	1.0
Korea, Republic of	1	0.2	5	0.6	20	1.0	39	1.4	30	1.2	6	0.6
Luxembourg	14	0.6	20	0.9	28	1.0	24	0.9	12	0.6	2	0.4
Mexico	15	0.9	31	1.5	32	1.3	18	1.2	4	0.6	#	0.1
New Zealand	5	0.5	10	0.7	18	0.7	24	1.1	24	0.9	19	0.9
Norway	6	0.5	11	0.8	20	0.7	28	0.8	23	0.9	11	0.7
Poland	7	0.9	15	0.9	25	1.4	29	1.3	19	1.3	6	0.9
Portugal	8	0.9	17	1.3	27	1.1	28	1.2	17	1.1	4	0.5
Spain	4	0.5	13	0.9	27	0.8	33	1.1	20	0.8	4	0.4
Sweden	3	0.3	9	0.6	20	0.8	29	1.0	25	1.0	14	0.8
Switzerland	7	0.6	13	0.9	22	0.9	27	1.1	21	1.0	9	1.1
United Kingdom	4	0.5	11	0.6	21	0.7	27	0.7	23	0.9	14	0.9
United States	6	1.2	12	1.1	22	1.2	26	1.2	21	1.5	13	1.3
OECD average	6	0.1	12	0.2	22	0.2	28	0.3	22	0.2	10	0.1
Non-OECD countries												
Brazil	21	1.3	33	1.4	28	1.5	13	1.0	3	0.5	1	0.2
Latvia	11	1.2	19	1.4	27	1.3	27	1.2	13	1.2	3	0.6
Liechtenstein	7	1.7	15	2.7	24	3.3	30	3.0	20	2.3	5	1.2
Russian Federation	8	0.9	18	0.8	28	0.9	28	1.1	14	1.1	4	0.6

#Too small to report.

NOTE: The Program for International Student Assessment (PISA) uses five levels of performance to describe student performance. In order to reach a particular level, a student must be able to correctly answer a majority of items at that level. Students were classified into reading levels according to their scores. Although the Netherlands participated in 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.8.—Percentage distribution and standard errors of 15-year-olds by reflecting on texts level, by country: 2000

Country	Below level 1		Level 1		Level 2		Level 3		Level 4		Level 5	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Australia	3	0.4	9	0.7	19	0.9	27	1.2	26	1.2	16	1.2
Austria	5	0.5	10	0.5	20	0.9	28	1.1	25	1.3	12	1.0
Belgium	10	1.2	11	0.8	18	0.7	26	1.0	24	0.8	11	0.6
Canada	2	0.2	7	0.4	16	0.4	27	0.5	28	0.5	19	0.5
Czech Republic	8	0.7	13	0.9	25	0.9	28	0.8	19	1.0	7	0.7
Denmark	6	0.6	12	0.7	21	0.8	29	1.0	22	0.8	10	0.8
Finland	2	0.5	6	0.5	16	0.7	30	0.9	31	0.9	14	0.7
France	6	0.7	12	0.8	23	0.8	29	1.1	21	1.0	9	0.6
Germany	13	0.8	14	0.7	20	1.1	24	0.9	19	0.8	10	0.6
Greece	9	1.1	13	1.1	22	1.1	24	1.1	20	1.2	13	1.1
Hungary	8	0.8	15	1.3	24	1.3	28	1.1	19	1.2	6	0.8
Iceland	5	0.5	11	0.6	23	0.8	31	0.9	22	0.8	8	0.5
Ireland	2	0.4	7	0.8	17	1.0	30	1.0	29	1.0	14	0.9
Italy	8	0.9	14	1.1	24	1.3	28	1.0	19	0.8	7	0.6
Japan	4	0.8	8	0.9	17	1.1	28	1.1	27	1.2	16	1.4
Korea, Republic of	1	0.3	5	0.5	19	1.0	37	1.2	30	1.2	8	0.7
Luxembourg	17	0.7	18	0.8	25	1.1	23	0.8	13	0.5	4	0.4
Mexico	16	0.9	21	1.0	26	0.9	21	0.8	12	0.9	5	0.6
New Zealand	5	0.5	9	0.6	17	0.9	25	1.2	26	1.0	18	1.2
Norway	7	0.7	11	0.7	19	0.8	27	0.9	24	1.0	12	0.8
Poland	11	1.1	14	1.2	23	1.8	26	1.4	18	1.3	8	1.1
Portugal	9	0.9	15	1.2	24	1.2	26	1.1	19	1.1	6	0.7
Spain	4	0.4	11	0.7	22	1.1	31	1.2	24	0.9	8	0.6
Sweden	4	0.4	10	0.6	21	0.7	30	0.8	24	0.9	10	0.7
Switzerland	10	0.9	14	0.9	22	1.1	25	1.0	19	0.9	11	1.1
United Kingdom	3	0.3	7	0.6	17	0.7	27	0.7	27	0.9	20	1.0
United States	6	1.1	11	1.2	21	1.1	27	1.1	22	1.7	13	1.3
OECD average	7	0.1	11	0.2	21	0.2	28	0.2	23	0.2	11	0.2
Non-OECD countries												
Brazil	19	1.2	27	1.1	29	1.1	18	1.0	6	0.7	1	0.2
Latvia	16	1.5	17	1.1	23	1.6	24	1.6	14	1.2	6	0.9
Liechtenstein	12	2.0	16	3.1	24	3.3	25	2.8	17	2.9	6	1.3
Russian Federation	12	1.1	19	1.0	28	1.1	25	0.9	12	0.8	4	0.5

NOTE: The Program for International Student Assessment (PISA) uses five levels of performance to describe student performance. In order to reach a particular level, a student must be able to correctly answer a majority of items at that level. Students were classified into reading levels according to their scores. Although the Netherlands participated in 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.9.—Mathematics literacy and science literacy averages of 15-year-olds with standard errors, by country: 2000

Country	Mathematics literacy		Science literacy	
	Average	s.e.	Average	s.e.
Australia	533	3.5	528	3.5
Austria	515	2.5	519	2.5
Belgium	520	3.9	496	4.3
Canada	533	1.4	529	1.6
Czech Republic	498	2.8	511	2.4
Denmark	514	2.4	481	2.8
Finland	536	2.1	538	2.5
France	517	2.7	500	3.2
Germany	490	2.5	487	2.4
Greece	447	5.6	461	4.9
Hungary	488	4.0	496	4.2
Iceland	514	2.3	496	2.2
Ireland	503	2.7	513	3.2
Italy	457	2.9	478	3.1
Japan	557	5.5	550	5.5
Korea, Republic of	547	2.8	552	2.7
Luxembourg	446	2.0	443	2.3
Mexico	387	3.4	422	3.2
New Zealand	537	3.1	528	2.4
Norway	499	2.8	500	2.7
Poland	470	5.5	483	5.1
Portugal	454	4.1	459	4.0
Spain	476	3.1	491	3.0
Sweden	510	2.5	512	2.5
Switzerland	529	4.4	496	4.4
United Kingdom	529	2.5	532	2.7
United States	493	7.6	499	7.3
OECD average	500	0.7	500	0.6
Non-OECD countries				
Brazil	334	3.7	375	3.3
Latvia	463	4.5	460	5.6
Liechtenstein	514	7.0	476	7.1
Russian Federation	478	5.5	460	4.7

NOTE: Although the Netherlands participated in the Program for International Student Assessment (PISA) in 2000, technical problems with its sample prevent its results from being included with the other OECD countries. For information on the results for the Netherlands, see OECD (2001). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.10.—Average mathematics literacy scores of 15-year-olds by percentiles with standard errors, by country: 2000

Country	Average	s.e.	5th percentile		10th percentile		25th percentile		75th percentile		90th percentile		95th percentile	
			Score	s.e.	Score	s.e.	Score	s.e.	Score	s.e.	Score	s.e.	Score	s.e.
Australia	533	3.5	380	6.4	418	6.4	474	4.4	594	4.5	647	5.7	679	5.8
Austria	515	2.5	355	5.3	392	4.6	455	3.5	581	3.8	631	3.6	661	5.2
Belgium	520	3.9	322	11.0	367	8.6	453	6.5	597	3.0	646	3.9	672	3.5
Canada	533	1.4	390	3.2	423	2.5	477	2.0	592	1.7	640	1.9	668	2.6
Czech Republic	498	2.8	335	5.4	372	4.2	433	4.1	564	3.9	623	4.8	655	5.6
Denmark	514	2.4	366	6.1	401	5.1	458	3.1	575	3.1	621	3.7	649	4.6
Finland	536	2.2	400	6.5	433	3.6	484	4.1	592	2.5	637	3.2	664	3.5
France	517	2.7	364	6.4	399	5.4	457	4.7	581	3.1	629	3.2	656	4.6
Germany	490	2.5	311	7.9	349	6.9	423	3.9	563	2.7	619	3.6	649	3.9
Greece	447	5.6	260	9.0	303	8.1	375	8.1	524	6.7	586	7.8	617	8.6
Hungary	488	4.0	327	7.1	360	5.7	419	4.8	558	5.2	615	6.4	648	6.9
Iceland	514	2.3	372	5.7	407	4.7	459	3.5	572	3.0	622	3.1	649	5.5
Ireland	503	2.7	357	6.4	394	4.7	449	4.1	561	3.6	606	4.3	630	5.0
Italy	457	2.9	301	8.4	338	5.5	398	3.5	520	3.5	570	4.4	600	6.1
Japan	557	5.5	402	11.2	440	9.1	504	7.4	617	5.2	662	4.9	688	6.1
Korea, Republic of	547	2.8	400	6.1	438	5.0	493	4.2	606	3.4	650	4.3	676	5.3
Luxembourg	446	2.0	281	7.4	328	4.2	390	3.8	509	3.4	559	3.2	588	3.9
Mexico	387	3.4	254	5.5	281	3.6	329	4.1	445	5.2	496	5.6	527	6.6
New Zealand	537	3.1	364	6.1	405	5.4	472	3.9	607	4.0	659	4.2	689	5.2
Norway	499	2.8	340	7.0	379	5.2	439	4.0	565	3.9	613	4.5	643	4.5
Poland	470	5.5	296	12.2	335	9.2	402	7.0	542	6.8	599	7.7	632	8.5
Portugal	454	4.1	297	7.3	332	6.1	392	5.7	520	4.3	570	4.3	596	5.0
Spain	476	3.1	323	5.8	358	4.3	416	5.3	540	4.0	592	3.9	621	3.1
Sweden	510	2.5	347	5.8	386	4.0	450	3.3	574	2.6	626	3.3	656	5.5
Switzerland	529	4.4	353	9.1	398	6.0	466	4.8	601	5.2	653	5.8	682	4.8
United Kingdom	529	2.5	374	5.9	412	3.6	470	3.2	592	3.2	646	4.3	676	5.9
United States	493	7.6	327	11.7	361	9.6	427	9.7	562	7.5	620	7.7	652	7.9
OECD average	500	0.7	326	1.5	367	1.4	435	1.1	571	0.8	625	0.9	655	1.1
Non-OECD countries														
Brazil	334	3.7	179	5.5	212	5.2	266	4.2	399	5.5	464	7.5	499	8.9
Latvia	463	4.5	288	9.0	328	8.9	393	5.7	536	6.2	593	5.6	625	6.6
Liechtenstein	514	7.0	343	19.7	380	18.9	454	15.5	579	7.5	635	16.9	665	15.0
Russian Federation	478	5.5	305	9.0	343	7.4	407	6.6	552	6.6	613	6.8	648	7.8

NOTE: 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.11.—Average science literacy scores of 15-year-olds by percentiles with standard errors, by country: 2000

Country	Average	s.e.	Standard deviation	s.e.	5th percentile		10th percentile		25th percentile		75th percentile		90th percentile		95th percentile	
					Score	s.e.	Score	s.e.	Score	s.e.	Score	s.e.	Score	s.e.	Score	s.e.
Australia	528	3.5	94	1.6	368	5.1	402	4.7	463	4.6	596	4.8	646	5.1	675	4.8
Austria	519	2.6	91	1.7	363	5.7	398	4.0	456	3.8	584	3.5	633	4.1	659	4.3
Belgium	496	4.3	111	3.8	292	13.5	346	10.2	424	6.6	577	3.5	630	2.6	656	3.0
Canada	529	1.6	89	1.1	380	3.7	412	3.4	469	2.2	592	1.8	641	2.2	670	3.0
Czech Republic	511	2.4	94	1.5	355	5.6	389	4.0	449	3.6	577	3.8	632	4.1	663	4.9
Denmark	481	2.8	103	2.0	310	6.0	347	5.3	410	4.8	554	3.5	613	4.4	645	4.7
Finland	538	2.5	86	1.2	391	5.2	425	4.2	481	3.5	598	3.0	645	4.3	674	4.3
France	500	3.2	102	2.0	329	6.1	363	5.4	429	5.3	575	4.0	631	4.2	663	4.9
Germany	487	2.4	102	2.0	314	9.5	350	6.0	417	4.9	560	3.3	618	3.5	649	4.7
Greece	461	4.9	97	2.6	300	9.3	334	8.3	393	7.0	530	5.3	585	5.3	616	5.8
Hungary	496	4.2	103	2.3	328	7.5	361	4.9	423	5.5	570	4.8	629	5.1	659	8.5
Iceland	496	2.2	88	1.6	351	7.0	381	4.3	436	3.7	558	3.1	607	4.1	635	4.8
Ireland	513	3.2	92	1.7	361	6.5	394	5.7	450	4.4	578	3.4	630	4.6	661	5.4
Italy	478	3.1	98	2.6	315	7.1	349	6.2	411	4.4	547	3.5	602	4.0	633	4.4
Japan	550	5.5	90	3.0	391	11.3	430	9.9	495	7.2	612	5.0	659	4.7	688	5.7
Korea, Republic of	552	2.7	81	1.8	411	5.3	442	5.3	499	4.0	610	3.4	652	3.9	674	5.7
Luxembourg	443	2.3	96	2.0	278	7.2	320	6.8	382	3.4	510	2.8	563	4.4	593	4.0
Mexico	422	3.2	77	2.1	303	4.8	325	4.6	368	3.1	472	4.7	525	5.5	554	7.0
New Zealand	528	2.4	101	2.3	357	5.6	392	5.2	459	3.8	600	3.4	653	5.0	683	5.1
Norway	500	2.8	96	2.0	338	7.3	377	6.6	437	4.0	569	3.5	619	3.9	649	6.2
Poland	483	5.1	97	2.7	326	9.2	359	5.8	415	5.5	553	7.3	610	7.6	639	7.5
Portugal	459	4.0	89	1.6	317	5.0	343	5.1	397	5.2	521	4.7	575	5.0	604	5.3
Spain	491	3.0	95	1.8	333	5.1	367	4.3	425	4.4	558	3.5	613	3.9	643	5.5
Sweden	512	2.5	93	1.4	357	5.7	390	4.6	446	4.1	578	3.0	630	3.4	660	4.5
Switzerland	496	4.4	100	2.4	332	5.8	366	5.4	427	5.1	567	6.4	626	6.4	656	9.0
United Kingdom	532	2.7	98	2.0	366	6.8	401	6.0	466	3.8	602	3.9	656	4.7	687	5.0
United States	499	7.3	101	2.9	330	11.7	368	10.0	430	9.6	571	8.0	628	7.0	658	8.4
OECD average	500	0.7	100	0.5	332	1.5	368	1.0	431	1.0	572	0.8	627	0.8	657	1.2
Non-OECD countries																
Brazil	375	3.3	90	2.3	230	5.5	262	5.9	315	3.7	432	4.9	492	7.8	531	8.2
Latvia	460	5.6	98	3.0	299	10.1	334	8.8	393	7.7	528	5.7	585	7.2	620	8.0
Liechtenstein	476	7.1	94	5.4	314	23.5	357	20.0	409	12.3	543	12.7	595	12.4	629	24.0
Russian Federation	460	4.7	99	2.0	298	6.5	333	5.4	392	6.2	529	5.8	591	5.9	625	5.7

NOTE: 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.12.—Percentage of 15-year-olds reaching PISA international benchmarks in mathematics literacy with standard errors, by country: 2000

Country	Top 10 percent		Top 25 percent		Top 50 percent		Top 75 percent	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Australia	15	1.4	34	1.9	63	1.6	87	1.1
Austria	11	0.9	29	1.4	56	1.5	82	1.1
Belgium	16	1.0	35	1.2	60	1.6	79	1.6
Canada	14	0.5	34	0.7	63	0.8	88	0.6
Czech Republic	10	0.9	23	1.3	47	1.5	75	1.1
Denmark	9	0.9	27	1.2	56	1.4	83	1.1
Finland	13	0.8	34	1.2	66	1.4	90	0.7
France	11	0.8	29	1.1	57	1.5	82	1.1
Germany	9	0.7	22	0.9	47	1.3	72	1.1
Greece	4	0.9	13	1.5	31	2.0	57	2.3
Hungary	8	1.0	21	1.6	44	1.9	70	1.7
Iceland	9	0.8	26	1.2	55	1.6	84	1.0
Ireland	6	0.7	21	1.2	51	1.5	80	1.3
Italy	2	0.5	10	0.9	31	1.3	62	1.4
Japan	22	1.9	46	2.6	74	2.3	91	1.4
Korea, Republic of	17	1.2	41	1.6	71	1.3	91	0.7
Luxembourg	2	0.3	8	0.6	26	1.1	58	1.5
Mexico	#	0.1	1	0.3	8	1.0	29	1.9
New Zealand	19	1.1	39	1.6	64	1.4	85	1.1
Norway	8	0.7	23	1.2	49	1.3	77	1.2
Poland	6	1.1	16	2.0	38	2.4	65	2.0
Portugal	2	0.4	10	0.9	30	1.7	60	2.0
Spain	4	0.5	15	1.1	38	1.5	69	1.7
Sweden	10	0.7	26	1.0	54	1.2	80	1.1
Switzerland	17	1.5	36	2.0	61	2.0	83	1.2
United Kingdom	15	1.2	33	1.4	61	1.1	85	0.9
United States	9	1.3	22	2.3	46	3.3	73	2.9
OECD average	10	0.9	25	1.3	50	1.6	75	1.4
Non-OECD countries								
Brazil	#	0.1	1	0.3	4	0.8	16	1.5
Latvia	5	0.9	15	1.3	35	2.0	62	1.8
Liechtenstein	12	3.1	30	3.6	56	4.0	80	3.4
Russian Federation	8	1.1	20	1.7	40	2.2	67	2.0

#Too small to report.

NOTE: 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.13—Percentage of 15-year-olds reaching PISA international benchmarks in science literacy with standard errors, by country: 2000

Country	Top 10 percent		Top 25 percent		Top 50 percent		Top 75 percent	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Australia	15	1.2	34	1.6	60	1.9	84	1.1
Austria	11	0.9	30	1.3	58	1.6	83	1.2
Belgium	11	0.7	27	1.1	51	1.5	73	1.5
Canada	14	0.5	33	0.8	62	0.7	86	0.7
Czech Republic	11	0.9	27	1.2	54	1.3	80	1.0
Denmark	8	0.7	20	1.0	43	1.3	68	1.4
Finland	15	0.9	36	1.1	66	1.4	89	0.7
France	11	0.7	26	1.2	50	1.4	74	1.4
Germany	8	0.6	21	0.9	45	1.2	70	1.2
Greece	4	0.6	13	1.3	35	1.9	62	2.2
Hungary	10	1.1	24	1.4	48	1.9	73	1.7
Iceland	6	0.6	20	1.2	48	1.5	77	1.3
Ireland	11	0.8	27	1.3	55	1.7	81	1.3
Italy	6	0.6	17	1.0	41	1.5	69	1.4
Japan	20	1.8	43	2.5	72	2.4	90	1.6
Korea, Republic of	18	1.2	43	1.6	73	1.3	92	0.8
Luxembourg	2	0.3	8	0.9	27	1.3	57	1.2
Mexico	1	0.3	3	0.6	15	1.4	43	2.0
New Zealand	16	0.9	36	1.2	61	1.3	82	1.1
Norway	8	0.8	24	1.1	50	1.4	77	1.3
Poland	7	1.0	19	2.1	43	2.6	69	1.9
Portugal	3	0.5	11	1.1	32	1.8	62	2.1
Spain	7	0.6	21	1.1	46	1.5	73	1.3
Sweden	11	0.7	28	1.2	55	1.3	79	1.0
Switzerland	10	1.1	23	1.8	47	2.0	73	1.6
United Kingdom	17	1.1	35	1.3	62	1.2	84	1.2
United States	10	1.5	25	2.4	49	3.1	75	2.7
OECD average	10	0.8	25	1.3	50	1.6	75	1.4
Non-OECD countries								
Brazil	#	0.2	2	0.4	8	1.3	25	1.6
Latvia	4	0.8	13	1.5	33	2.3	62	2.5
Liechtenstein	4	2.8	18	3.3	41	4.1	66	3.5
Russian Federation	5	0.7	14	1.2	33	1.9	61	2.0

#Too small to report.

NOTE: 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.14.—Combined reading literacy averages by gender with standard errors, by country: 2000

Country	PERCENT OF STUDENTS				AVERAGES				DIFFERENCE	
	Female		Male		Female		Male		Absolute value	s.e.
	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.		
Australia	48	2.2	53	2.2	546	4.7	513	4.0	34	5.4
Austria	52	2.4	48	2.4	520	3.6	495	3.2	26	5.2
Belgium	48	1.7	52	1.7	525	4.9	492	4.2	33	6.0
Canada	50	0.5	50	0.5	551	1.7	519	1.8	32	1.6
Czech Republic	52	1.8	48	1.8	510	2.5	473	4.1	37	4.7
Denmark	50	0.9	50	0.9	510	2.9	485	3.0	25	3.3
Finland	51	0.8	49	0.8	571	2.8	520	3.0	51	2.6
France	51	1.3	49	1.3	519	2.7	490	3.5	29	3.4
Germany	50	1.5	50	1.5	502	3.9	468	3.2	35	5.2
Greece	50	1.3	50	1.3	493	4.6	456	6.1	37	5.0
Hungary	50	2.1	50	2.1	496	4.3	465	5.3	32	5.7
Iceland	50	0.8	50	0.8	528	2.1	488	2.1	40	3.1
Ireland	50	1.8	50	1.8	542	3.6	513	4.2	29	4.6
Italy	49	2.7	51	2.7	507	3.6	469	5.1	38	7.0
Japan	51	2.4	49	2.4	537	5.4	507	6.7	30	6.4
Korea, Republic of	44	3.5	56	3.5	533	3.7	519	3.8	14	6.0
Luxembourg	50	0.9	50	0.9	456	2.3	429	2.6	27	3.8
Mexico	50	1.2	50	1.2	432	3.8	411	4.2	20	4.3
New Zealand	50	2.4	50	2.4	553	3.8	507	4.2	46	6.3
Norway	49	0.9	51	0.9	529	2.9	486	3.8	43	4.0
Poland	49	2.6	51	2.6	498	5.5	461	6.0	36	7.0
Portugal	52	0.9	48	0.9	482	4.6	458	5.0	25	3.8
Spain	51	1.3	49	1.3	505	2.8	481	3.4	24	3.2
Sweden	49	0.9	51	0.9	536	2.5	499	2.6	37	2.7
Switzerland	50	1.0	50	1.0	510	4.5	480	4.9	30	4.2
United Kingdom	50	1.3	50	1.3	537	3.4	512	3.0	26	4.3
United States	52	1.0	48	1.0	518	6.2	490	8.4	29	4.1
OECD average	50	0.3	50	0.3	517	0.7	485	0.8	32	0.9
Non-OECD countries										
Brazil	54	1.2	46	1.2	404	3.4	388	3.9	17	4.0
Latvia	51	1.6	49	1.6	485	5.4	432	5.5	53	4.2
Liechtenstein	50	2.9	50	2.9	500	6.8	468	7.3	31	11.5
Russian Federation	50	0.9	50	0.9	481	4.1	443	4.5	38	2.9

NOTE: Gender difference is calculated by subtracting average scores of males from average scores of females. 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.15.—Averages on the retrieving information reading literacy subscale by gender with standard errors, by country: 2000

Country	PERCENT OF STUDENTS				AVERAGES				DIFFERENCE	
	Female		Male		Female		Male		Absolute value	s.e.
	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.		
Australia	48	2.2	53	2.2	551	5.0	523	4.3	28	5.7
Austria	52	2.4	48	2.4	510	3.6	495	3.3	16	5.4
Belgium	48	1.7	52	1.7	529	5.4	504	4.7	25	6.6
Canada	50	0.5	50	0.5	543	1.8	519	1.9	25	1.8
Czech Republic	52	1.8	48	1.8	495	2.8	467	4.7	27	5.4
Denmark	50	0.9	50	0.9	506	3.2	491	3.4	14	3.5
Finland	51	0.8	49	0.8	578	3.1	534	3.4	44	3.4
France	51	1.3	49	1.3	527	3.0	503	3.8	23	3.6
Germany	50	1.5	50	1.5	497	4.0	471	3.0	26	5.2
Greece	50	1.3	50	1.3	466	5.0	435	6.7	32	5.6
Hungary	50	2.1	50	2.1	491	4.8	465	6.0	25	6.3
Iceland	50	0.8	50	0.8	517	2.2	485	2.4	32	3.3
Ireland	50	1.8	50	1.8	536	3.6	514	4.2	22	4.7
Italy	49	2.7	51	2.7	504	4.0	474	5.7	31	7.8
Japan	51	2.4	49	2.4	539	5.8	512	7.0	27	6.8
Korea, Republic of	44	3.5	56	3.5	489	6.2	461	6.6	28	7.8
Luxembourg	50	0.9	50	0.9	444	2.5	424	2.6	20	4.0
Mexico	50	1.2	50	1.2	408	4.4	396	5.0	12	5.1
New Zealand	50	2.4	50	2.4	555	4.1	516	4.7	39	7.1
Norway	49	0.9	51	0.9	523	2.9	490	3.9	32	4.0
Poland	49	2.6	51	2.6	489	6.2	461	6.6	28	7.8
Portugal	52	0.9	48	0.9	464	5.0	447	5.5	16	4.2
Spain	51	1.3	49	1.3	493	3.1	477	3.7	16	3.8
Sweden	49	0.9	51	0.9	532	2.9	501	2.7	30	3.2
Switzerland	50	1.0	50	1.0	510	4.7	487	5.2	22	4.7
United Kingdom	50	1.3	50	1.3	534	3.4	515	3.1	19	4.4
United States	52	1.0	48	1.0	512	6.5	486	8.8	26	4.5
OECD average	50	0.3	50	0.3	510	0.8	486	0.9	24	1.1
Non-OECD countries										
Brazil	54	1.2	46	1.2	370	4.0	360	4.3	10	4.5
Latvia	51	1.6	49	1.6	474	6.0	428	6.1	46	4.9
Liechtenstein	50	2.9	50	2.9	504	7.7	484	8.2	20	12.3
Russian Federation	50	0.9	50	0.9	468	4.8	434	5.5	34	3.7

NOTE: Average score difference is calculated by subtracting scores of males from scores of females. 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.16.—Averages on the interpreting texts reading literacy subscale by gender with standard errors, by country: 2000

Country	PERCENT OF STUDENTS				AVERAGES				DIFFERENCE	
	Female		Male		Female		Male		Absolute value	s.e.
	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.		
Australia	48	2.2	53	2.2	545	4.9	511	4.1	34	5.7
Austria	52	2.4	48	2.4	520	3.8	497	3.1	23	5.3
Belgium	48	1.7	52	1.7	529	4.7	498	3.9	31	6.1
Canada	50	0.5	50	0.5	547	1.7	518	1.8	29	1.6
Czech Republic	52	1.8	48	1.8	517	2.6	483	4.1	34	4.6
Denmark	50	0.9	50	0.9	506	2.9	485	3.1	21	3.4
Finland	51	0.8	49	0.8	579	3.2	529	3.3	51	3.1
France	51	1.3	49	1.3	519	2.7	492	3.5	27	3.3
Germany	50	1.5	50	1.5	505	3.8	472	2.9	33	4.8
Greece	50	1.3	50	1.3	492	4.2	459	5.5	33	4.6
Hungary	50	2.1	50	2.1	494	4.1	466	5.1	28	5.4
Iceland	50	0.8	50	0.8	535	2.1	497	2.1	38	3.0
Ireland	50	1.8	50	1.8	541	3.6	513	4.3	27	4.7
Italy	49	2.7	51	2.7	509	3.3	470	4.6	39	6.4
Japan	51	2.4	49	2.4	530	5.3	505	6.3	25	6.1
Korea, Republic of	44	3.5	56	3.5	500	5.5	465	5.5	35	6.6
Luxembourg	50	0.9	50	0.9	460	2.3	433	2.6	27	3.9
Mexico	50	1.2	50	1.2	427	3.3	410	3.8	17	3.9
New Zealand	50	2.4	50	2.4	549	3.9	506	4.3	43	6.6
Norway	49	0.9	51	0.9	527	2.7	487	3.7	40	3.8
Poland	49	2.6	51	2.6	500	5.5	465	5.5	35	6.6
Portugal	52	0.9	48	0.9	485	4.3	461	4.7	24	3.5
Spain	51	1.3	49	1.3	502	2.8	481	3.3	21	3.4
Sweden	49	0.9	51	0.9	540	2.5	505	2.5	34	2.8
Switzerland	50	1.0	50	1.0	510	4.4	484	4.8	26	4.2
United Kingdom	50	1.3	50	1.3	527	3.5	503	2.9	24	4.3
United States	52	1.0	48	1.0	518	6.4	491	8.4	27	4.2
OECD average	50	0.3	50	0.3	516	0.7	487	0.8	29	0.9
Non-OECD countries										
Brazil	54	1.2	46	1.2	408	3.5	393	3.8	14	4.1
Latvia	51	1.6	49	1.6	485	5.0	434	5.0	51	3.8
Liechtenstein	50	2.9	50	2.9	497	6.9	474	7.8	23	11.6
Russian Federation	50	0.9	50	0.9	486	3.9	450	4.4	36	3.1

NOTE: Average score difference is calculated by subtracting scores of males from scores of females. 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.17.—Averages on the reflecting on texts reading literacy subscale by gender with standard errors, by country: 2000

Country	PERCENT OF STUDENTS				AVERAGES				DIFFERENCE	
	Female		Male		Female		Male		Absolute value	s.e.
	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.		
Australia	48	2.2	53	2.2	548	4.7	507	4.0	42	5.5
Austria	52	2.4	48	2.4	532	3.8	493	3.5	39	5.5
Belgium	48	1.7	52	1.7	522	5.3	475	5.2	47	6.4
Canada	50	0.5	50	0.5	566	1.7	521	1.8	45	1.7
Czech Republic	52	1.8	48	1.8	511	2.6	457	4.3	54	4.7
Denmark	50	0.9	50	0.9	523	3.3	480	3.2	43	3.6
Finland	51	0.8	49	0.8	564	3.1	501	3.0	63	2.8
France	51	1.3	49	1.3	515	2.9	477	3.7	39	3.9
Germany	50	1.5	50	1.5	503	4.2	455	3.5	48	5.5
Greece	50	1.3	50	1.3	522	5.4	468	6.8	54	6.1
Hungary	50	2.1	50	2.1	503	4.5	460	5.7	43	5.8
Iceland	50	0.8	50	0.8	529	1.9	476	2.0	54	2.8
Ireland	50	1.8	50	1.8	552	3.3	515	4.0	37	4.3
Italy	49	2.7	51	2.7	507	3.8	460	5.5	47	7.6
Japan	51	2.4	49	2.4	551	5.5	508	7.2	42	7.0
Korea, Republic of	44	3.5	56	3.5	504	5.8	451	6.4	53	7.4
Luxembourg	50	0.9	50	0.9	464	2.8	423	3.0	40	4.5
Mexico	50	1.2	50	1.2	463	4.5	428	4.9	35	5.6
New Zealand	50	2.4	50	2.4	559	3.9	502	4.2	57	6.4
Norway	49	0.9	51	0.9	539	2.9	479	4.0	60	4.1
Poland	49	2.6	51	2.6	504	5.8	451	6.4	53	7.4
Portugal	52	0.9	48	0.9	497	4.5	461	5.1	36	3.8
Spain	51	1.3	49	1.3	526	2.9	487	3.5	39	3.5
Sweden	49	0.9	51	0.9	536	2.5	486	2.7	51	2.6
Switzerland	50	1.0	50	1.0	511	5.1	465	5.4	46	4.5
United Kingdom	50	1.3	50	1.3	557	3.4	522	3.0	35	4.4
United States	52	1.0	48	1.0	524	6.3	488	8.4	36	4.5
OECD average	50	0.3	50	0.3	525	0.8	480	0.8	45	1.0
Non-OECD countries										
Brazil	54	1.2	46	1.2	429	3.7	404	4.2	25	4.3
Latvia	51	1.6	49	1.6	493	6.1	423	5.7	71	4.7
Liechtenstein	50	2.9	50	2.9	492	8.6	447	8.9	45	13.3
Russian Federation	50	0.9	50	0.9	480	4.0	431	4.2	49	2.8

NOTE: Average score difference is calculated by subtracting scores of males from scores of females. 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.18.—Mathematics literacy averages by gender with standard errors, by country: 2000

Country	PERCENT OF STUDENTS				AVERAGES				DIFFERENCE	
	Female		Male		Female		Male		Absolute value	s.e.
	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.		
Australia	46	2.2	54	2.2	527	5.1	539	4.1	12	6.2
Austria	52	2.5	48	2.5	503	3.7	530	4.0	27	5.9
Belgium	48	1.6	52	1.6	518	5.2	524	4.6	6	6.1
Canada	50	0.7	50	0.7	529	1.6	539	1.8	10	1.9
Czech Republic	51	1.8	49	1.8	492	3.0	504	4.4	12	5.2
Denmark	49	1.2	51	1.2	507	3.0	522	3.1	15	3.7
Finland	52	1.1	48	1.1	536	2.6	537	2.8	1	3.3
France	52	1.4	48	1.4	511	2.8	525	4.1	14	4.2
Germany	51	1.6	49	1.6	483	4.0	498	3.1	15	5.1
Greece	50	1.6	50	1.6	444	5.4	451	7.7	7	7.4
Hungary	49	2.2	51	2.2	485	4.9	492	5.2	7	6.2
Iceland	50	1.1	50	1.1	518	2.9	513	3.1	5	4.0
Ireland	51	1.8	49	1.8	497	3.4	510	4.0	13	5.1
Italy	50	2.8	50	2.8	454	3.8	462	5.3	8	7.3
Japan	50	2.4	50	2.4	553	5.9	561	7.3	8	7.4
Korea, Republic of	44	3.6	56	3.6	532	5.1	559	4.6	27	7.8
Luxembourg	49	1.2	51	1.2	439	3.2	454	3.0	15	4.7
Mexico	50	1.3	50	1.3	382	3.8	393	4.5	11	4.9
New Zealand	49	2.4	51	2.4	539	4.1	536	5.0	3	6.7
Norway	50	1.1	50	1.1	495	2.9	506	3.8	11	4.0
Poland	49	2.9	51	2.9	468	6.3	472	7.5	5	8.5
Portugal	52	1.1	48	1.1	446	4.7	464	4.7	19	4.9
Spain	51	2.0	49	2.0	469	3.3	487	4.3	18	4.5
Sweden	50	1.2	50	1.2	507	3.0	514	3.2	7	4.0
Switzerland	50	1.2	50	1.2	523	4.8	537	5.3	14	5.0
United Kingdom	50	1.5	50	1.5	526	3.7	534	3.5	8	5.0
United States	51	1.3	49	1.3	490	7.3	497	8.9	7	5.4
OECD average	50	0.4	50	0.4	495	0.9	506	1.0	11	1.2
Non-OECD countries										
Brazil	53	1.5	47	1.5	322	4.7	349	4.7	27	5.6
Latvia	51	1.9	49	1.9	460	5.6	467	5.3	6	5.8
Liechtenstein	51	3.6	49	3.6	510	11.1	521	11.5	12	17.7
Russian Federation	49	1.1	51	1.1	479	6.2	478	5.7	2	4.8

NOTE: Gender difference is calculated by subtracting average scores of males from average scores of females. 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.19.—Science literacy averages by gender with standard errors, by country: 2000

Country	PERCENT OF STUDENTS				AVERAGES				DIFFERENCE	
	Female		Male		Female		Male		Absolute value	s.e.
	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.		
Australia	49	2.1	51	2.1	529	4.8	526	3.9	3	5.3
Austria	52	2.5	48	2.5	514	4.3	526	3.8	12	6.3
Belgium	48	1.7	52	1.7	498	5.6	496	5.2	2	6.7
Canada	50	0.6	50	0.6	531	1.7	529	1.9	2	1.9
Czech Republic	51	1.8	49	1.8	511	3.2	512	3.8	1	5.1
Denmark	50	1.2	50	1.2	476	3.5	488	3.9	12	4.8
Finland	50	1.0	50	1.0	541	2.7	534	3.5	6	3.8
France	52	1.4	48	1.4	498	3.8	504	4.2	6	4.8
Germany	49	1.7	51	1.7	487	3.4	489	3.4	3	4.7
Greece	49	1.4	51	1.4	464	5.2	457	6.1	7	5.7
Hungary	50	2.2	50	2.2	497	5.0	496	5.8	2	6.9
Iceland	50	1.1	50	1.1	499	3.0	495	3.4	5	4.7
Ireland	50	1.9	50	1.9	517	4.2	511	4.2	6	5.5
Italy	50	2.7	50	2.7	483	3.9	474	5.6	9	7.7
Japan	51	2.3	49	2.3	554	5.9	547	7.2	7	7.2
Korea, Republic of	44	3.5	56	3.5	541	5.1	561	4.3	19	7.6
Luxembourg	50	1.1	50	1.1	448	3.2	441	3.6	7	5.0
Mexico	50	1.3	50	1.3	419	3.9	423	4.2	4	4.8
New Zealand	49	2.7	51	2.7	535	3.8	523	4.6	12	7.0
Norway	47	1.3	53	1.3	505	3.3	499	4.1	7	5.0
Poland	49	2.8	51	2.8	480	6.5	486	6.1	6	7.4
Portugal	51	1.3	49	1.3	462	4.2	456	4.8	6	4.3
Spain	51	1.1	49	1.1	491	3.6	492	3.5	1	4.0
Sweden	50	1.0	50	1.0	513	2.9	512	3.5	#	3.9
Switzerland	51	1.2	49	1.2	493	4.7	500	5.7	7	5.4
United Kingdom	51	1.4	49	1.4	531	4.0	535	3.4	4	5.2
United States	51	1.2	49	1.2	502	6.5	497	8.9	5	5.3
OECD average	50	0.4	50	0.4	501	0.8	501	0.9	#	1.0
Non-OECD countries										
Brazil	54	1.6	46	1.6	376	3.8	376	4.8	#	5.6
Latvia	53	1.8	47	1.8	472	5.8	449	6.4	23	5.4
Liechtenstein	47	3.9	53	3.9	468	9.3	484	10.9	16	14.7
Russian Federation	51	1.0	49	1.0	467	5.2	453	5.4	14	4.5

#Too small to report.

NOTE: Gender difference is calculated by subtracting average scores of males from average scores of females. 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.20.—Combined reading literacy averages by parents' education with standard errors, by country: 2000

Country	PERCENT OF STUDENTS						AVERAGES					
	Less than high school		High school		College		Less than high school		High school		College	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.	Average	s.e.
Australia	31	1.3	25	0.8	44	1.4	498	3.7	521	3.6	559	4.4
Austria	62	0.9	9	0.5	29	0.9	495	2.5	533	6.4	536	3.5
Belgium	20	0.8	35	0.8	46	0.9	450	4.7	540	3.0	519	4.0
Canada	8	0.3	27	0.4	65	0.5	482	2.8	522	2.1	549	1.6
Czech Republic	33	1.0	43	0.7	24	0.9	450	4.1	502	2.5	538	4.1
Denmark	28	1.0	21	0.7	51	1.0	457	4.0	491	3.3	528	2.6
Finland	50	1.1	14	0.5	36	1.1	531	3.3	559	3.9	566	3.2
France	41	1.3	15	0.6	44	1.1	484	3.5	530	3.3	523	2.8
Germany	51	1.1	10	0.5	39	1.0	464	3.8	511	5.3	524	4.6
Greece	33	1.4	23	0.8	44	1.4	442	6.0	482	4.3	495	6.0
Hungary	37	1.4	35	1.1	28	1.4	433	4.3	495	3.9	529	5.5
Iceland	43	0.9	21	0.6	36	0.9	497	2.3	509	3.3	526	2.6
Ireland	30	1.2	31	0.9	39	1.3	505	3.8	530	3.7	544	4.2
Italy	44	1.0	35	0.8	21	0.9	465	4.0	502	3.4	515	4.5
Japan	—	—	—	—	—	—	—	—	—	—	—	—
Korea, Republic of	40	1.1	31	0.9	29	1.4	507	2.9	532	2.8	541	3.5
Luxembourg	48	0.9	20	0.8	31	0.7	418	3.0	469	4.0	479	3.6
Mexico	68	1.9	9	0.5	23	1.8	403	2.9	457	5.2	469	6.5
New Zealand	34	1.0	8	0.5	58	1.0	515	3.8	541	5.7	549	3.6
Norway	25	0.9	21	0.8	54	1.2	492	3.8	500	3.9	520	3.6
Poland	28	1.2	49	1.1	23	1.1	443	4.9	485	4.3	533	7.2
Portugal	64	1.6	15	0.7	21	1.3	456	4.2	482	6.3	514	6.8
Spain	52	1.6	20	0.8	27	1.6	473	3.0	510	3.1	525	2.8
Sweden	17	0.6	24	0.8	59	1.0	495	3.5	518	2.9	526	2.6
Switzerland	53	1.2	8	0.4	39	1.2	477	4.0	517	7.2	519	5.2
United Kingdom	41	1.0	8	0.4	51	1.0	500	3.0	558	5.6	547	3.1
United States	10	1.8	43	1.6	46	2.5	443	7.2	497	4.9	536	6.4
OECD average	38	0.2	23	0.2	39	0.3	471	0.9	508	0.8	530	0.8
Non-OECD countries												
Brazil	53	1.6	25	1.1	22	1.2	374	3.4	420	3.5	428	5.9
Latvia	9	0.8	47	1.5	44	1.4	403	8.6	458	5.4	473	6.4
Liechtenstein	61	2.9	#	#	32	2.9	476	6.5	#	#	509	8.7
Russian Federation	7	0.4	49	1.2	45	1.3	418	7.4	458	3.9	476	4.3

—Not available.
#Too small to report.

NOTE: 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). The OECD average is the average of the national averages of 26 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.21.—Mathematics literacy averages by parents' education with standard errors, by country: 2000

Country	PERCENT OF STUDENTS						AVERAGES					
	Less than high school		High school		College		Less than high school		High school		College	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.	Average	s.e.
Australia	31	1.5	25	1.0	45	1.6	501	4.3	524	4.9	564	4.3
Austria	62	1.2	9	0.7	29	1.1	501	2.9	543	6.8	543	4.5
Belgium	20	0.9	34	0.9	45	1.0	462	5.6	552	3.5	533	4.9
Canada	8	0.4	26	0.5	65	0.6	487	3.0	522	2.0	546	1.6
Czech Republic	33	1.2	44	1.0	23	1.0	455	3.8	504	3.3	549	5.0
Denmark	28	1.2	21	0.9	50	1.1	483	4.3	512	3.7	539	3.1
Finland	50	1.3	14	0.7	36	1.2	520	2.9	551	4.8	555	2.9
France	42	1.3	15	0.7	43	1.2	498	3.7	543	3.8	533	3.3
Germany	51	1.4	10	0.6	39	1.3	469	4.3	514	5.6	527	4.8
Greece	32	1.5	23	1.0	45	1.7	411	7.1	450	6.5	473	7.4
Hungary	37	1.3	35	1.3	28	1.5	436	4.3	502	4.0	544	6.3
Iceland	44	1.2	21	0.8	35	1.2	506	3.5	517	4.1	533	3.9
Ireland	30	1.3	30	1.3	40	1.5	479	3.2	510	3.7	520	3.8
Italy	44	1.2	35	1.0	21	1.1	439	4.1	470	4.0	481	4.9
Japan	—	—	—	—	—	—	—	—	—	—	—	—
Korea, Republic of	40	1.3	31	1.1	29	1.5	525	3.3	551	3.6	573	4.4
Luxembourg	50	1.2	20	1.0	30	1.1	429	3.2	468	5.0	478	5.1
Mexico	67	1.9	10	0.8	23	1.8	369	3.2	420	6.2	432	6.4
New Zealand	33	1.3	8	0.6	59	1.4	522	4.9	543	7.8	559	3.5
Norway	27	1.1	20	0.8	53	1.5	491	5.3	493	4.2	511	3.8
Poland	29	1.3	49	1.4	23	1.2	438	5.8	475	5.9	529	7.3
Portugal	64	1.8	15	0.9	21	1.5	442	3.8	455	7.2	495	6.8
Spain	53	1.7	20	1.1	27	1.6	456	3.3	492	5.4	510	3.8
Sweden	18	0.7	23	0.9	59	1.1	489	4.9	516	4.1	518	3.4
Switzerland	53	1.5	9	0.5	38	1.6	512	4.5	548	9.0	556	5.5
United Kingdom	42	1.1	9	0.5	50	1.2	507	3.3	561	7.4	552	3.4
United States	10	1.8	43	2.0	46	2.6	428	8.3	484	5.2	527	7.5
OECD average	38	0.3	23	0.2	39	0.3	469	0.9	505	1.1	529	1.0
Non-OECD countries												
Brazil	52	1.8	24	1.2	23	1.3	307	3.7	360	5.0	373	8.4
Latvia	9	1.0	47	1.4	44	1.6	417	12.8	462	4.6	477	6.1
Liechtenstein	59	3.8	#	#	34	3.6	503	9.5	#	#	544	13.2
Russian Federation	7	0.5	48	1.4	46	1.5	442	9.9	472	6.2	494	5.5

—Not available.
#Too small to report.

NOTE: 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). The OECD average is the average of the national averages of 26 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.22.—Science literacy averages by parents' education with standard errors, by country: 2000

Country	PERCENT OF STUDENTS						AVERAGES					
	Less than high school		High school		College		Less than high school		High school		College	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.	Average	s.e.
Australia	33	1.5	25	1.1	43	1.5	501	3.9	522	4.1	554	4.6
Austria	64	1.2	8	0.6	28	1.2	508	3.3	537	6.8	546	4.1
Belgium	20	0.9	35	1.0	46	1.1	441	5.5	523	3.7	510	4.6
Canada	9	0.3	27	0.6	65	0.6	482	3.4	516	2.2	544	1.7
Czech Republic	34	1.1	43	0.9	23	1.0	475	3.9	518	2.6	560	5.1
Denmark	28	1.2	21	0.9	51	1.2	438	4.8	474	4.6	513	3.5
Finland	50	1.1	14	0.7	35	1.1	523	3.0	546	5.3	558	4.4
France	41	1.4	14	0.8	46	1.3	473	4.5	527	5.7	524	3.9
Germany	51	1.3	10	0.7	38	1.2	465	3.5	513	6.6	528	3.7
Greece	34	1.5	22	1.0	43	1.4	432	5.7	467	4.8	481	6.4
Hungary	36	1.5	36	1.3	28	1.4	444	5.2	509	4.4	552	6.4
Iceland	43	1.3	20	1.0	37	1.3	482	3.2	498	5.1	515	3.8
Ireland	30	1.4	31	1.1	39	1.4	488	4.1	513	4.0	535	4.7
Italy	43	1.2	35	1.1	22	1.0	454	4.6	494	4.1	502	5.0
Japan	—	—	—	—	—	—	—	—	—	—	—	—
Korea, Republic of	40	1.3	31	1.1	29	1.6	532	3.2	559	3.5	573	4.8
Luxembourg	48	1.3	21	1.1	32	1.2	424	3.5	463	5.6	480	5.0
Mexico	68	2.0	9	0.7	23	2.0	406	2.8	445	5.5	462	6.9
New Zealand	34	1.3	8	0.7	57	1.3	507	4.0	545	7.2	548	3.5
Norway	24	1.0	21	1.2	55	1.6	478	5.1	498	4.9	517	3.3
Poland	27	1.4	48	1.5	25	1.5	444	6.1	489	5.3	530	8.0
Portugal	65	1.7	14	1.0	20	1.4	446	3.8	479	7.3	494	7.2
Spain	53	1.8	20	1.0	27	1.8	468	3.5	514	4.3	526	4.0
Sweden	16	0.8	25	0.9	59	1.3	492	4.5	507	4.4	523	3.1
Switzerland	52	1.4	9	0.5	40	1.4	472	4.5	519	8.3	526	5.7
United Kingdom	41	1.3	8	0.5	51	1.2	511	3.7	570	7.5	553	3.2
United States	11	1.9	44	1.5	46	2.4	438	10.2	488	5.9	534	7.2
OECD average	38	0.3	23	0.2	39	0.3	470	0.9	507	1.0	528	1.0
Non-OECD countries												
Brazil	53	1.7	24	1.2	23	1.3	353	3.7	394	5.0	413	6.8
Latvia	9	1.0	48	1.7	44	1.7	397	9.4	459	5.7	478	7.1
Liechtenstein	60	4.1	#	#	35	3.9	463	8.6	#	#	500	13.7
Russian Federation	6	0.5	49	1.3	45	1.3	422	9.5	452	4.7	477	5.6

—Not available.
#Too small to report.

NOTE: 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). The OECD average is the average of the national averages of 26 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.23.—Relationship between parents' socioeconomic status and combined reading literacy, mathematics literacy, and science literacy scores with standard errors, by country: 2000

**AVERAGE SCORE POINT INCREASE
WITH A ONE UNIT INCREASE ON THE ISEI INDEX**

Country	Combined reading literacy		Mathematics literacy		Science literacy	
	Slope	s.e.	Slope	s.e.	Slope	s.e.
Australia	1.9	0.1	1.8	0.1	1.6	0.1
Austria	2.2	0.1	1.9	0.2	2.1	0.2
Belgium	2.3	0.1	2.3	0.2	2.5	0.2
Canada	1.6	0.1	1.3	0.1	1.4	0.1
Czech Republic	2.7	0.1	2.6	0.1	2.6	0.1
Denmark	1.8	0.1	1.5	0.1	2.0	0.2
Finland	1.3	0.1	1.2	0.1	1.1	0.1
France	1.9	0.1	1.6	0.1	2.1	0.1
Germany	2.8	0.1	2.4	0.2	2.5	0.2
Greece	1.7	0.2	1.9	0.2	1.6	0.2
Hungary	2.4	0.1	2.6	0.2	2.7	0.2
Iceland	1.2	0.1	1.0	0.1	0.8	0.1
Ireland	1.9	0.1	1.6	0.1	1.8	0.1
Italy	1.6	0.1	1.3	0.2	1.5	0.1
Japan	0.4	0.2	0.6	0.2	0.5	0.2
Korea, Republic of	0.9	0.1	1.3	0.1	1.2	0.2
Luxembourg	2.4	0.1	2.0	0.1	2.0	0.2
Mexico	1.9	0.1	1.8	0.2	1.6	0.2
New Zealand	2.0	0.1	1.9	0.2	1.9	0.2
Norway	1.8	0.1	1.6	0.1	1.6	0.2
Poland	2.2	0.2	2.2	0.2	2.0	0.2
Portugal	2.4	0.1	2.1	0.1	2.0	0.1
Spain	1.6	0.1	1.7	0.1	1.9	0.1
Sweden	1.7	0.1	1.9	0.1	1.5	0.1
Switzerland	2.5	0.1	2.1	0.1	2.5	0.2
United Kingdom	2.4	0.1	2.1	0.1	2.3	0.1
United States	2.1	0.2	2.2	0.2	2.1	0.2
OECD average	2.1	#	2.0	#	2.0	#
Non-OECD countries						
Brazil	1.6	0.1	2.0	0.2	1.6	0.2
Latvia	1.3	0.1	0.9	0.1	1.2	0.2
Liechtenstein	2.0	0.3	1.4	0.5	2.2	0.5
Russian Federation	1.6	0.1	1.5	0.1	1.5	0.1

#Too small to report.

NOTE: 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.24.—Combined reading literacy averages by parents' national origin with standard errors, by country: 2000

Country	PERCENT OF STUDENTS						AVERAGES					
	Both native		Native and foreign		Both foreign		Both native		Native and foreign		Both foreign	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.	Average	s.e.
Australia	58	1.6	19	0.9	23	1.8	529	4.0	541	5.1	521	6.7
Austria	84	1.1	6	0.5	10	0.9	516	2.4	509	6.6	434	6.4
Belgium	76	1.3	12	0.6	12	1.1	526	4.0	496	5.9	417	7.6
Canada	69	1.1	11	0.3	21	1.0	536	1.5	551	3.5	526	3.1
Czech Republic	92	0.4	7	0.4	1	0.1	501	2.2	506	5.1	465	15.4
Denmark	87	0.7	7	0.4	6	0.6	504	2.1	501	8.4	424	7.2
Finland	97	0.3	2	0.2	1	0.2	548	2.6	540	8.6	477	13.6
France	75	1.1	13	0.6	12	0.9	513	2.7	505	5.1	464	6.3
Germany	78	0.9	6	0.4	15	0.8	509	2.3	492	6.3	424	6.2
Greece	96	0.3	2	0.2	5	0.9	477	4.6	492	11.0	414	16.4
Hungary	94	0.5	5	0.5	2	0.2	481	4.0	495	11.3	486	11.1
Iceland	94	0.5	5	0.5	#	#	509	1.6	504	7.8	#	#
Ireland	88	0.7	9	0.6	2	0.3	527	3.2	531	6.0	549	11.1
Italy	95	0.3	4	0.3	1	0.2	488	2.9	501	6.5	450	13.3
Japan	99	0.1	#	#	#	#	525	5.0	#	#	#	#
Korea, Republic of	—	—	—	—	—	—	—	—	—	—	—	—
Luxembourg	51	0.8	15	0.6	34	0.7	480	1.9	455	4.0	385	3.6
Mexico	95	0.4	2	0.2	4	0.4	427	3.3	404	10.7	344	8.1
New Zealand	63	1.1	17	0.6	20	1.1	535	2.9	549	4.6	508	7.0
Norway	89	0.6	6	0.4	5	0.4	510	2.7	512	7.1	453	6.6
Poland	98	0.3	2	0.3	#	#	482	4.4	468	19.8	#	#
Portugal	90	0.5	7	0.4	3	0.3	470	4.5	494	9.1	457	12.4
Spain	94	0.5	4	0.3	2	0.4	495	2.6	475	9.5	457	13.1
Sweden	79	1.0	11	0.6	10	0.9	524	2.2	520	4.8	465	5.2
Switzerland	64	1.1	16	0.7	21	0.9	515	3.8	511	6.9	427	4.8
United Kingdom	82	1.5	9	0.6	9	1.2	527	2.5	547	7.8	494	9.4
United States	81	2.7	6	0.7	14	2.1	512	6.2	494	12.3	472	14.1
OECD average	83	0.2	8	0.1	9	0.2	505	0.7	512	1.3	456	2.1
Non-OECD countries												
Brazil	99	0.2	1	0.2	#	#	398	3.0	403	14.8	#	#
Latvia	60	2.8	18	0.9	22	2.4	464	6.5	460	6.6	454	6.3
Liechtenstein	55	2.9	25	2.6	20	2.0	506	5.6	486	11.0	422	13.7
Russian Federation	87	0.8	9	0.4	4	0.6	462	4.2	471	7.4	455	6.4

—Not available.
#Too small to report.

NOTE: 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). The OECD average is the average of the national averages of 26 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.25.—Mathematics literacy averages by parents' national origin with standard errors, by country: 2000

Country	PERCENT OF STUDENTS						AVERAGES					
	Both native		Native and foreign		Both foreign		Both native		Native and foreign		Both foreign	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.	Average	s.e.
Australia	57	1.7	19	1.3	24	1.9	532	4.3	547	5.2	530	6.9
Austria	84	1.2	7	0.6	9	0.9	523	2.7	516	7.2	442	8.5
Belgium	77	1.4	11	0.8	12	1.2	541	4.4	506	7.0	422	8.3
Canada	69	1.1	11	0.3	21	1.1	537	1.5	536	3.4	526	3.2
Czech Republic	92	0.6	7	0.5	1	0.2	505	2.8	503	7.6	476	19.5
Denmark	86	0.8	8	0.6	6	0.6	522	2.2	506	7.8	447	8.5
Finland	97	0.4	2	0.3	1	0.2	537	2.2	544	10.1	487	25.0
France	76	1.3	13	0.8	11	0.9	527	2.7	511	6.3	479	6.9
Germany	78	1.1	6	0.4	16	0.9	512	2.5	480	8.9	427	7.5
Greece	90	1.1	6	0.6	5	0.8	452	5.5	458	14.7	364	16.3
Hungary	96	0.4	2	0.3	2	0.3	489	4.1	506	15.9	493	18.3
Iceland	94	0.6	5	0.6	#	#	516	2.3	515	11.1	#	#
Ireland	89	0.7	9	0.7	2	0.3	502	2.8	513	6.9	542	18.5
Italy	95	0.5	4	0.4	1	0.3	458	2.9	480	8.3	409	21.3
Japan	100	0.1	#	#	#	#	560	5.5	#	#	#	#
Korea, Republic of	—	—	—	—	—	—	—	—	—	—	—	—
Luxembourg	50	0.9	14	0.7	36	0.9	476	2.7	462	5.3	404	3.9
Mexico	95	0.5	2	0.3	3	0.3	392	3.4	343	14.3	317	10.7
New Zealand	62	1.2	18	0.8	20	1.2	542	3.3	545	6.2	528	7.8
Norway	89	0.7	6	0.5	5	0.5	503	2.8	508	8.3	448	9.8
Poland	98	0.4	1	0.3	#	#	474	5.1	468	25.0	#	#
Portugal	91	0.6	7	0.6	3	0.3	454	4.0	477	9.9	439	15.9
Spain	94	0.5	4	0.4	2	0.4	478	3.0	471	11.4	455	16.9
Sweden	79	1.1	10	0.7	11	1.1	519	2.5	509	6.3	454	7.5
Switzerland	64	1.1	16	0.8	20	1.1	550	4.2	541	6.7	463	5.6
United Kingdom	82	1.5	9	0.7	9	1.2	534	2.4	546	7.6	497	10.8
United States	81	2.7	6	0.7	13	2.3	501	7.3	484	11.4	461	13.6
OECD average	83	0.2	8	0.1	9	0.2	503	0.7	512	1.7	464	2.4
Non-OECD countries												
Brazil	99	0.3	1	0.2	#	#	336	3.8	362	20.4	#	#
Latvia	60	3.1	18	1.2	22	2.5	470	6.8	456	7.3	464	7.7
Liechtenstein	55	3.7	24	3.2	21	3.0	540	9.2	499	17.2	474	17.9
Russian Federation	86	0.9	9	0.6	5	0.7	481	5.8	482	9.9	468	10.9

—Not available.
#Too small to report.

NOTE: 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). The OECD average is the average of the national averages of 26 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.26.—Science literacy averages by parents' national origin with standard errors, by country: 2000

Country	PERCENT OF STUDENTS						AVERAGES					
	Both native		Native and foreign		Both foreign		Both native		Native and foreign		Both foreign	
	Percent	s.e.	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.	Average	s.e.
Australia	58	1.6	20	1.3	22	1.9	530	4.1	535	5.7	519	7.7
Austria	84	1.2	7	0.5	10	1.0	529	2.5	516	8.6	439	8.1
Belgium	76	1.3	12	0.7	12	1.1	516	4.8	483	8.0	407	7.7
Canada	70	1.1	10	0.3	20	1.1	535	1.6	539	3.8	513	3.2
Czech Republic	92	0.6	7	0.5	1	0.2	518	2.4	521	7.1	501	23.1
Denmark	87	0.9	7	0.6	6	0.6	488	2.5	485	11.2	405	9.9
Finland	97	0.4	2	0.3	1	0.2	539	2.5	540	11.8	470	18.1
France	75	1.4	13	0.9	12	1.0	512	3.3	497	7.9	443	7.5
Germany	79	1.1	6	0.5	15	0.9	509	2.4	486	9.5	414	6.7
Greece	89	1.0	6	0.7	5	0.7	464	4.8	469	10.9	398	17.5
Hungary	96	0.5	2	0.3	2	0.3	498	4.2	524	14.1	472	14.8
Iceland	94	0.6	6	0.6	#	#	497	2.2	488	10.0	#	#
Ireland	88	0.8	9	0.7	3	0.4	512	3.3	533	8.1	555	11.8
Italy	95	0.5	4	0.4	1	0.2	478	2.9	499	10.4	481	25.6
Japan	99	0.1	#	#	#	#	554	5.3	#	#	#	#
Korea, Republic of	—	—	—	—	—	—	—	—	—	—	—	—
Luxembourg	53	1.3	14	0.9	33	1.2	478	2.8	456	6.3	391	4.6
Mexico	94	0.5	2	0.3	4	0.4	425	3.2	421	16.3	364	9.0
New Zealand	63	1.3	17	0.8	20	1.2	533	2.9	546	5.1	509	6.7
Norway	88	0.7	6	0.5	5	0.5	507	2.8	497	8.9	440	8.4
Poland	98	0.4	2	0.3	#	#	486	5.1	461	22.5	#	#
Portugal	90	0.7	7	0.6	3	0.4	460	4.1	474	10.4	430	11.7
Spain	94	0.6	4	0.5	2	0.5	494	3.0	473	11.3	442	19.2
Sweden	79	1.1	11	0.7	10	1.0	519	2.8	514	6.8	460	6.2
Switzerland	63	1.2	17	0.8	20	1.0	516	4.4	507	7.0	428	6.1
United Kingdom	82	1.6	9	0.7	9	1.3	537	2.6	552	9.9	501	11.2
United States	80	2.9	6	0.8	14	2.2	507	6.5	488	14.1	467	17.7
OECD average	83	0.2	8	0.1	9	0.2	504	0.7	507	1.7	453	2.2
Non-OECD countries												
Brazil	99	0.3	1	0.3	#	#	376	3.2	399	24.0	#	#
Latvia	60	2.9	18	1.0	22	2.6	468	6.4	465	7.4	451	7.5
Liechtenstein	55	4.0	25	3.4	20	2.9	503	8.9	470	14.4	420	17.6
Russian Federation	87	0.9	9	0.5	4	0.7	460	4.8	466	8.3	462	10.4

—Not available.
#Too small to report.

NOTE: 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). The OECD average is the average of the national averages of 26 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.27.—Combined reading literacy averages by language spoken at home with standard errors, by country: 2000

Country	PERCENT OF STUDENTS				AVERAGES				DIFFERENCE	
	Test language		Other language		Test language		Other language		Absolute value	s.e.
	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.		
Australia	83	1.6	17	1.6	535	3.6	504	7.5	31	7.4
Austria	93	0.7	7	0.7	515	2.4	434	7.2	81	7.6
Belgium	77	1.0	23	1.0	516	3.9	500	4.7	15	5.6
Canada	69	0.5	31	0.5	541	1.8	527	2.4	14	2.8
Czech Republic	99	0.2	1	0.2	494	2.2	432	39.6	62	39.0
Denmark	93	0.4	7	0.4	503	2.2	425	8.1	78	7.7
Finland	94	0.3	6	0.3	549	2.6	502	10.2	47	10.3
France	95	0.5	5	0.5	510	2.6	446	7.5	64	7.7
Germany	92	0.8	8	0.8	500	2.9	386	13.9	114	15.5
Greece	97	0.6	3	0.6	477	4.8	407	18.3	69	17.6
Hungary	—	—	—	—	—	—	—	—	—	—
Iceland	98	0.3	2	0.3	509	1.5	463	13.4	46	13.5
Ireland	98	0.5	2	0.5	527	3.1	537	18.0	9	17.1
Italy	82	1.1	18	1.1	500	2.9	448	6.8	52	7.0
Japan	100	0.1	#	#	525	5.2	#	#	†	†
Korea, Republic of	—	—	—	—	—	—	—	—	—	—
Luxembourg	71	0.6	29	0.6	467	1.6	382	3.4	86	3.8
Mexico	98	0.5	2	0.5	423	3.4	352	12.9	71	13.2
New Zealand	90	0.6	10	0.6	542	2.6	467	9.1	75	8.6
Norway	94	0.5	6	0.5	512	2.8	444	7.8	68	7.5
Poland	99	0.2	1	0.2	483	4.4	417	23.6	65	23.1
Portugal	98	0.2	2	0.2	471	4.6	416	13.8	56	14.7
Spain	85	1.5	15	1.5	495	2.8	493	5.9	2	6.1
Sweden	93	0.6	7	0.6	523	2.0	459	6.6	64	6.8
Switzerland	81	0.8	19	0.8	512	4.1	427	5.6	85	4.7
United Kingdom	96	0.7	4	0.7	528	2.5	470	12.8	57	12.7
United States	89	2.4	11	2.4	514	5.8	438	13.1	76	11.4
OECD average	91	0.2	9	0.2	507	0.6	452	2.1	55	2.1
Non-OECD countries										
Brazil	99	0.2	1	0.2	397	3.0	388	28.2	9	27.5
Latvia	91	0.5	9	0.5	510	2.6	457	8.4	28	12.7
Liechtenstein	73	2.4	27	2.4	500	5.4	438	11.7	62	13.8
Russian Federation	93	2.1	7	2.1	465	4.3	432	9.3	33	10.5

—Not available.
#Too small to report.
†Not applicable.

NOTE: Average score difference is calculated by subtracting the average score for those who speak other languages at home from average scores for those who speak the test language at home in each country. 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). The OECD average is the average of the national averages of 25 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.28.—Mathematics literacy averages by language spoken at home with standard errors, by country: 2000

Country	PERCENT OF STUDENTS				AVERAGES				DIFFERENCE	
	Test language		Other language		Test language		Other language		Absolute value	s.e.
	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.		
Australia	82	1.7	18	1.7	537	3.6	522	6.8	15	6.8
Austria	93	0.7	7	0.7	523	2.5	443	9.2	80	9.6
Belgium	78	1.0	22	1.0	529	4.1	514	5.2	15	6.0
Canada	69	0.6	31	0.6	531	1.6	543	2.4	11	2.9
Czech Republic	99	0.2	1	0.2	499	2.7	476	36.0	23	35.4
Denmark	93	0.5	7	0.5	520	2.4	446	8.7	74	8.7
Finland	94	0.4	6	0.4	538	2.2	511	9.7	27	9.9
France	95	0.6	5	0.6	522	2.7	466	8.4	56	8.4
Germany	93	0.7	7	0.7	505	2.6	395	11.4	110	12.4
Greece	97	0.6	3	0.6	451	5.6	371	17.4	80	18.2
Hungary	—	—	—	—	—	—	—	—	—	—
Iceland	98	0.3	2	0.3	516	2.2	481	15.8	35	15.9
Ireland	98	0.7	2	0.7	503	2.7	528	15.7	25	15.3
Italy	81	1.2	19	1.2	466	3.5	434	6.1	32	7.1
Japan	100	0.1	#	#	559	5.5	#	#	†	†
Korea, Republic of	—	—	—	—	—	—	—	—	—	—
Luxembourg	70	0.9	30	0.9	467	2.4	402	4.4	65	5.0
Mexico	98	0.5	2	0.5	389	3.5	314	15.3	75	15.8
New Zealand	89	0.9	11	0.9	546	3.2	509	9.4	37	9.2
Norway	94	0.5	6	0.5	505	2.9	447	9.5	57	9.5
Poland	99	0.3	1	0.3	474	5.1	425	30.1	49	29.5
Portugal	98	0.3	2	0.3	455	4.0	424	21.1	31	21.6
Spain	86	1.5	14	1.5	475	3.1	493	6.7	18	6.8
Sweden	93	0.7	7	0.7	517	2.3	449	10.1	68	10.4
Switzerland	80	0.9	20	0.9	546	4.3	467	6.7	79	6.0
United Kingdom	96	0.7	4	0.7	534	2.5	476	14.1	57	14.1
United States	89	2.8	11	2.8	503	6.7	430	11.3	73	10.0
OECD average	91	0.2	9	0.2	504	0.7	463	2.3	41	2.4
Non-OECD countries										
Brazil	99	0.3	1	0.3	335	3.7	305	24.6	30	24.8
Latvia	93	0.8	7	0.8	466	4.6	450	12.5	21	13.4
Liechtenstein	74	3.4	26	3.4	529	8.8	475	15.6	54	19.6
Russian Federation	93	2.1	7	2.1	480	5.8	465	14.9	15	16.0

—Not available.
#Too small to report.
†Not applicable.

NOTE: Average score difference is calculated by subtracting the average score for those who speak other languages at home from average scores for those who speak the test language at home in each country. 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). The OECD average is the average of the national averages of 25 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.29.—Science literacy averages by language spoken at home with standard errors, by country: 2000

Country	PERCENT OF STUDENTS				AVERAGES				DIFFERENCE	
	Test language		Other language		Test language		Other language		Absolute value	s.e.
	Percent	s.e.	Percent	s.e.	Average	s.e.	Average	s.e.		
Australia	83	1.7	17	1.7	535	3.2	496	9.3	39	9.0
Austria	93	0.9	7	0.9	527	2.4	439	9.7	88	10.1
Belgium	77	1.1	23	1.1	506	4.8	486	5.7	20	6.5
Canada	70	0.6	30	0.6	532	1.9	529	2.8	2	3.5
Czech Republic	99	0.2	1	0.2	513	2.4	488	34.3	24	33.8
Denmark	93	0.6	7	0.6	488	2.7	405	11.5	83	11.3
Finland	94	0.3	6	0.3	540	2.5	495	8.4	46	8.4
France	95	0.6	5	0.6	507	3.1	437	10.2	70	10.7
Germany	92	0.8	8	0.8	504	2.6	390	10.3	113	11.3
Greece	97	0.8	3	0.8	464	4.6	379	20.8	85	20.2
Hungary	—	—	—	—	—	—	—	—	—	—
Iceland	98	0.3	2	0.3	497	2.2	471	21.5	26	21.7
Ireland	98	0.5	2	0.5	514	3.2	493	21.0	21	20.8
Italy	83	1.2	17	1.2	490	2.8	437	7.6	53	7.7
Japan	100	0.1	#	#	553	5.5	#	#	†	†
Korea, Republic of	—	—	—	—	—	—	—	—	—	—
Luxembourg	72	1.1	28	1.1	467	2.4	388	4.6	79	5.3
Mexico	98	0.4	2	0.4	422	3.3	368	11.0	54	11.4
New Zealand	90	0.8	10	0.8	541	2.5	470	9.0	71	9.3
Norway	93	0.5	7	0.5	507	2.9	442	9.1	65	9.5
Poland	99	0.3	1	0.3	486	5.2	429	22.1	57	22.5
Portugal	98	0.3	2	0.3	461	4.0	385	15.4	76	15.2
Spain	85	1.5	15	1.5	491	2.9	500	7.2	9	7.3
Sweden	92	0.7	8	0.7	519	2.5	455	8.5	64	8.6
Switzerland	80	0.9	20	0.9	513	4.4	429	5.7	85	5.0
United Kingdom	96	0.8	4	0.8	536	2.6	481	16.4	56	16.7
United States	89	2.4	11	2.4	509	6.2	440	16.0	68	13.7
OECD average	91	0.2	9	0.2	505	0.7	449	2.2	56	2.3
Non-OECD countries										
Brazil	99	0.2	1	0.2	376	3.3	373	33.1	3	33.0
Latvia	93	1.0	7	1.0	464	5.4	438	16.2	26	15.3
Liechtenstein	73	3.3	27	3.3	493	7.9	430	14.8	63	16.8
Russian Federation	93	2.2	7	2.2	462	5.1	437	10.2	26	11.0

—Not available.
#Too small to report.
†Not applicable.

NOTE: Average score difference is calculated by subtracting the average score for those who speak other languages at home from average scores for those who speak the test language at home in each country. 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). The OECD average is the average of the national averages of 25 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.30.—Reading, mathematics and science literacy averages of U.S. 15-year-olds by race/ethnicity with standard errors: 2000

	READING LITERACY				MATHEMATICS LITERACY		SCIENCE LITERACY					
	Combined reading literacy		Retrieving information		Interpreting texts		Reflecting on texts					
	Average	s.e.	Average	s.e.	Average	s.e.	Average	s.e.				
Subpopulation	445	8.0	437	8.3	446	7.8	449	8.1	423	8.8	435	8.6
Black students	449	7.8	440	7.8	450	7.7	453	8.5	437	6.3	438	7.8
Hispanic students*	504	14.5	497	14.1	504	14.9	507	15.4	495	14.5	510	18.5
White students	538	5.1	537	5.3	539	5.3	539	5.4	530	5.5	535	5.8

*The other group comprises students identifying themselves as American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, or multiracial.

NOTE: s.e. means standard error.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Program for International Student Assessment (PISA), unpublished tabulations, 2000.

Table A3.31.—Percentage of 15-year-olds who agree or strongly agree that reading is a favorite hobby by gender with standard errors, by country: 2000

Country	Total percent		Percent female		Percent male		Gender difference	
	percent	s.e.	percent	s.e.	male	s.e.	Absolute value	s.e.
Australia	31	1.1	41	1.5	23	1.2	18	1.7
Austria	30	1.2	43	1.5	17	1.0	26	1.8
Belgium	26	0.8	35	1.0	19	1.0	16	1.4
Canada	34	0.5	45	0.6	23	0.5	22	0.7
Czech Republic	52	0.9	68	1.0	33	1.1	36	1.4
Denmark	31	0.7	41	1.2	21	0.9	20	1.6
Finland	41	0.9	60	1.2	21	1.0	39	1.4
France	33	0.8	42	1.0	22	0.9	20	1.3
Germany	29	0.7	41	1.0	17	0.9	24	1.3
Greece	37	1.0	43	1.2	31	1.3	12	1.5
Hungary	29	0.9	38	1.2	21	1.0	17	1.5
Iceland	27	0.8	35	1.0	19	1.1	17	1.4
Ireland	36	1.0	48	1.2	23	1.2	25	1.5
Italy	45	1.0	56	1.2	34	1.1	22	1.7
Japan	36	1.0	41	1.3	32	1.1	8	1.6
Korea, Republic of	35	0.9	37	1.5	33	1.2	4	2.0
Luxembourg	31	0.8	42	1.2	21	1.2	21	1.7
Mexico	62	1.3	68	1.3	55	1.6	12	1.5
New Zealand	33	0.9	42	1.1	25	1.1	17	1.5
Norway	24	0.8	33	1.4	16	0.8	17	1.6
Poland	39	1.1	47	1.3	30	1.3	17	1.7
Portugal	54	0.9	69	1.1	38	1.2	31	1.7
Spain	35	0.9	44	1.3	26	1.0	19	1.6
Sweden	29	0.7	39	1.1	20	0.9	20	1.5
Switzerland	35	1.1	49	1.4	21	1.2	28	1.5
United Kingdom	30	1.0	39	1.4	20	0.9	18	1.6
United States	30	1.0	37	1.1	22	1.2	15	1.5
OECD average	35	0.2	45	0.3	25	0.2	20	0.3
Non-OECD countries								
Brazil	49	1.1	58	1.3	38	1.3	19	1.6
Latvia	37	1.0	49	1.6	26	1.3	23	2.2
Liechtenstein	31	2.4	44	3.8	18	3.1	26	5.2
Russian Federation	43	1.1	50	1.3	35	1.2	15	1.4

NOTE: Gender difference is calculated by subtracting percentage of males who agree from percentage of females who agree. Detail may not sum to totals due to rounding. 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). The OECD average is the average of the national averages of 27 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.32.—Percentage of 15-year-olds who report memorizing often or always when studying by gender with standard errors, by country: 2000

Country	STUDENTS WHO REPORT MEMORIZING OFTEN OR ALWAYS WHEN STUDYING				Gender difference	
	Total percent	Percent female	Percent male	Absolute value	s.e.	s.e.
Australia	47	45	49	3	1.1	1.7
Austria	45	40	50	10	1.3	1.7
Belgium	37	32	41	9	1.1	1.5
Canada	—	—	—	—	—	—
Czech Republic	47	44	50	6	1.1	1.6
Denmark	41	38	43	5	1.3	1.9
Finland	41	38	44	7	1.3	1.7
France	—	—	—	—	—	—
Germany	46	44	49	5	1.2	1.7
Greece	—	—	—	—	—	—
Hungary	52	48	55	7	1.3	1.7
Iceland	40	39	43	4	1.2	1.7
Ireland	43	45	42	3	1.4	2.0
Italy	45	44	47	3	1.2	1.7
Japan	—	—	—	—	—	—
Korea, Republic of	37	37	37	#	1.5	2.3
Luxembourg	33	33	33	#	1.2	1.6
Mexico	51	52	50	2	1.3	1.6
New Zealand	48	48	49	2	1.3	1.8
Norway	40	35	45	11	1.2	1.9
Poland	—	—	—	—	—	—
Portugal	43	41	46	4	1.4	1.8
Spain	—	—	—	—	—	—
Sweden	42	35	48	13	1.1	1.6
Switzerland	46	45	48	3	1.3	1.7
United Kingdom	52	50	54	4	1.5	2.5
United States	49	50	48	2	1.4	2.4
OECD average	44	42	46	4	0.3	0.5
Non-OECD countries						
Brazil	57	57	57	#	1.4	1.8
Latvia	44	43	46	3	1.5	2.0
Liechtenstein	42	41	44	4	4.3	6.2
Russian Federation	37	34	40	7	1.1	1.3

#Too small to report.

NOTE: Gender difference is calculated by subtracting percentage of males who agree from percentage of females who agree. Detail may not sum to totals due to rounding. 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). The OECD average is the average of the national averages of 21 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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

Table A3.33.—Percentage of 15-year-olds who report using an elaboration strategy often or always when studying by gender with standard errors, by country: 2000

Country	STUDENTS WHO REPORT USING AN ELABORATION STRATEGY OFTEN OR ALWAYS WHEN STUDYING				Gender difference	
	Total percent	Percent female	Percent male	Absolute value	s.e.	s.e.
Australia	69	71	67	4	1.1	1.5
Austria	36	38	34	4	1.1	1.6
Belgium	47	48	46	1	1.2	1.9
Canada	—	—	—	—	—	—
Czech Republic	42	46	38	8	1.1	1.7
Denmark	59	55	62	7	0.9	1.4
Finland	39	41	38	3	1.3	1.5
France	—	—	—	—	—	—
Germany	42	46	38	8	1.3	1.7
Greece	—	—	—	—	—	—
Hungary	90	92	88	4	0.9	1.1
Iceland	56	56	55	1	1.1	1.7
Ireland	66	69	64	5	1.4	1.7
Italy	15	13	17	4	0.9	1.1
Japan	—	—	—	—	—	—
Korea, Republic of	47	44	48	4	1.0	1.4
Luxembourg	40	45	37	8	1.0	1.6
Mexico	46	45	48	3	1.5	2.0
New Zealand	68	70	66	4	1.2	1.7
Norway	33	27	40	14	1.0	1.6
Poland	—	—	—	—	—	—
Portugal	44	42	46	4	1.0	1.5
Spain	—	—	—	—	—	—
Sweden	61	58	64	6	1.2	1.9
Switzerland	44	45	43	3	1.5	1.7
United Kingdom	77	77	78	#	1.0	1.5
United States	59	61	57	4	1.5	2.2
OECD average	50	51	50	1	0.3	0.5
Non-OECD countries						
Brazil	72	73	71	2	1.2	1.6
Latvia	58	60	56	4	1.3	1.7
Liechtenstein	34	33	35	1	4.0	5.3
Russian Federation	48	49	47	2	1.1	1.6

#Too small to report.

NOTE: Gender difference is calculated by subtracting percentage of males who agree from percentage of females who agree. Detail may not sum to totals due to rounding. 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). The OECD average is the average of the national averages of 21 OECD countries. Because PISA is principally an OECD study, the results for non-OECD countries are displayed separately from those of the OECD countries and not included in the OECD average. s.e. means standard error.

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