

INTERNATIONAL STUDENT ASSESSMENT

How effective are school systems at providing young people with a solid foundation in the knowledge and skills that will equip them for life and learning beyond school? The OECD Programme for International Student Assessment (PISA) assesses student knowledge and skills at age 15, i.e. toward the end of compulsory education. The PISA 2009 survey focused on reading, including students' attitudes towards reading; for the first time, PISA also assessed the ability of students to read, understand and use digital texts.

Definition

The PISA survey covers reading, mathematics and science. In the 2009 round of PISA, one hour of testing time was devoted to reading, half an hour was devoted to mathematics and half an hour to science. Each student spent two hours on the assessment items. In 19 countries, students were given additional questions via computer to assess their capacity to read digital texts.

Reading literacy is the capacity to understand, use and reflect on written texts in order to achieve one's goals, develop one's knowledge and potential, and participate in society. Mathematical literacy is the capacity to identify and understand the role that mathematics plays in the world, make well-founded judgements, and use mathematics in ways that meet the needs of concerned and reflective citizens. Scientific literacy is the capacity to use scientific knowledge to identify questions, acquire new knowledge, explain scientific phenomena, and draw evidence-based conclusions about science-related issues.

Overview

The graph shows the difference between the OECD average score in reading (493 score points, left axis) and the mean scores of individual countries. As it did in PISA 2006, Korea tops all participating OECD countries in reading. The reading scores of the United States, Sweden, Germany, Ireland, France, Denmark, the United Kingdom, Hungary and Portugal are not significantly different from the OECD average. The graph also shows results for mathematics relative to the OECD average (496 score points). While most countries that do well in one subject also do well in the other, some countries show significant differences: Switzerland, for example, has better scores in mathematics than in reading, while the opposite is true for Indonesia.

The table presents scores by gender. As in PISA 2006, girls do significantly better in reading than boys in all countries, with an average gender gap of 39 score points. Conversely, in all countries, boys outperform girls in mathematics by an average of 12 score points. On average, there is no gender gap in science performance, although in some countries, there are significant differences. For example, in the United States, boys perform significantly better in science than girls, while in Finland the opposite is true.

Comparability

Leading experts in countries participating in PISA advise on the scope and nature of the assessments, with final decisions taken by OECD governments. Substantial efforts and resources are devoted to achieving cultural and linguistic breadth and balance in the assessment materials. Stringent quality assurance mechanisms are applied in translation, sampling and data collection.

Over 520 000 15-year-old students in 75 participating countries were assessed in PISA 2009. Because the results are based on probability samples, standard errors (S.E.) are shown in the tables.

Sources

- OECD (2010), *PISA 2009 Results: What Students Know and Can Do: Student Performance in Reading, Mathematics and Science (Volume I)*, PISA, OECD Publishing.
- OECD (2007), *PISA 2006: Science Competencies for Tomorrow's World: Volume 1: Analysis*, PISA, OECD Publishing.

Further information

Analytical publications

- OECD (2011), *PISA 2009 Results: Students on Line: Reading and Using Digital Information (Volume VI)*, PISA, OECD Publishing.
- OECD (2010), *PISA 2009 Results: Learning to Learn: Student Engagement, Strategies and Practices (Volume III)*, PISA, OECD Publishing.
- OECD (2010), *PISA 2009 Results: Learning Trends: Changes in Student Performance Since 2000 (Volume V)*, PISA, OECD Publishing.
- OECD (2010), *PISA 2009 Results: Overcoming Social Background: Equity in Learning Opportunities and Outcomes (Volume II)*, PISA, OECD Publishing.
- OECD (2010), *PISA 2009 Results: What Makes a School Successful?: Resources, Policies and Practices (Volume IV)*, PISA, OECD Publishing.

Statistical publications

- OECD (2010), *PISA 2009 at a Glance*, OECD Publishing.

Methodological publications

- OECD (2009), *PISA 2009 Assessment Framework: Key Competencies in Reading, Mathematics and Science*, PISA, OECD Publishing.

Online databases

- OECD PISA Database.

Websites

- Programme for International Student Assessment (PISA), www.pisa.oecd.org.



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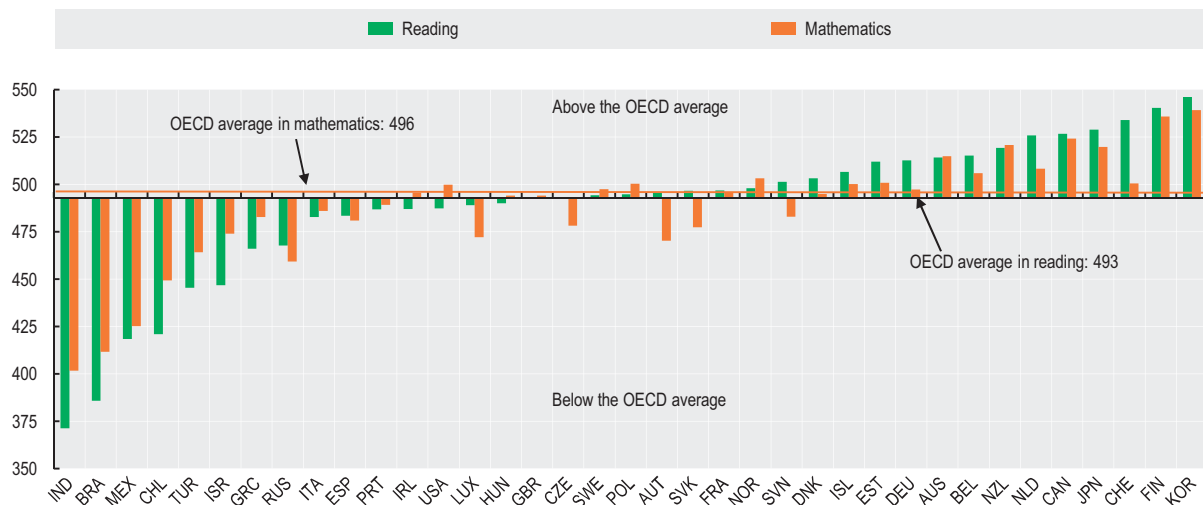
Mean scores and gender differences in PISA 2009

	Reading scale				Mathematics scale				Science scale			
	Males		Females		Males		Females		Males		Females	
	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.
Australia	496	2.9	533	2.6	519	3.0	509	2.8	527	3.1	528	2.8
Austria	449	3.8	490	4.0	506	3.4	486	4.0	498	4.2	490	4.4
Belgium	493	3.4	520	2.9	526	3.3	504	3.0	510	3.6	503	3.2
Canada	507	1.8	542	1.7	533	2.0	521	1.7	531	1.9	526	1.9
Chile	439	3.9	461	3.6	431	3.7	410	3.6	452	3.5	443	3.5
Czech Republic	456	3.7	504	3.0	495	3.9	490	3.0	498	4.0	503	3.2
Denmark	480	2.5	509	2.5	511	3.0	495	2.9	505	3.0	494	2.9
Estonia	480	2.9	524	2.8	516	2.9	508	2.9	527	3.1	528	3.1
Finland	508	2.6	563	2.4	542	2.5	539	2.5	546	2.7	562	2.6
France	475	4.3	515	3.4	505	3.8	489	3.4	500	4.6	497	3.5
Germany	478	3.6	518	2.9	520	3.6	505	3.3	523	3.7	518	3.3
Greece	459	5.5	506	3.5	473	5.4	459	3.3	465	5.1	475	3.7
Hungary	475	3.9	513	3.6	496	4.2	484	3.9	503	3.8	503	3.5
Iceland	478	2.1	522	1.9	508	2.0	505	1.9	496	2.1	495	2.0
Ireland	476	4.2	515	3.1	491	3.4	483	3.0	507	4.3	509	3.8
Israel	452	5.2	495	3.4	451	4.7	443	3.3	453	4.4	456	3.2
Italy	464	2.3	510	1.9	490	2.3	475	2.2	488	2.5	490	2.0
Japan	501	5.6	540	3.7	534	5.3	524	3.9	534	5.5	545	3.9
Korea	523	4.9	558	3.8	548	6.2	544	4.5	537	5.0	539	4.2
Luxembourg	453	1.9	492	1.5	499	2.0	479	1.3	487	2.0	480	1.6
Mexico	413	2.1	438	2.1	425	2.1	412	1.9	419	2.0	413	1.9
Netherlands	496	5.1	521	5.3	534	4.8	517	5.1	524	5.3	520	5.9
New Zealand	499	3.6	544	2.6	523	3.2	515	2.9	529	4.0	535	2.9
Norway	480	3.0	527	2.9	500	2.7	495	2.8	498	3.0	502	2.8
Poland	476	2.8	525	2.9	497	3.0	493	3.2	505	2.7	511	2.8
Portugal	470	3.5	508	2.9	493	3.3	481	3.1	491	3.4	495	3.0
Slovak Republic	452	3.5	503	2.8	498	3.7	495	3.4	490	4.0	491	3.2
Slovenia	456	1.6	511	1.4	502	1.8	501	1.7	505	1.7	519	1.6
Spain	467	2.2	496	2.2	493	2.3	474	2.5	492	2.5	485	2.3
Sweden	475	3.2	521	3.1	493	3.1	495	3.3	493	3.0	497	3.2
Switzerland	481	2.9	520	2.7	544	3.7	524	3.4	520	3.2	512	3.0
Turkey	443	3.7	486	4.1	451	4.6	440	5.6	448	3.8	460	4.5
United Kingdom	481	3.5	507	2.9	503	3.2	482	3.3	519	3.6	509	3.2
United States	488	4.2	513	3.8	497	4.0	477	3.8	509	4.2	495	3.7
OECD average	474	0.6	513	0.5	501	0.6	490	0.6	501	0.6	501	0.6
Brazil	397	2.9	425	2.8	394	2.4	379	2.6	407	2.6	404	2.6
Russian Federation	437	3.6	482	3.4	469	3.7	467	3.5	477	3.7	480	3.5
Indonesia	383	3.8	420	3.9	371	4.1	372	4.0	378	4.2	387	4.0

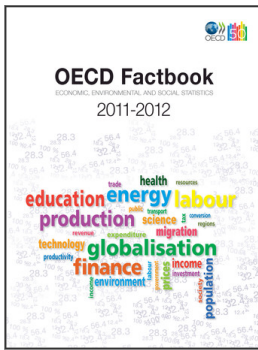
StatLink <http://dx.doi.org/10.1787/888932506457>

Performance on the mathematics and reading scales in PISA 2009

Mean score



StatLink <http://dx.doi.org/10.1787/888932506476>



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