

1. WHAT STUDENTS KNOW AND CAN DO

How do girls compare to boys in science?

- Girls outperform boys in science in 21 of the 65 countries and economies that participated in PISA 2009; in 11 countries, boys outperform girls, and in 33 countries there is no significant difference in performance between the genders.
- On average in OECD countries, boys and girls perform about the same in science.
- In the partner countries and economy Albania, Dubai (UAE), Jordan and Qatar, girls outperform boys in science by more than one-third of a proficiency level.

What it means

Reaching a basic understanding of scientific principles is now essential for both boys and girls if they want to participate fully in society. Despite the prevalence of stereotyping to the contrary, PISA results show that being proficient in science is not linked to one gender or the other.

Findings

Of the three subjects assessed by PISA, reading, mathematics and science, science is the one in which gender gaps in performance are narrowest. On average across OECD countries, boys and girls achieve the same scores. Boys outperform girls in 11 countries, girls outperform boys in 21, and in the remaining countries that participated in PISA 2009, there is no significant difference in science performance between boys and girls. This suggests that science is a domain where policies that focus on gender equality have succeeded the most.

Girls score substantially higher in science, by more than 20 points in 4 partner countries and one partner economy: Albania, Dubai (UAE), Jordan, Kyrgyzstan and Qatar. Only in the partner country Colombia do boys score at least 20 points higher than girls. Among OECD countries, the largest differences in performance between genders, between 10 and 20 points, are seen in Finland, Slovenia and Turkey, where girls outperform boys, and in Denmark and the United States, where boys outperform girls. In countries with the strongest performance in science, boys and girls generally do equally well. Among the top ten countries in science performance, only in Finland and New Zealand is there a significant difference between boys' and girls' science scores. Among the 21 countries whose science perfor-

mance is above the OECD average, there is a gender gap of 10 points or more only in Finland, Slovenia and the partner country Liechtenstein.

In OECD countries, slightly more boys than girls attain a high level of performance in science: 8% of girls and 9% of boys reach proficiency Level 5 or 6.

A previous, more detailed assessment of science, conducted in 2006, showed some gender difference in particular aspects of science performance. Girls were relatively stronger at identifying scientific issues, while boys were better at explaining phenomena scientifically.

Definitions

The gender gap measures the difference between the mean performance scores of boys and girls in science. On the PISA science scale, the mean score for OECD countries was originally set at 500 points, and around two-thirds of students in OECD countries score between 400 and 600 points. One proficiency level is equivalent to 75 score points.

Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Going further

A full set of comparisons across countries and economies, showing details of gender differences in science performance, is presented in *PISA 2009 Results Volume I, What Students Know and Can Do: Student Performance in Reading, Mathematics and Science*. Full data are shown in Tables I.3.6 (mean scores) and I.3.5 (proficiency levels) at the back of that volume.

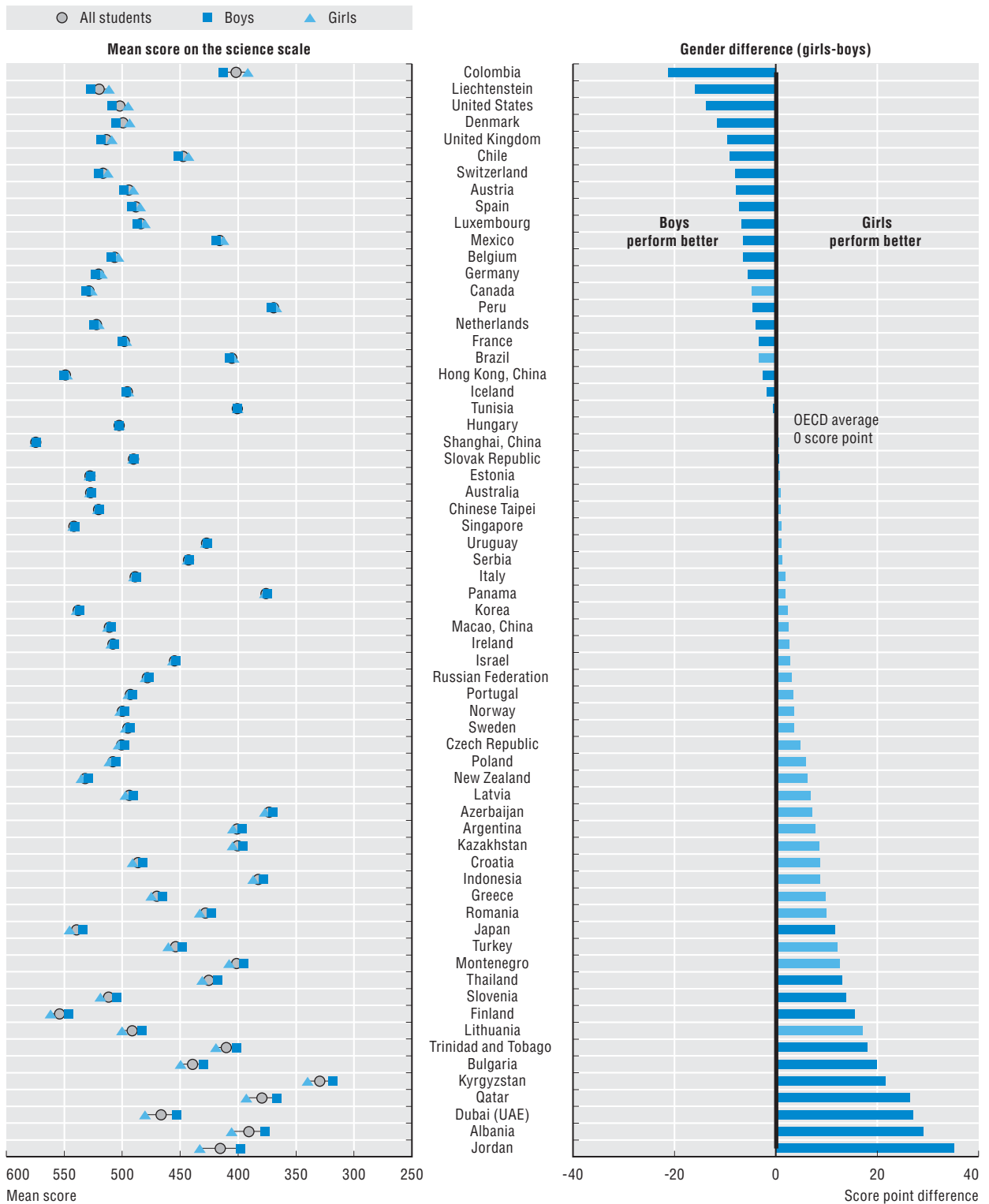
Further reading from the OECD

Science performance, including gender differences in different aspects of science, was assessed in depth in 2006, and will be again in 2015. See: *Assessing Scientific, Reading and Mathematical Literacy: A Framework for PISA 2006* (2006) and *PISA 2006, Science Competencies for Tomorrow's World, Volume 1: Analysis* (2007).

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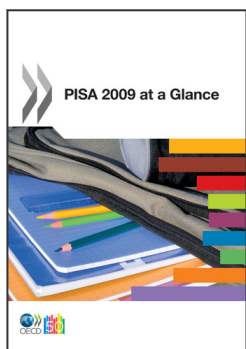
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Figure 1.9. Gender differences in science performance



Note: Statistically significant gender differences are marked in a darker tone (see Annex A3). Countries are ranked in ascending order of the score-point difference (girls-boys).

Source: OECD (2010), PISA 2009 Results, Volume I, What Students Know and Can Do: Student Performance in Reading, Mathematics and Science, Figure I.3.23, available at <http://dx.doi.org/10.1787/888932343152>.



From:
PISA 2009 at a Glance

Access the complete publication at:
<https://doi.org/10.1787/9789264095298-en>

Please cite this chapter as:

OECD (2011), "How do girls compare to boys in science?", in *PISA 2009 at a Glance*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264095250-11-en>

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