

How do girls and boys do in science?

- Girls and boys show no difference in average overall science performance in most countries, based on results from the PISA 2006 round.
- Girls outperform boys in identifying scientific issues by an average of 17 points on the PISA science scale.
- By an average of 15 points on the PISA science scale, boys outperform girls in explaining phenomena scientifically.

Significance

This indicator shows the difference in performance between 15-year-old boys and girls in the PISA 2006 assessment of science literacy, which was a special focus in this most recent round of PISA. Performance was measured in three different skills: *identifying scientific issues*, *using scientific evidence*, and *explaining phenomena scientifically*. In many countries, the differences between genders were small compared to the differences within genders. However, overall performance could be raised significantly if the factors behind gender differences were identified and addressed.

Findings

Unlike in reading and mathematics, where there were significant gender differences, there was no difference between girls and boys in average overall science performance in most OECD countries. Only Denmark, Luxembourg, Mexico, the Netherlands, Switzerland and the United Kingdom showed a small advantage, of 6 to 10 points, for boys, while Greece and Turkey showed an advantage of between 11 and 12 points for girls.

Boys and girls did, however, display varying strengths in different areas of the science tests. In most countries, girls were stronger in *identifying scientific issues*. In Finland, Greece, Iceland and Turkey, girls outperformed boys in this area by more than 25 points on the PISA science scale. On the other hand, boys were stronger in *explaining phenomena scientifically*. In the Czech Republic, Denmark, Germany, Hungary, Luxembourg, the Slovak Republic, and the United Kingdom, boys outperformed girls in this area by more than 20 points.

The picture was more balanced in the area of using scientific evidence. Only two OECD countries – Greece and Turkey – and one partner country – Slovenia – showed a significant gender difference in this area, with girls outperforming boys.

The consistency with which girls were stronger in identifying scientific issues and weaker in explaining phenomena scientifically may suggest that there is a systemic gender difference in the way students relate to science and to the science curriculum. It appears that boys may be better, on average, at mastering scientific knowledge and girls better at distinguishing scientific questions in a given situation. But it should be emphasised that in many countries the gender differences were small relative to differences within each gender. Still, results from PISA suggest that it could be possible to raise overall performance significantly if the factors behind the gender difference could be identified and tackled.

Definitions

See introduction to this section.

Going further

For additional material, notes and a full explanation of sourcing and methodologies, see *Education at a Glance 2008* (Indicator A5).

Areas covered include:

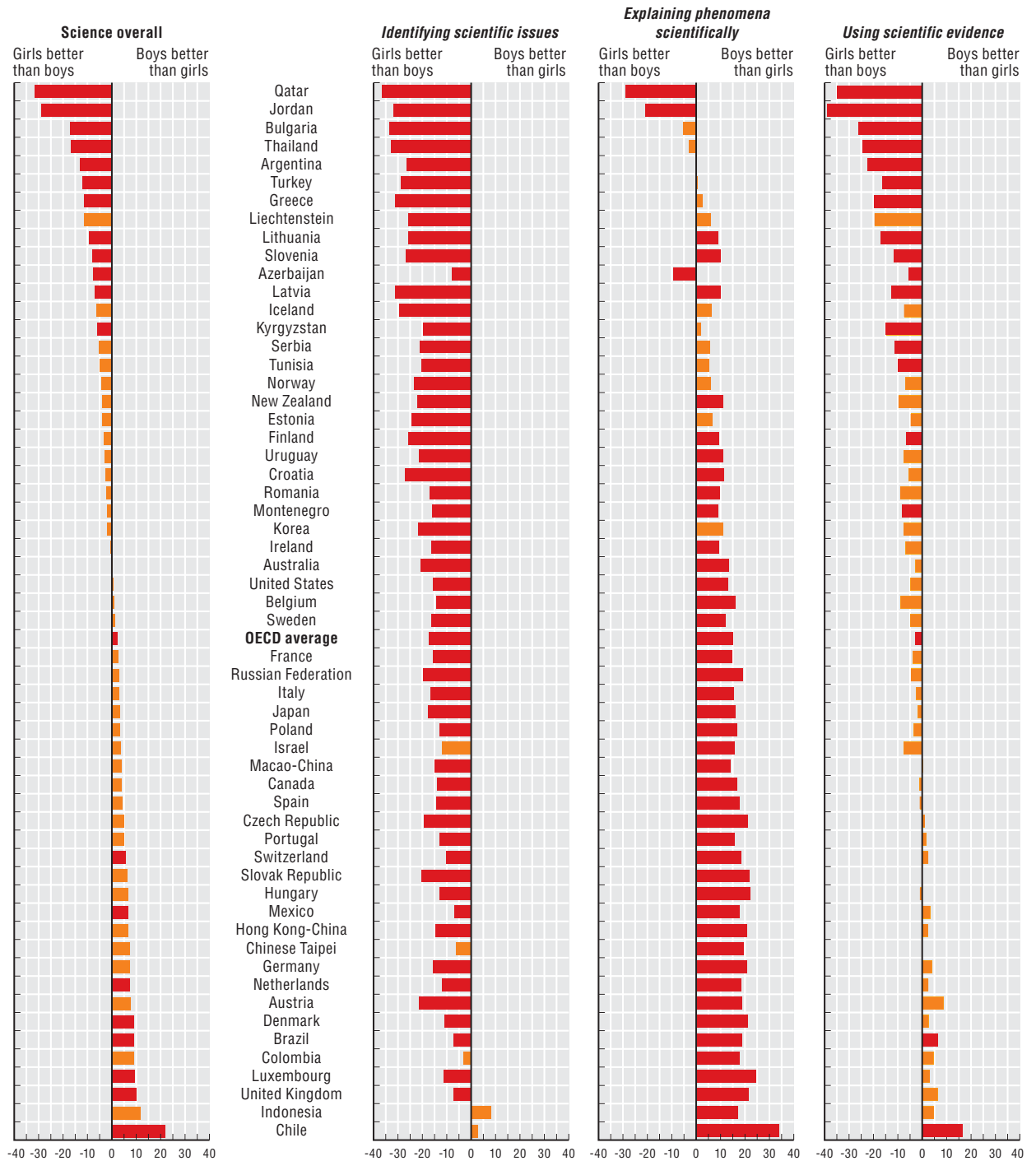
- Distribution of student performance on the PISA science scale.
- Mean score, variation and gender difference in student performance.

Further reading from OECD

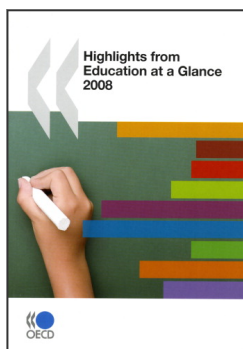
PISA 2006: *Science Competencies for Tomorrow's World*, Vol. 1: *Analysis* (2007).

Figure S.4. Gender differences in student performance in science in PISA 2006

This figure shows the difference in how well boys and girls do in science testing in PISA; the left-hand column reflects overall performance and the other three columns reflect performance on three different science skills. The lighter shading indicates that differences are not statistically significant.



Source: OECD (2008), Education at a Glance 2008, Table A5.5, available at <http://dx.doi.org/10.1787/401573312123>, and OECD (2007), PISA 2006: Science Competencies for Tomorrow's World, Tables 2.1c, 2.2c, 2.3c and 2.4c, available at <http://dx.doi.org/10.1787/142056138443>.



From:
Highlights from Education at a Glance 2008

Access the complete publication at:
<https://doi.org/10.1787/9789264040625-en>

Please cite this chapter as:

OECD (2009), "How do girls and boys do in science?", in *Highlights from Education at a Glance 2008*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/eag_highlights-2008-37-en

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