

Talking Points

PISA 2009:

Performance of U.S. and Canadian 15-year-old Students in Mathematics

Background

The Program for International Student Assessment (PISA) assesses what students have learned — both inside and outside school—as they near the end of compulsory schooling, and how well they apply that knowledge in real-world contexts. Some 69 percent of the U.S. students sampled for PISA are tenth-graders. The U.S. sample included both public and private schools, randomly selected and weighted to be representative of the nation’s 15-year-old students. In total, 165 schools and 5,233 students participated in the United States in 2009.

PISA is coordinated by the Organization for Economic Cooperation and Development (OECD), an intergovernmental organization made up of 34 mostly industrialized member countries such as the United States, Japan, Germany, Korea, and the United Kingdom. Some non-OECD member countries, such as Brazil, as well as nonnational education systems like Shanghai and Dubai, also participated in PISA 2009. Begun in 2000, the test is given every three years. Results for the 2009 PISA assessment were released on December 7, 2010. The next PISA assessment will be administered in 2012.

The 2009 report compares international average performance in reading, mathematics and science literacy. It includes the percentages of students reaching PISA proficiency levels for the United States and the OECD countries on average, as well as trends in U.S. performance over time. It also reports average scores by gender for the United States and other countries and by student race/ethnicity and school socioeconomic contexts within the United States.

U.S. 15-year-old students regained lost ground in mathematics, improved in science, and held steady in reading, according to a report by the National Center for Education Statistics in the U.S. Department of Education.

Key Findings for U.S. Students

Key findings in the mathematics performance of U.S. students from PISA 2009 include the following:

- In mathematics literacy, the average score (487) was lower than the OECD average score (496).
- Among the 33 other OECD countries, 17 had higher average scores than the United States, 5 had lower average scores, and 11 had average scores not measurably different from the U.S. average.
- Among all 64 other participating countries and education systems, 23 had higher average scores than the United States, 29 had lower, and 12 had average scores not measurably different.

- The U.S. average score in mathematics literacy was higher than the U.S. average in 2006 but was not measurably different from the average U.S. score on the 2003 assessment.
- The U.S. average score was lower than the OECD average score in both 2003 and 2009.
- Twenty-three percent of U.S. students scored below level 2 in mathematics literacy (not measurably different from the OECD average), and 27 percent scored at or above level 4 (smaller than the 32 percent average of other OECD countries). The highest level of mathematics proficiency is level 6.
- U.S. boys scored 20 points higher than girls in math literacy (497 to 477). The OECD average was also higher for male students than female students (501 to 490).

Canadian Students Performed Above OECD Average in Math

On average, Canadian 15-year olds performed well in mathematics. Canadian students had an average score of 527 in mathematics, well above the OECD average of 497. Among the 65 countries that participated in PISA 2009, seven countries outperformed Canada in mathematics. Shanghai-China, Singapore, Hong Kong-China, Korea, Chinese Taipei, Finland, and Liechtenstein performed significantly better than Canada in Math, while Switzerland, Japan, Netherlands, and Macao-China performed the same. The averages of the students in all of the remaining countries were significantly below those of Canada. Complete information on Canadian students test results can be found at: <http://www.statcan.gc.ca/pub/81-590-x/2010001/chapt2-eng.htm>

Additional Information

The National Center for Education Statistics (NCES) report, [*Highlights From PISA 2009: Performance of U. S. 15-Year-Old Students in Reading, Mathematics, and Science Literacy in an International Context*](#), compares the performance of U.S. 15-year-old students in reading, mathematics, and science literacy to the performance of their peers internationally.

[Supplemental tables on the NCES Web site](#) include additional data from PISA 2009, including the percentages of students in all PISA countries reaching the PISA proficiency levels and information on trends in performance around the world in reading, mathematics, and science.

[The International Data Explorer](#) also now includes PISA 2009 data for the 65 participating countries and education systems and PISA 2000 reading literacy data.

Information from the National Center for Education Statistics, *Highlights from PISA 2009: Performance of U.S. 15-Year-Old Students in Reading, Mathematics, and Science Literacy in an International Context*

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