

Equally Prepared for Life?

HOW 15-YEAR-OLD BOYS AND GIRLS PERFORM
IN SCHOOL

Programme for International Student Assessment



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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Foreword

In the past few decades there has been an increasing interest in the different educational experiences, success and eventual outcomes that prevail for males and females. Women often excel at school, however men often earn more and are more likely to hold positions of power in political and economic life. Looking at these inequalities, government policies cannot afford to be 'gender-blind' and must aim to develop policies for parity. If governments wish to create growth, employment and a better standard of living, policy advice reflecting gender differences is needed, and education could play a major role in this.

In the educational area, there are at least three reasons for studying gender differences. These include identifying the source of inequalities, fostering average performance and improving our understanding of how students learn.

Gender differences point to areas where student background, attitudes and characteristics significantly affect student performance. Understanding what can influence differences in student performance can help policy makers address quality and equity concerns. Using data from the OECD's Programme for International Student Assessment (PISA), this report addresses the following questions:

- Why do female and male students perform differently?
- What drives gender differences?
- Is there a need for gender-specific policies?
- Are there specific policies that would improve male or female student performance?

PISA explores the educational performance and attitudes of adolescent males and females. This report begins with a general summary of gender differences measured independently from PISA. It then considers the knowledge gained about gender-related issues through the PISA 2000, PISA 2003 and PISA 2006 assessments.

Some key findings include:

- In reading in PISA 2000, females significantly outscored males in all countries.
- In mathematics in PISA 2003, males often outscored females.
- In science overall in PISA 2006, there was no significant difference between males and females in the level of performance. However, when examining the different science competencies, females were better than males at *identifying scientific issues*, while males were better at *explaining phenomena scientifically*.
- Males and females did not have significantly different attitudes to school science, but looking at their future aspirations, there were marked differences in their expectations of having a career in science at the age of 30.

The report is the product of a collaborative effort between the countries participating in PISA, the experts and institutions working within the framework of the PISA Consortium, and the OECD. The report was drafted by John Cresswell, Miyako Ikeda, Maciej Jakubowski, Andreas Schleicher, Sophie Vayssettes and Pablo Zoido. The development of the report was steered by the PISA Governing Board, which is chaired by Ryo Watanabe (Japan). The report is published on the responsibility of the Secretary-General of the OECD.

Ryo Watanabe

Chair of the PISA Governing Board

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Director for Education, OECD



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Reader's Guide

Data underlying the figures

The data referred to in this report are presented in Appendix B and, with additional detail, on the PISA website (www.pisa.oecd.org). Five symbols are used to denote missing data:

- a The category does not apply in the country concerned. Data are therefore missing.
- c There are too few observations to provide reliable estimates (i.e. there are fewer than 30 students or less than 3% of students for this cell, or too few schools for valid inferences).
- m Data are not available or have been removed for technical reasons.
- w Data have been withdrawn at the request of the country concerned.
- x Data are included in another category or column of the table.

Calculation of the OECD average

An OECD average was calculated for most indicators presented in this report. The OECD average corresponds to the arithmetic mean of the respective country estimates.

Rounding of figures

Because of rounding, some figures in tables may not exactly add up to the totals. Totals, differences and averages are always calculated on the basis of exact numbers and are rounded only after calculation.

All standard errors in this publication have been rounded to two decimal places. Where the value 0.00 is shown, this does not imply that the standard error is zero, but that it is smaller than 0.005.

Reporting of student data

The report uses "15-year-olds" as shorthand for the PISA target population. PISA covers students who are aged between 15 years 3 months and 16 years 2 months at the time of assessment and who have completed at least 6 years of formal schooling, regardless of the type of institution in which they are enrolled and of whether they are in full-time or part-time education, of whether they attend academic or vocational programmes, and of whether they attend public or private schools or foreign schools within the country.

Reporting of school data

The principals of the schools in which students were assessed provided information on their schools' characteristics by completing a school questionnaire. Where responses from school principals are presented in this publication, they are weighted so that they are proportionate to the number of 15-year-olds enrolled in the school.



Reporting of parent data

The parents of the students who were assessed provided information on their perception of their son's or daughter's schools and on the activities undertaken by their children at the age of 10, by completing a parent questionnaire.

Abbreviations used in this report

The following abbreviations are used in this report:

ISCED International Standard Classification of Education

ISCO International Standard Classification of Occupations

S.D. Standard deviation

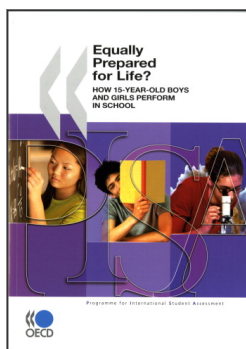
S.E. Standard error

Significance tests and subgroup comparisons

The significant statistics in this report have been highlighted in the figures and tables, using darker tone and bold print respectively. For further information, see the Annex A3 in *PISA 2006: Science Competencies for Tomorrow's World* (OECD, 2007a).

Further documentation

For further information on the PISA assessment instruments and the methods used in PISA, see the *PISA 2006 Technical Report* (OECD, 2009b) and the PISA website (www.pisa.oecd.org).



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