INDICATOR A6

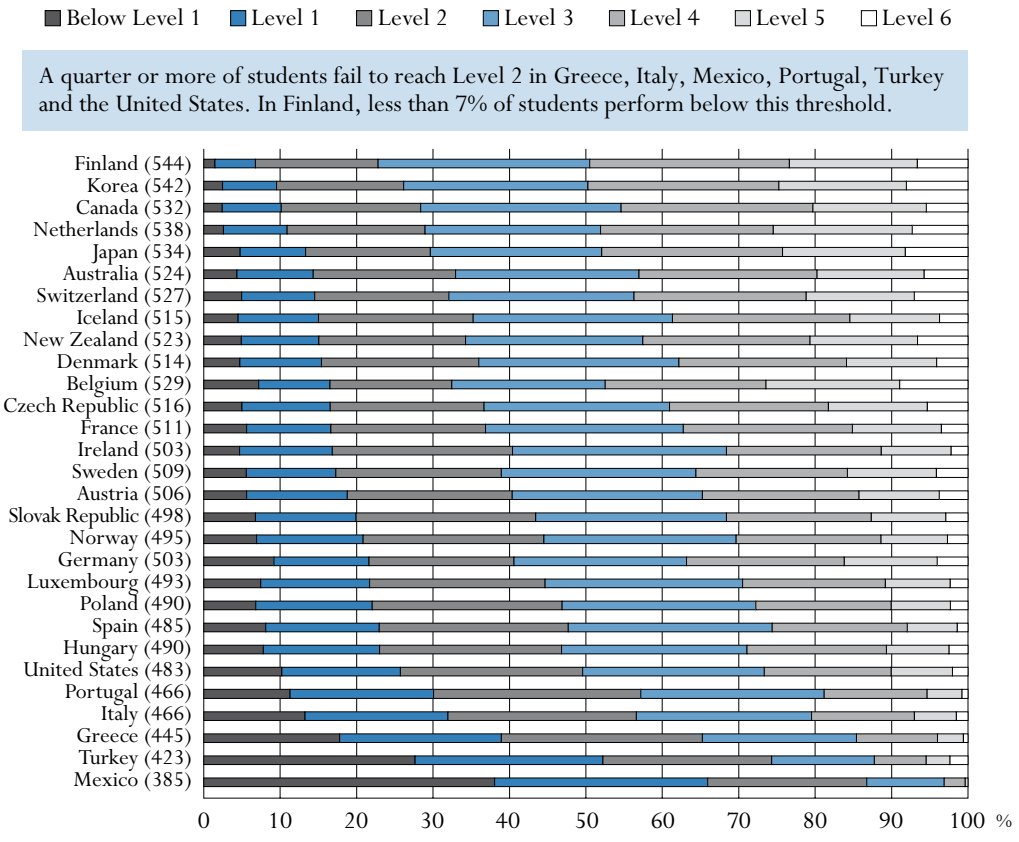
FIFTEEN-YEAR-OLD STUDENTS WHO PERFORM AT THE LOWEST LEVELS OF PROFICIENCY IN MATHEMATICS (2003)

This indicator focuses on those students who performed at the lowest levels of proficiency on the OECD Programme for International Student Assessment (PISA) 2003 mathematics literacy scale. It shows the percentages of students performing at these levels on average and across individual countries, and examines the influence of students' background on the likelihood of them being among the lowest performers in mathematics. It looks at the reading proficiency of the lowest mathematics performers to explore whether their low performance in mathematics reflects overall difficulty in school or only in mathematics.

Key results

Chart A6.1. Percentage of students at low proficiency levels on the OECD PISA mathematics scale (2003)

Level 2 represents a baseline proficiency at which students begin to demonstrate skills that enable them to actively use mathematics. At Level 2, they can use direct inference to recognise the mathematical elements of a situation, are able to use a single representation to help explore and understand a situation, can use basic algorithms, formulae and procedures, and can make literal interpretations and apply direct reasoning.



Countries are sorted in ascending order of the percentage of students at Level 1 and below.
Source: OECD PISA 2003 database. Table A4.1.

StatLink: http://dx.doi.org/10.1787/133160111888

Other highlights of this indicator

- Across OECD countries, students from the least socio-economically advantaged backgrounds are on average 3.5 times more likely to be low mathematics performers, *i.e.* at or below Level 1, than those from the most socio-economically advantaged backgrounds.

- Countries vary in the percentage of students who perform both the least well in mathematics and reading, and in the mean reading scores for these lowest mathematics performers. In six countries, students who perform the least well in mathematics have reading scores below the average for all the lowest mathematics performers across all countries *and* there are higher-than-average percentages of low mathematics students who are also among the lowest performing readers. In six other countries, the situation is reversed: the lowest performers in mathematics have above-average reading scores compared to their peers, as well as lower-than-average representation among the lowest performing readers.

A6

Policy context

Knowledge and skills in mathematics are important outcomes of education; therefore, countries are increasingly focusing on enhancing students' mathematical achievements. Findings from PISA 2003, however, indicate that over 20% of students in OECD countries display a limited level of mathematical literacy *i.e.* they are able to perform only the most routine mathematical functions in the most familiar contexts. Low-achieving students are the focus of this indicator because of their sizeable numbers and the potentially serious effect their lack of mathematical understanding may have on social and economic well-being. Achieving a better understanding of countries' lowest achievers may provide information for the development of policies that are more successful at providing all students with the necessary skills in mathematics to lead productive lives.

Evidence and explanations

This indicator focuses on those students who performed at the lowest levels of proficiency on the PISA 2003 mathematics literacy assessment. It begins with an overview of the percentages of students performing at these levels on average and across individual countries, to set the context for later analyses. The indicator then extends earlier research using PISA's composite measure of economic, social, and cultural status (ESCS) to examine the influence of students' backgrounds on the likelihood of them being among the lowest performers in mathematics. Finally, the indicator looks at the reading proficiency of the lowest mathematics performers to explore whether these students demonstrate difficulty in mathematics only or whether their difficulty in mathematics could reflect overall difficulty in school.

Overall performance on the PISA 2003 mathematics literacy assessment

The PISA 2003 mathematics literacy assessment measures the extent to which 15-year-old students are able to analyse, reason and communicate effectively as they pose, solve and interpret mathematical problems in a variety of situations involving quantitative, spatial, probabilistic or other mathematical concepts. One of the key features of PISA is that students' performance can be reported according to proficiency levels. The use of proficiency levels, as a supplement to summary statistics such as mean scores, provides policy makers with a descriptive picture of students' skills and abilities as well as examples of the types of tasks they are likely to be able to perform.

The PISA mathematics assessment identifies six levels of proficiency, representing tasks of increasing difficulty. At the highest level of proficiency, students are able to apply advanced mathematical thinking and reasoning, conceptualise and work with complex mathematical models, as well as reflect upon and apply the outcomes of models to other situations. At the lowest level of proficiency, Level 1, students are able to follow direct and explicit instructions and take obvious actions applying simple models to simple problems as long as they are presented within familiar contexts. Students performing below Level 1 are unable to routinely apply the most basic forms of mathematical knowledge and skills that the PISA assessment measures. A complete description of the PISA mathematics proficiency levels and examples of mathematics items are given in OECD's *Learning for Tomorrow's World – First Results from PISA 2003* (OECD 2004).

Chart A6.1 (and Table A6.3 available on the Web at *http://dx.doi.org/10.1787/133160111888*) displays an overall profile of 15-year-olds' proficiency on the combined mathematics literacy assessment with the length of the coloured bars showing the percentages of students who are competent at each of the six levels of proficiency. This indicator focuses on those students

represented by the darkest coloured bars, *i.e.* those at Level 1 and below. These are the students who, as described above, can apply only the most basic mathematics skills.

Across OECD countries, more than one-fifth (21.4% of 15-year-old students) performed at Level 1 and below. This is also true for 13 of the 29 OECD countries individually. For all countries except one (Finland), there are at least 10% of students at Level 1 and below in mathematics. This is a sizeable percentage of a country's human capital.

There is also considerable variation across countries with respect to the percentages of students who perform at these levels. The percentages of students displaying minimal or less-than-minimal functioning in mathematics ranges from a low of 6.8% in Finland to a high of 66.0% in Mexico. Limiting the analysis to those countries which perform above the OECD average (500 points), the variation remains marked, from 6.8% in Finland to 21.6% in Germany. Additionally, some countries that perform similarly in terms of mean score have different percentages of students performing at Level 1 and below. For example, while there is no statistically significant difference in the mean scores of students in the top-performing countries of Canada and Belgium, Canada has a statistically significantly lower rate of low achievers than the Belgium by 6.4 percentage points. Similar examples can be found among countries at other levels of overall performance, such as in Germany and Ireland – both perform around the OECD average – where the percentages of low-achievers are 21.6% versus 16.8%, respectively. These findings show how mean scores can mask varying degrees of dispersion in countries, and that some countries do demonstrate both high scores and low variation.

Socio-economic background and low mathematics performance

Universally, students' home backgrounds exert a powerful influence on their academic performance. Consistently, students from disadvantaged socio-economic backgrounds have been found to perform less well in mathematics (and other subjects) than students from more advantaged backgrounds. Although this is not true in all cases: many students from disadvantaged backgrounds excel in school, while many students from advantaged backgrounds perform badly. Earlier research using PISA found strong relationships between students' mathematics performance and a variety of measures of students' backgrounds. For example, one finding was that across OECD countries, students in the highest quarter of an index of parents' occupational status scored 93 points more in mathematics than their peers in the lowest quarter of this index.

Another major component of initial reporting from PISA 2003 was the use of a composite index, ESCS, to provide an overall measure of students' socio-economic status. This indicator extends this earlier research on the relationship between students' socio-economic backgrounds and their mathematics performance, by employing "odds ratios" to examine the probability of students performing at the lowest proficiency levels in mathematics. Specifically, odds ratios indicate, in this case, the greater (or lesser) chances for a student of performing at Level 1 or below that is associated with belonging to the lowest quarter of students on the PISA composite socio-economic index.

For example, an odds ratio of 1 means that students from the lowest and highest quarters have an equal chance of performing at or below Level 1 and thus that the education system is achieving equitable results for students of varied socio-economic backgrounds. However, odds ratios greater than 1 mean that students from the lowest quarter have a greater chance than students

from the highest quarter of performing at or below Level 1; and odds ratios of less than 1 mean that students from the highest socio-economic quarter have a greater chance than students from the lowest socio-economic quarter of performing at or below Level 1. Odds ratios differing from one indicate that socio-economic status plays an influential role in mathematics performance and that there are potential inequities in the system.

Box A6.1 provides more detailed information and examples of how odds ratios were computed for this indicator. For convenience, the results are reported in this indicator using the expression "more likely," although as described in Box A6.1, the meaning of an odds ratio is slightly more complicated.

Box A6.1. An explanation of odds ratios and an example

An odds ratio compares the likelihood (or probability) that an event will happen between two groups. For this indicator, the odds ratio is employed to look at the likelihood that a student with low socio-economic background status will be a low achiever in mathematics relative to the likelihood that a student with high socio-economic background status will be a low achiever in mathematics. (Socio-economic status was defined using the PISA composite socio-economic index [ESCS], with low indicating students at or below the 25th percentile on the index and high indicating students at or above the 75th percentile. As stated in the indicator, low mathematics performance is defined as performance at or below proficiency Level 1.)

The table below provides the data that are used to compute the odds ratio for one country – in this case, France. Reading across the rows, 32% of students with low socio-economic status perform at or below Level 1, and 68% perform above Level 1. Among students with high socio-economic status, 10% perform at or below Level 1, compared with 90% who perform above it.

	Performance on the PISA mathematics literacy assessment	
Socio-economic status	**Percentage of students at or below Level 1 (P_1)**	**Percentage of students above Level 1 (P_2)**
Percentage of students at or below the 25th percentile on the socio-economic index (P_1)	32 (or P_{11})	68 (P_{12})
Percentage of students above the 75th percentile on the socio-economic index (P_2)	10 (P_{21})	90 (P_{22})

Using the formula for the odds ratio:

$(P_{11}/P_{21})/(P_{12}/P_{22})$,

the following is computed: $[(0.32/0.10)/(0.68/0.90) = 3.2/0.75 = 4.3]$. Thus, for France, the likelihood of a low socio-economic student being a low mathematics achiever is 4.3 times greater than the likelihood of a high socio-economic student being a low mathematics achiever.

Table A6.1 reports the odds ratios for individual countries and overall. As the table shows, across all countries, students who come from the lowest economically, culturally and socially well-off families are more likely to perform at or below Level 1 than students who come from the highest economically, culturally and socially well-off families. Although odds ratios vary across countries, all OECD countries have ratios greater than 1, indicating inequitable outcomes for students of different socio-economic backgrounds, albeit to differing degrees. Across all OECD countries, students from the lowest quarter on the socio-economic index are 3.5 times more likely, on average, to perform at or below Level 1 on the mathematics literacy assessment than students from the highest quarter.

In four countries, Belgium, Germany, Hungary, and the Slovak Republic, the likelihood of the lowest socio-economic status students relative to the highest socio-economic status students to perform at or below Level 1 was higher than the OECD average. In other words, in these countries, students' minimal competence in mathematics is more strongly associated with their backgrounds, with the likelihood of students from the lowest quarter on the socio-economic index to perform at or below Level 1 in mathematics at least 4.6 times higher than it is for students from the highest quarter of the index.

The likelihood of the most disadvantaged students relative to the most advantaged students to perform at or below Level 1 was lower than the OECD average in eight countries (Canada, Greece, Iceland, Japan, Norway, Spain, Sweden and Turkey), indicating a weaker association in these countries between 15-year-olds' mathematical competence and family backgrounds. In these countries, students from the lowest quarter on the socio-economic index were 2.1 to 2.9 times more likely on the economic index to perform at Level 1 or below in mathematics.

While the previous analysis compared countries' odds ratios to the OECD average as one way of looking at relative influence of socio-economic status on low mathematics performance across countries, this subsequent analysis compares countries' odds ratios to one another. If countries show consistently high or low odds ratios in these one-on-one comparisons, then stronger statements may be made about their systems' ability to foster equitable outcomes for students with different socio-economic backgrounds than can be made simply by comparing their odds ratios to the overall mean.

Chart A6.2 compares odds ratios among pairs of countries, identifying whether or not the odds ratio is significantly higher or lower than that of the comparison country. Two distinct groupings of countries are evident in this chart: those with consistently higher odds ratios than other countries and those with consistently lower odds ratios than other countries. Ten countries – Belgium, the Czech Republic, Denmark, France, Germany, Hungary, Mexico, the Slovak Republic, Switzerland, and the United States – have higher odds ratios than at least eight other countries; this represents one-third of the OECD countries participating in PISA. Eight countries – Canada, Finland, Greece, Iceland, Japan, Norway, Sweden, and Turkey – have lower odds ratios than at least ten other countries.

Reading proficiency of low mathematics performers

Another useful analysis is to examine how those students performing at or below Level 1 in mathematics are performing in reading. This may shed light on the extent to which these students

A6

Chart A6.2.
Multiple comparisons of the likelihood of the quarter of students with the lowest socio-economic status to be in the lowest quarter of mathematics performers relative to the likelihood of the quarter of students with highest socio-economic status to be in the lowest quarter of mathematics performers (odds ratios) (2003)

	Odds ratio	S.E.	Belgium	Slovak Republic	Hungary	Germany	France	Czech Republic	Denmark	Mexico	Switzerland	United States	Netherlands	Ireland	New Zealand	Korea	Luxembourg	Australia	Poland	Austria	Italy	Portugal	Spain	Sweden	Norway	Finland	Greece	Japan	Canada	Turkey	Iceland
	5.4	(0.52)		●	●	●	●	●	▲	●	▲	▲	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Belgium	5.1	(0.54)	●		●	●	●	●	●	●	●	▲	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Slovak Republic	4.8	(0.56)	●	●		●	●	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Hungary	4.6	(0.50)	●	●	●		●	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Germany	4.3	(0.51)	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
France	4.1	(0.44)	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Czech Republic	4.1	(0.37)	▼	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Denmark	4.1	(0.52)	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲
Mexico	3.9	(0.40)	▼	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲
Switzerland	3.8	(0.34)	▼	▼	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲
United States	3.8	(0.70)	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	▲
Netherlands	3.6	(0.44)	▼	▼	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	▲	▲
Ireland	3.6	(0.44)	▼	▼	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	▲	▲
New Zealand	3.5	(0.40)	▼	▼	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	▲	▲
Korea	3.3	(0.40)	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	▲
Luxembourg	3.2	(0.40)	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	▲
Australia	3.2	(0.31)	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	▲
Poland	3.1	(0.37)	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	▲
Austria	3.1	(0.27)	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	▲
Italy	3.0	(0.29)	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	▲
Portugal	2.9	(0.28)	▼	▼	▼	▼	▼	▼	▼	●	▼	▼	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	▲
Spain	2.9	(0.27)	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	▲
Sweden	2.9	(0.28)	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	▲
Norway	2.8	(0.37)	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●
Finland	2.8	(0.32)	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●
Greece	2.8	(0.32)	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●
Japan	2.7	(0.21)	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	▲
Canada	2.5	(0.31)	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	▼	▼	▼	●	●	●	●	●	●	●	●	●	●	●	●	●		●
Turkey	2.1	(0.23)	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	●	●	●	▼	●	

Source: OECD PISA 2003 database. See Annex 3 for notes (*www.oecd.org/edu/eag2006*).

Instructions: Read across the row for a country to compare performance with the countries listed along the top of the figure. The symbols indicate whether the odds ratio of the country is lower, higher or not statistically different from the comparison country's odds ratio.

▲ Odds ratio significantly higher than the odds ratio of the comparison country.
● Odds ratio not statistically different than the odds ratio of the comparison country.
▼ Odds ratio signifcantly lower than the odds ratio of the comparison country.

StatLink: http://dx.doi.org/10.1787/133160111888

are having difficulty with mathematics specifically or struggling in school more generally. With an understanding of the source of students' difficulty in mathematics (whether specific to mathematics or perhaps more broad), it is possible to target interventions that will address students' particular learning challenges.

Table A6.2 presents the average reading scores for the lowest mathematics performers as well as the percentages of those who also are at or below the lowest proficiency level in reading. In six countries – Belgium, Germany, Japan, Luxembourg, Mexico, and the Slovak Republic – the lowest mathematics performers have reading scores below the average for the lowest mathematics performers across countries *and* there are higher-than-average percentages of low mathematics students who also are among the lowest readers. This suggests that, in these countries, students who are struggling in mathematics are also struggling in reading.

Spain also has a higher-than-average percentage of low-performing students in mathematic who are among the lowest performing readers, although the average reading score for this group is not significantly different from the OECD average. In Iceland, however, the percentage of low-performing students in mathematics who also are the lowest performing readers is similar to the OECD average, although the reading scores of these students are below the average for the lowest mathematics students across countries.

In six other countries – Finland, Greece, Ireland, Korea, Poland, and Sweden – the situation is reversed: the lowest mathematics performers have above-average reading scores compared to their peers, as well as lower-than-average representation among the lowest performing readers. This suggests that in these countries, students' difficulty with mathematics may represent a specialised learning effect – these students are not necessarily doing poorly in mathematics because of poor reading or an overall difficulty with school, but perhaps a specific deficiency in mathematics.

Of course, the picture is very complex and to get a deeper understanding of whether students have generalised or specialised learning problems, one must also look at how the lowest reading performers perform in mathematics. These results are presented in Table A6.3. Looking at this and the previous table together, two countries show consistent patterns. In Mexico, there are high percentages of students at the lowest levels in reading who also are at the lowest levels in mathematics, and vice versa, suggesting that Mexican students who are at the lowest levels on the PISA scale are struggling in school generally. In Finland, there are low percentages of students at the lowest levels in reading who also are at the lowest levels in mathematics, and vice versa, suggesting that students in Finland who do poorly in PISA are struggling with one subject area more than the other.

Definitions and methodologies

The achievement scores are based on assessments administered in 2003 as part of the Programme for International Student Assessment (PISA) undertaken by the OECD.

The target population studied for this indicator was 15-year-old students. Operationally, this referred to students who were from 15 years and 3 (completed) months to 16 years and 2 (completed) months at the beginning of the testing period and who were enrolled in an educational institution, irrespective of the grade levels or type of institutions in which they were enrolled, and irrespective of whether they participated in school full-time or part-time. Subsets of the target population were examined in Chart A6.2 and Tables A6.2 and A6.3. Fifteen-year-olds who were the lowest performers on the PISA mathematics literacy assessment – defined as performing at or below proficiency Level 1 – who were also in the highest or lowest quarters of the economic, social and cultural status (ESCS) index were examined in Chart A6.2. Fifteen-year-olds who were the lowest

performers on the PISA mathematics literacy assessment who were also the lowest performers on the PISA reading literacy assessment – defined as performing at or below proficiency Level 1 – were examined in Table A6.2. Fifteen-year-olds who were the lowest performers on the PISA reading literacy assessment who were also the lowest performers on the PISA mathematics literacy assessment were examined in Table A6.3.

To test the robustness of the odds ratios findings, analysts compared these results with OECD's earlier results for "relative risk" and socio-economic status (SES) gradients. There was a strong correlation with relative risk and a relatively strong correlation with the SES gradients. Further exploration of the few cases in which there were differences with the latter measure would be an interesting area for further analysis.

Analyses were performed for 29 of 30 countries participating in PISA 2003. The United Kingdom failed to reach PISA's unit response rate standard, which precluded the country from being included in OECD averages, although estimates for the United Kingdom are still reported in charts and tables dealing with subsets of the population for the purposes of comparison within the country. When estimates for the United Kingdom are reported, they are reported at the end of charts and tables separate from the estimates of other countries as a cautionary reminder that the estimate may not be as reliable as the estimates of countries that met PISA's unit response rate standard.

It should be noted that across OECD countries, mathematics and reading performance are highly correlated and that, because of the PISA design, some students' reading scores were imputed on the basis of their mathematics scores, both of which may have an influence on the results reported in this section. Additionally, it should be noted that the proficiency levels for mathematics and reading are not equivalent.

Further references

For further information about PISA 2003, see *Learning for Tomorrow's World – First Results from PISA 2003* (OECD, 2004a), and the *PISA 2003 Technical Report* (OECD, 2005c). PISA data are also available on the PISA Web site: *www.pisa.oecd.org*. See also *Education at a Glance: OECD Indicators – 2005 Edition* (OECD 2005d).

A6

Table A6.1.

Odds ratios of the likelihood of students with the lowest socio-economic status to be lowest mathematics performers relative to the likelihood of students with the highest socio-economic status to be lowest mathematics peformers (2003)

▲ Country odds ratio is signifcantly higher than the OECD average odds ratio.
▼ Country odds ratio is significantly lower than the OECD average odds ratio.

	Odds Ratio	S.E.	
Australia	3.2	(0.40)	
Austria	3.1	(0.37)	
Belgium	5.4	(0.52)	▲
Canada	2.7	(0.21)	▼
Czech Republic	4.1	(0.44)	
Denmark	4.1	(0.37)	
Finland	2.8	(0.37)	
France	4.3	(0.51)	
Germany	4.6	(0.50)	▲
Greece	2.8	(0.32)	▼
Hungary	4.8	(0.56)	▲
Iceland	2.1	(0.23)	▼
Ireland	3.6	(0.44)	
Italy	3.1	(0.27)	
Japan	2.8	(0.32)	▼
Korea	3.5	(0.40)	
Luxembourg	3.3	(0.40)	
Mexico	4.1	(0.52)	
Netherlands	3.8	(0.70)	
New Zealand	3.6	(0.44)	
Norway	2.9	(0.28)	▼
Poland	3.2	(0.31)	
Portugal	3.0	(0.29)	
Slovak Republic	5.1	(0.54)	▲
Spain	2.9	(0.28)	▼
Sweden	2.9	(0.27)	▼
Switzerland	3.9	(0.40)	
Turkey	2.5	(0.31)	▼
United States	3.8	(0.34)	
OECD average	***3.5***	***(0.08)***	
United Kingdom[1]	3.3	(0.32)	

1. Response rate too low to ensure comparability. See Annex 3 for notes *(www.oecd.org/edu/eag2006)*.
Source: OECD PISA 2003 database.

StatLink: http://dx.doi.org/10.1787/133160111888

A6

Table A6.2.
Reading performance of lowest mathematics performers (2003)

▲ Mean/percentage is significantly higher than the OECD average mean/percentage.
▼ Mean/percentage is significantly lower than the OECD average mean/percentage.

	Mean score in reading for students at Level 1 or below in mathematics[1]	S.E.		Percent of students at Level 1 or below in mathematics who also are at Level 1 or below in reading[1]	S.E.	
Australia	395	(4.6)		53.4	(2.4)	▼
Austria	376	(5.2)		66.9	(4.1)	
Belgium	366	(6.7)	▼	67.7	(3.3)	▲
Canada	395	(3.0)	▲	55.9	(3.1)	
Czech Republic	388	(4.8)		60.4	(3.8)	
Denmark	399	(5.9)	▲	51.5	(3.8)	
Finland	408	(7.2)	▲	47.5	(4.8)	▼
France	374	(7.8)		62.1	(3.9)	
Germany	371	(6.2)	▼	68.4	(3.0)	▲
Greece	404	(4.6)	▲	48.2	(2.4)	▼
Hungary	394	(5.3)		54.7	(3.0)	
Iceland	370	(5.4)	▼	63.5	(3.5)	
Ireland	409	(5.2)	▲	45.9	(3.4)	▼
Italy	394	(5.5)		53.2	(2.5)	▼
Japan	358	(7.1)	▼	71.1	(4.2)	▲
Korea	411	(5.3)	▲	45.1	(5.1)	▼
Luxembourg	364	(5.2)	▼	67.8	(2.9)	▲
Mexico	359	(3.6)	▼	70.1	(1.8)	▲
Netherlands	391	(5.8)		60.2	(5.7)	
New Zealand	378	(4.6)		64.7	(3.9)	
Norway	388	(5.9)		56.9	(3.2)	
Poland	400	(4.9)	▲	49.5	(2.8)	▼
Portugal	390	(4.9)		56.6	(2.7)	
Slovak Republic	370	(6.1)	▼	68.4	(4.2)	▲
Spain	386	(5.1)		65.1	(2.8)	▲
Sweden	404	(6.0)	▲	48.3	(3.3)	▼
Switzerland	375	(5.4)		65.3	(3.7)	
Turkey	385	(4.5)		60.2	(2.7)	
United States	380	(4.1)		61.9	(2.7)	
OECD average	***386***	***(1.0)***		***58.7***	***(0.65)***	
United Kingdom[2]	m	m		m	m	

1. Note that proficiency levels were established separately for the mathematics scale and for the reading scale and are not equivalent.
2. Response rate too low to ensure comparability. See Annex 3 for notes *(www.oecd.org/edu/eag2006)*.
Source: OECD PISA 2003 database.
Please refer to the Reader's Guide (www.oecd.org/eag2006) for information concerning the symbols replacing missing data.

StatLink: http://dx.doi.org/10.1787/133160111888

Table A6.3.
Mathematics performance of lowest reading performers (2003)

▲ Mean/percentage is significantly higher than the OECD average mean/percentage.
▼ Mean/percentage is significantly lower than the OECD average mean/percentage.

	Mean score in mathematics for students at Level 1 or below in reading[1]	S.E.		Percent of students at Level 1 or below in reading who are also are at Level 1 and below in mathematics[1]	S.E.	
Australia	393	(4.1)		67.1	(3.2)	
Austria	402	(4.5)	▲	64.1	(3.2)	
Belgium	397	(3.8)		64.9	(2.6)	
Canada	403	(3.2)	▲	64.1	(2.5)	
Czech Republic	418	(4.2)	▲	53.4	(4.2)	▼
Denmark	402	(5.6)		61.3	(4.7)	
Finland	418	(5.7)	▲	52.5	(4.6)	▼
France	398	(5.3)		64.0	(3.8)	
Germany	390	(4.5)		70.4	(3.0)	
Greece	371	(4.8)	▼	71.6	(2.6)	
Hungary	400	(5.9)		64.7	(4.0)	
Iceland	411	(4.6)	▲	57.1	(4.2)	▼
Ireland	383	(5.6)		77.9	(4.6)	▲
Italy	372	(5.0)	▼	74.9	(2.5)	▲
Japan	403	(5.9)	▲	61.3	(3.2)	▼
Korea	394	(5.0)		67.8	(5.3)	
Luxembourg	393	(3.0)		67.5	(2.5)	
Mexico	333	(3.4)	▼	89.5	(1.3)	▲
Netherlands	416	(5.6)	▲	56.6	(5.5)	▼
New Zealand	387	(4.6)		71.6	(3.3)	
Norway	390	(4.1)		67.5	(3.2)	
Poland	388	(4.7)		70.4	(2.9)	
Portugal	380	(4.5)	▼	74.4	(2.7)	▲
Slovak Republic	404	(4.6)	▲	61.0	(3.0)	▼
Spain	398	(3.9)		65.1	(2.7)	
Sweden	387	(5.5)		67.9	(3.5)	
Switzerland	397	(4.0)		67.7	(2.9)	
Turkey	348	(4.4)	▼	85.5	(1.8)	▲
United States	369	(4.2)	▼	82.3	(2.2)	▲
OECD average	***391***	***(0.9)***		***67.7***	***(0.6)***	
United Kingdom[2]	m	m		m	m	

1. Note that proficiency levels were established separately for the mathematics scale and for the reading scale and are not equivalent.
2. Response rate too low to ensure comparability. See Annex 3 for notes *(www.oecd.org/edu/eag2006)*.
Source: OECD PISA 2003 database.
Please refer to the Reader's Guide (www.oecd.org/eag2006) for information concerning the symbols replacing missing data.

StatLink: http://dx.doi.org/10.1787/133160111888

References

Coulombe, S., J-F. Tremblay and **S. Marchand** (2004), *Literacy Scores, Human Capital and Growth across Fourteen OECD Countries*, Statistics Canada/Human Resources and Skills Development Canada, Ottawa.

Cosnefroy, O. and **T. Rocher** (2004), *"Le redoublement au cours de la scolarité obligatoire: nouvelles analyses, mêmes constats"*, *Éducation & formations,* No. 70.

De la Fuente, A. and **A. Ciccone** (2003), *Human Capital in a Global and Knowledge-Based Economy: Final Report*, European Commission, DG Economic Affairs, Brussels.

Feinstein, *et al.* (2005), "The Effects of Education on Health: Concepts, Evidence and Policy Implications", paper presented at the OECD/CERI Symposium on the Social Outcomes of Learning, Copenhagen, 23-24 March 2006.

Friedman T. (2005), *The World Is Flat – A Brief History of the Twenty-First Century*, Farrar, Straus & Giroux, New York.

Garet, M.S. and **B. Delaney** (1988), "Students' Courses and Stratification", *Sociology of Education,* Vol. 61, pp. 61-77.

Groot, W. and **H.M. van den Brink** (2004), "The Health Effects of Education: Survey and Meta-Analysis", SCHOLAR Working Paper 50/04, Department of Economics, University of Amsterdam, Amsterdam.

Grossman, M. and R. Kaestner (1997), "Effects of Education on Health" in J.R. Behrman and N. Stacey (eds.), *The Social Benefits of Education*, The University of Michigan Press, Ann Arbor, Michigan.

Hammond, C. (2002), "Learning to be Healthy", Brief No. RCB07, Institute of Education, London.

Jackson, G. (1975), "The Research Evidence on the Effects of Grade Retention", *Review of Educational Research,* Vol. 45, pp. 613-635.

Jimerson, S.R. (2001), "Meta-Analysis of Grade Retention Research: Implications for Practice in the 21st century", *School Psychological Review,* Vol. 30, No. 3, pp. 420-437.

Kelo, M., U. Teichler and **B. Wächter (eds.)** (2005), "EURODATA: Student Mobility in European Higher Education", Verlags and Mediengesellschaft, Bonn, 2005.

Krueger, A.B. and **M. Lindhal** (2001), "Education and Growth: Why and for Whom?", *Journal of Economic Literature*, Vol. 39, No. 4, American Economic Association, Nashville Tennessee, pp. 1101-1136.

Lucas, S.R. (2001), "Effectively Maintained Inequality: Education Transitions, Track Mobility, and Social Background Effects", *American Journal of Sociology,* Vol. 106, pp. 1642-1690.

Ministry of Education of China, Department of Planning (2006), "Essential Statistics of Education in China", Chinese Ministry of Education, Beijing.

The Nuffield Foundation (2004), "Time Trends in Adolescent Well-Being", *2004 Seminars on Children and Families: Evidence and Implications,* The Nuffield Foundation, London.

OECD (Organisation for Economic Co-operation and Development) (2001a), *The New Economy: Beyond the Hype*, OECD, Paris.

OECD (2001b), *Education at Glance: OECD Indicators – 2001 Edition*, OECD, Paris.

OECD (2003a), *Education at Glance: OECD Indicators – 2003 Edition*, OECD, Paris.

OECD (2003b), *The Sources of Economic Growth in OECD Countries*, OECD, Paris.

OECD (2004a), *Learning for Tomorrow's World – First Results from PISA 2003,* OECD, Paris.

OECD (2004b), *Problem Solving for Tomorrow's World – First Measures of Cross-Curricular Competencies from PISA 2003,* OECD, Paris.

OECD (2004c), *Education at Glance: OECD Indicators – 2004 Edition,* OECD, Paris.

OECD (2004d), *Internationalisation and Trade in Higher Education: Opportunities and Challenges*, OECD, Paris.

OECD (2005a), *Trends in International Migration – 2004 Edition,* OECD, Paris.

OECD (2005b) *School Factors Related to Quality and Equity,* OECD, Paris.

OECD (2005c), *PISA 2003 Technical Report*, OECD, Paris.

OECD (2005d), *Education at Glance: OECD Indicators – 2005 Edition,* OECD, Paris.

OECD (2005e), *Are Students Ready for a Technology-Rich World? What PISA Studies Tell Us,* OECD, Paris.

Ready, D.D., V.L. Lee and **K.G. Welner** (2004), "Educational Equity and School Structure: School Size, Overcrowding, and Schools-within-Schools", *Teachers College Record,* Vol. 10, No. 106, pp. 1989-2014.

Rudd, R.E., B.A. Moeykens and **T.C. Colton** (1999), "Health and Literacy: A Review of Medical and Public Health Literature", in J. Comings., B. Garners and C. Smith. (eds.), *Annual Review of Adult Learning and Literacy,* Jossey-Bass, New York.

Schleicher, A. (2006) "The Economics of Knowledge: Why Education Is Key for Europe's Success", Lisbon Council Policy Brief, The Lisbon Council absl, Brussels.

Schleicher, A. and **K. Tremblay** (2006), "Dragons, Elephants and Tigers: Adjusting to the New Global reality", in *Challenge Europe,* European Policy Centre, Brussels.

Sianesi, B. and **J. Van Reenan** (2003), "The Returns to Education: Macroeconomics", *The Journal of Economic Surveys*, Vol. 17, No. 2, Blackwell Publishing Ltd., Oxford, pp. 157-200.

Tremblay, K. (2005) "Academic Mobility and Immigration", *Journal of Studies in International Education*, Vol. 9, No. 3, Association for Studies in International Education, Thousands Oaks, pp. 1-34.

United States National Science Board (2003), *The Science and Engineering Workforce – Realizing America's Potential*, National Science Foundation, Washington, D.C.

Wösmann, L. (2003), "Specifying Human Capital", *Journal of Economic Surveys*, Vol. 17, No. 3, Blackwell Publishing Ltd., Oxford, pp. 239-270.

Zhen G. (2006), "First Results from a Survey on Chinese Students' Learning Time", Shanghai Jiao Tong University mimeo.

Contributors to this Publication

Many people have contributed to the development of this publication. The following lists the names of the country representatives, researchers and experts who have actively taken part in the preparatory work leading to the publication of *Education at a Glance – OECD Indicators 2006*.
The OECD wishes to thank them all for their valuable efforts.

National Co-ordinators

Mr. Brendan O'REILLY (Australia)
Mr. Mark NEMET (Austria)
M. Dominique BARTHÉLÉMY (Belgium)
Ms. Maddy BOLLEN (Belgium)
Ms. Oroslinda Maria GOULART (Brazil)
Mr. Atilio PIZARRO (Chile)
Mr. Lubomir MARTINEC (Czech Republic)
Mr. Ken THOMASSEN (Denmark)
Ms. Sylvia KIMMEL (Estonia)
Mr. Matti KYRÖ (Finland)
M. Claude SAUVAGEOT (France)
Ms. Barbara MEYER-WYK (Germany)
Ms. Evelyn OBELE (Germany)
Mr. Gregory KAFETZOPOULOS (Greece)
Ms. Judit KÁDÁR-FÜLÖP (Hungary)
Ms. Margrét HARÐARDÓTTIR (Iceland)
Mr. Pat MAC SITRIC (Ireland)
Mr. Yosef GIDANIAN (Israel)
Mr. Antonio Giunta LA SPADA (Italy)
Mr. Kenji SAKUMA (Japan)
Ms. Chun-Ran PARK (Korea)
M. Jérôme LEVY (Luxembourg)
Mr. Rafael FREYRE MARTINEZ (Mexico)
Mr. Marcel SMITS VAN WAESBERGHE (Netherlands)
Mr. David LAMBIE (New Zealand)
Mr. Kjetil MÅSEIDE (Norway)
Mr. Jerzy WISNIEWSKI (Poland)
Mr. João Trocado MATA (Portugal)
Mr. Mark AGRANOVITCH (Russian Federation)
Mr. Vladimir POKOJNY (Slovak Republic)
Mrs. Helga KOCEVAR (Slovenia)
Mrs. Carmen MAESTRO MARTIN (Spain)
Mr. Dan ANDERSSON (Sweden)
Ms. Dominique Simone RYCHEN (Switzerland)
Mr. Ibrahim Z. KARABIYIK (Turkey)
Ms. Janice ROSS (United Kingdom)
Ms. Valena White PLISKO (United States)

Technical Group on Education Statistics and Indicators

Mr. Brendan O'REILLY (Australia)
Mr. Adrian PAWSEY (Australia)
Ms. Sabine MARTINSCHITZ (Austria)
Mr. Wolfgang PAULI (Austria)
Ms. Ann VAN DRIESSCHE (Belgium)
Mr. Philippe DIEU (Belgium)
Ms. Nathalie JAUNIAUX (Belgium)
Mr. Liës FEYEN (Belgium)
Mr. Guy STOFFELEN (Belgium)
Mr. Raymond VAN DE SIJPE (Belgium)
Mr. Johan VERMEIREN (Belgium)
Ms. Carmilva FLORES (Brazil)
Ms. Vanessa NESPOLI DE OLIVEIRA (Brazil)
Ms. Lynn BARR-TELFORD (Canada)
Mr. Jean-Claude BOUSQUET (Canada)
Mr. Eduardo CORREA (Chile)
Mr. Cesar MUÑOZ HERNANDEZ (Chile)
Mr. Vladimir HULIK (Czech Republic)
Ms. Michaela KLENHOVÁ (Czech Republic)
Mr. Felix KOSCHIN (Czech Republic)
Mr. Leo JENSEN (Denmark)
Mr. Ken THOMASSEN (Denmark)
Ms. Birgitta ANDRÉN (EUROSTAT)
Mr. Pascal SCHMIDT (EUROSTAT)
Mr. Timo ERTOLA (Finland)
Mr. Miikka PAAJAVUORI (Finland)
Mr. Mika TUONONEN (Finland)
Mr. Matti VAISANEN (Finland)
Mr. Jean-Michel DURR (France)
Ms. Michèle JACQUOT (France)
Ms. Christine RAGOUCY (France)
Mr. Heinz-Werner HETMEIER (Germany)
Ms. Kirsten OTTO (Germany)
Mr. Alexander RENNER (Germany)

Mr. Ingo RUSS (Germany)
Ms. Vassilia ANDREADAKI (Greece)
Mr. Angelos KARAGIANNIS (Greece)
Mr. Konstantinos STOUKAS (Greece)
Ms. Judit KOZMA-LUKÁCS (Hungary)
Mr. László LIMBACHER (Hungary)
Ms. Judit LUKÁCS (Hungary)
Ms. Ásta URBANCIC (Iceland)
Ms. Mary DUNNE (Ireland)
Mr. Muiris O'CONNOR (Ireland)
Mr. Yosef GIDANIAN (Israel)
Ms. Dalia SPRINZAK (Israel)
Ms. Gemma DE SANCTIS (Italy)
Ms. Giuliana MATTEOCCI (Italy)
Ms. Maria Pia SORVILLO (Italy)
Mr. Paolo TURCHETTI (Italy)
Ms. Nozomi HARAGUCHI (Japan)
Ms. Midori MIYATA (Japan)
Mr. Tokuo OGATA (Japan)
Mr. Satoshi TAKAHASHI (Japan)
Mr. Jérôme LEVY (Luxembourg)
Ms. Manon UNSEN (Luxembourg)
Mr. David VALLADO (Luxembourg)
Ms. Erika VALLE BUTZE (Mexico)
Mr. Marcel A.M. SMITS VAN WAESBERGHE (Netherlands)
Mr. Dick TAKKENBERG (Netherlands)
Ms. Pauline THOOLEN (Netherlands)
Mr. Paul GINI (New Zealand)
Ms. Marie ARNEBERG (Norway)
Ms. Birgitta BØHN (Norway)
Mr. Kjetil DIGRE (Norway)
Mr. Geir NYGARD (Norway)
Mr. Terje RISBERG (Norway)
Ms. Alina BARAN (Poland)
Ms. Anna NOWOZYNSKA (Poland)
Mr. Jose PAREDES (Portugal)
Mr. João PEREIRA DE MATOS (Portugal)
Ms. Natalia KOVALEVA (Russian Federation)
Mr. Mark AGRANOVITCH (Russian Federation)
Ms. Alzbeta FERENCICOVÀ (Slovak Republic)
Mr. Vladimir POKJNY (Slovak Republic)
Ms. Elena REBROSOVA (Slovak Republic)
Ms. Helga KOCEVAR (Slovenia)
Ms. Tatjana SKRBEC (Slovenia)
Mr. Fernando CELESTINO REY (Spain)
Mr. Eduardo DE LA FUENTE (Spain)
Mr. Jesus IBANEZ MILLA (Spain)
Ms. Karin ARVEMO-NOTSTRAND (Sweden)
Mr. Henrik ENGSTROM (Sweden)
Ms. Christina SANDSTROM (Sweden)
Ms. Katrin HOLENSTEIN (Switzerland)
Ms. Nilgün DURAN (Turkey)
Ms. Alison KENNEDY (UNESCO)
Mr. Steve HEWITT (United Kingdom)
Mr. Steve LEMAN (United Kingdom)
Ms. Mary Ann FOX (United States)
Ms. Catherine FREEMAN (United States)
Mr. Thomas SNYDER (United States)

Network A on Educational Outcomes

Lead Country: United States
Network Leader: Mr. Eugene OWEN
Ms. Wendy WHITHAM (Australia)
Mrs. Helene BABEL (Austria)
Mr. Jürgen HORSCHINEGG (Austria)
Mrs. Christiane BLONDIN (Belgium)
Mr. Luc VAN DE POELE (Belgium)
Ms. Oroslinda Maria GOULART (Brazil)
Mr. Don HOIUM (Canada)
Ms. Tamara KNIGHTON (Canada)
Mr. Jerry MUSSIO (Canada)
Mr. Lubomir MARTINEC (Czech Republic)
Ms. Pavla ZIELENIECOVA (Czech Republic)
Mr. Joern SKOVSGAARD (Denmark)
Mr. Aki TORNBERG (Finland)
Mr. Thierry ROCHER (France)
Ms. Evelyn OBELE (Germany)
Ms. Kirsten OTTO (Germany)
Mr. Botho PRIEBE (Germany)
Mr. Panyotis KAZANTZIS (Greece)
Ms. Zsuzsa HAMORI-VACZY (Hungary)
Mr. Julius K. BJORNSSON (Iceland)
Mr. Gerry SHIEL (Ireland)
Mrs. Anna Maria CAPUTO (Italy)
Mr. Ryo WATANABE (Japan)
Ms. Mee-Kyeong LEE (Korea)
Ms. Iris BLANKE (Luxembourg)
Mr. Felipe MARTINEZ RIZO (Mexico)
Dr. Jules L. PESCHAR (Netherlands)
Dr. Paul VAN OIJEN (Netherlands)
Ms. Lynne WHITNEY (New Zealand)
Ms. Anne-Berit KAVLI (Norway)
Ms. Glória RAMALHO (Portugal)
Mr. Vladislav ROSA (Slovak Republic)
Ms. Mar GONZALEZ GARCIA (Spain)
Mr. Ramon PAJARES BOX (Spain)
Ms. Anna BARKLUND (Sweden)
Ms. Anita WESTER (Sweden)
Mr. Erich RAMSEIER (Switzerland)
Mr. Sevki KARACA (Turkey)
Mr. Jason TARSH (United Kingdom)
Ms. Marit GRANHEIM (United States)
Mr. Jay MOSKOWITZ (United States)
Ms. Elois SCOTT (United States)
Ms. Maria STEPHENS (United States)

Network B on Education and Socio-economic Outcomes

Lead country: Sweden
Network Leader: Mr. Dan ANDERSSON
Ms. Oon Ying CHIN (Australia)
Mr. Brendan O'REILLY (Australia)
Mr. Mark NÉMET (Austria)
Ms. Ariane BAYE (Belgium)
Ms. Isabelle ERAUW (Belgium)
Ms. Oroslinda Maria GOULART (Brazil)
Mr. Patrice DE BROUCKER (Canada)
Ms. Shannon DELBRIDGE (Canada)
Ms. Zuzana POLAKOVA (Czech Republic)
Mr. Steffen BANG (Denmark)
Ms. Irja BLOMQVIST (Finland)
Ms. Aila REPO (Finland)
Ms. Pascale POULET-COULIBANDO (France)
Ms. Christiane KRÜGER-HEMMER (Germany)
Mr. Nikolaos BILALIS (Greece)
Mr. Evangelos INTZIDIS (Greece)
Ms. Éva TÓT (Hungary)
Ms. Asta URBANCIC (Iceland)
Mr. Philip O'CONNELL (Ireland)
Mrs. Paola UNGARO (Italy)
Ms. Ikuko ARIMATSU (Japan)
Ms. Jihee CHOI (Korea)
Mr. Jérôme LEVY (Luxembourg)
Mme. Astrid SCHORN (Luxembourg)
Mr. Roy TJOA (Netherlands)
Mr. Johan VAN DER VALK (Netherlands)
Mr. Marcel SMITS VAN WAESBERGHE (Netherlands)
Ms. Cheryl REMINGTON (New Zealand)
Mr. Erik Dahl (Norway)
Ms. Anne Brit UDAHL (Norway)
Mr. Terje RISBERG (Norway)
Ms. Malgorzata CHOJNICKA (Poland)
Mr. Jorge BARATA (Portugal)
Ms. Raquel ÁLVAREZ-ESTEBAN (Spain)
Mr. Dan ANDERSSON (Sweden)
Ms. Anna JÖNSSON (Sweden)
Mr. Kenny PETERSSON (Sweden)
Mr. Russell SCHMIEDER (Sweden)
Ms. Anna BORKOWSKY (Switzerland)
Mr. Ali PANAL (Turkey)
Mr. David MCPHEE (United Kingdom)
Mr. Stephen LEMAN (United Kingdom)
Ms. Lisa HUDSON (United States)
Mr. Dan SHERMAN (United States)

Network C on School Features and Processes

Lead Country: Netherlands
Network Leader: Mr. Jaap SCHEERENS
Mr. Lars STAHRE (Australia)
Mr. Christian KRENTHALLER (Austria)
Mr. Philippe DELOOZ (Belgium)
Ms. Ann VAN DRIESSCHE (Belgium)
Mr. Peter VAN PETEGEM (Belgium)
Ms. Maria Aparecida CHAGAS FERREIRA (Brazil)
Ms. Oroslinda Maria GOULART (Brazil)
Ms. Nelly MCEWEN (Canada)
Ms. Michaela KLENHOVA (Czech Republic)
Mr. Lubomir MARTINEC (Czech Republic)
Ms. Pavlina STASTNOVA (Czech Republic)
Mr. Jørgen Balling RASMUSSEN (Denmark)
Ms. Maria HRABINSKA (European Commission)
Mr. Hannu-Pekka LAPPALAINEN (Finland)
Mrs. Dominique ALLAIN (France)
Mr. Gerd MÖLLER (Germany)
Mr. Vassilios CHARISMIADIS (Greece)
Ms. Anna IMRE (Hungary)
Mr. Pat MAC SITRIC (Ireland)
Mrs. Caterina VEGLIONE (Italy)
Ms. Sung Eun KIM (Korea)
Mme Astrid SCHORN (Luxembourg)
Mr. Jean-Claude FANDEL (Luxembourg)
Ms. Erika VALLE BUTZE (Mexico)
Ms. Maria HENDRIKS (Netherlands)
Mr. Marcel SMITS VAN WAESBERGHE (Netherlands)
Mr. Paul GINI (New Zealand)
Ms. Bodhild BAASLAND (Norway)
Mr. Jerzy CHODNICKI (Poland)
Ms. Maria DO CARMO CLIMACO (Portugal)
Mr. Helder GUERREIRO (Portugal)
Mr. Ignacio ÁLVAREZ PERALTA (Spain)
Ms. Ulla LINDQVIST (Sweden)
Mrs. Annika HAGLUND (Sweden)
Mr. Eugen STOCKER (Switzerland)
Ms. Nilgün DURAN (Turkey)
Ms. Alison KENNEDY (UNESCO)
Mr. Jason TARSH (United Kingdom)
Mr. Joel SHERMAN (United States)
Mrs. Kerry GRUBER (United States)

Others contributors to this publication

Mr. Donald HIRSCH (Consultant)
Ms. Tracey STRANGE (Editor)
Ms. Fung-Kwan TAM (Layout)

Related OECD Publications

Where Immigrant Students Succeed: A Comparative Review of Performance and Engagement in PISA 2003
ISBN 92-64-02360-7

Are Students Ready for a Technology-Rich World?: What PISA Studies Tell Us
ISBN 92-64-03608-3

Learning for Tomorrow's World – First Results from PISA 2003 (2004)
ISBN 92-64-00724-5

Problem Solving for Tomorrow's World – First Measures of Cross-Curricular Competencies from PISA 2003 (2004)
ISBN 92-64-00642-7

From Education to Work: A Difficult Transition for Young Adults with Low Levels of Education (2005)
ISBN 92-64-00918-3

Education Policy Analysis 2005 (Forthcoming)
ISBN 92-64-02269-4

OECD Handbook for Internationally Comparative Education Statistics: Concepts, Standards, Definitions and Classifications (2004)
ISBN 92-64-10410-0

Completing the Foundation for Lifelong Learning: An OECD Survey of Upper Secondary Schools (2004)
ISBN 92-64-10372-4

OECD Survey of Upper Secondary Schools: Technical Report (2004)
ISBN 92-64-10572-7

Internationalisation and Trade in Higher Education: Opportunities and Challenges (2004)
ISBN 96-64-01504-3

Classifying Educational Programmes: Manual for ISCED-97 Implementation in OECD Countries (1999)
ISBN 92-64-17037-5

OECD publications can be browsed or purchased at the OECD Online Bookshop (*www.oecdbookshop.org*).

Table of Contents

Name of the indicator in the 2005 edition

Name of the indicator in the 2005 edition

Name of the indicator in the 2005 edition

Name of the indicator in the 2005 edition

Name of the indicator in the 2005 edition

Name of the indicator in the 2005 edition