

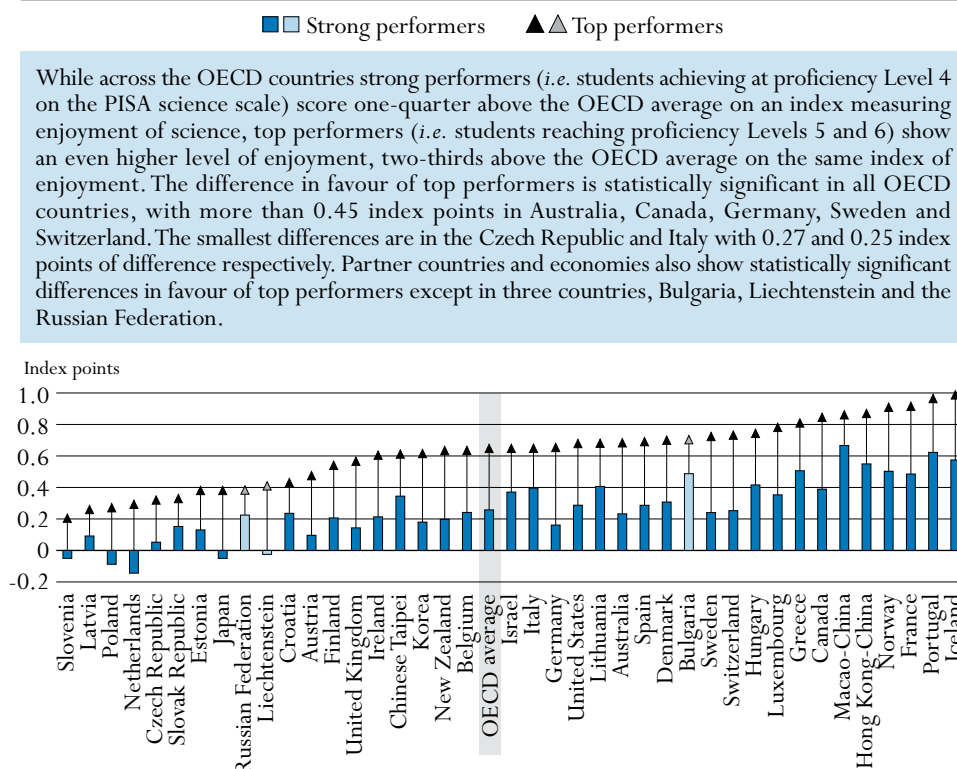
## WHAT ARE THE TOP PERFORMERS' ATTITUDES AND MOTIVATIONS FOR SCIENCE IN PISA 2006?

Students' attitudes and motivations tend to be closely associated with their performance, as shown in previous analysis by the OECD's Programme for International Student Assessment (PISA). Fostering interest and motivation in science, as well as preparing and informing students about science-related careers, are thus important policy goals related to conveying scientific knowledge and competencies to students, engaging them in science-related issues and fostering their career aspirations in science. This indicator shows how top performers in science tend to be dedicated and engaged learners who aspire to a career in science and feel well informed about potential career opportunities in science. At the same time, in a number of countries there are significant proportions of top performers who show comparatively low levels of interest in science.

### Key results

#### Chart A5.1. Enjoyment of science for strong performers and top performers

*This chart shows the difference in enjoyment of science between top performers and strong performers among the 15-year-old students assessed in PISA 2006, measured on an index that has a mean of zero and a standard deviation of one.*



Countries are ranked in ascending order of the value of the index of enjoyment of science for the top performers.

Note: Significant differences are highlighted with darker tone.

Source: OECD, PISA 2006 Database, Table A5.1a.

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### *Other highlights of this indicator*

- Top performers in science are involved in science-related activities outside school. More than a third of top performers regularly or very often watch science programmes on TV and read science magazines or science articles in newspapers. A somewhat smaller proportion of top performers regularly or very often visit science-related websites (21%) or borrow or buy science books (14%). A few top performers attend science clubs (7%) or listen to radio programs on science (5%). The index of science-related activities is significantly higher for top performers than strong performers.
- Moreover, top performers tend to spend more time studying science at school and less time on out-of-school lessons. On average, top performers receive four hours of instruction in science at school, half an hour more than strong performers. Conversely, they spend less time than strong performers in out-of-school lessons in science.
- Top performers in science care about studying their school science and about making an effort in science subjects, in part because they believe that it will pay off in their future academic and professional careers. With a score of 0.44 for the index of instrumental motivation, top performers have a significant advantage of 0.30 index point on strong performers. But reporting doing well in science seems to be less important than in mathematics.
- On average across the OECD, top performers, with 0.55 index points in the index of future-oriented motivation, report more often than strong performers that they actually intend to cultivate their interest in science, either by pursuing further scientific studies or by working in a science-related field.
- With respect to their aspirations, top performers in science report feeling well prepared for science-related careers. Across OECD countries, for instance, more than 80% of top performers agree that the subjects they study and their teachers provide them with the basic skills and knowledge for a science-related career. However, only few top performers in science report being well informed about science-related careers, or about where to find information on science-related careers. The difference in the index of student information on science-related careers between top performers and strong performers is not very wide.

### **Comparing top performers with strong performers using PISA indices**

This indicator compares top performers (students achieving at proficiency Levels 5 and 6 on the PISA science scale) with strong students (students proficient at Level 4) using a range of different measures, known as PISA indices. Students completed a questionnaire on themselves and their learning. The information reported by students is summarised into several PISA indices. On each index, the average OECD student was given an index value of zero and about two-thirds of the OECD student population were given index values between -1 and 1 (*i.e.* the index has a standard deviation of 1). It is therefore possible to have both negative and positive mean index values. It should be noted that when a performance group has a negative mean index value, this does not necessarily mean that students in that group responded negatively to the underlying questions, but rather that these students responded less positively on average to such questions compared to the average OECD student. Likewise, groups with a positive mean index responded more positively than the average for the OECD countries. The percentages of students associated with each question contained within an index contribute to the calculation of the mean index value. For example, the index of enjoyment of science was derived from students' level of agreement with the following statements: i) I generally have fun when I am learning <broad science> topics; ii) I like reading about <broad science>; iii) I am happy doing <broad science> problems; iv) I enjoy acquiring new knowledge in <broad science>; and v) I am interested in learning about <broad science>. A four-point scale with the response categories "strongly agree", "agree", "disagree" and "strongly disagree" was used. All items were inverted for IRT scaling and positive values on this new index for PISA 2006 indicate higher levels of enjoyment of science.

### **Policy context**

High-level competencies are critical for the creation of new knowledge, technologies and innovation. For countries near the technology frontier, this implies that the share of highly educated workers in the labour force is an important determinant of economic growth and social development. Students' attitudes and motivations tend to be closely related to performance. The link between attitudes and motivations is strengthened by evidence suggesting that motivation among top performers is unrelated to socio-economic factors but is rather a reflection of their enjoyment and active engagement in science learning inside and outside school. At the same time, in a number of countries there are significant proportions of top performers who show comparatively low levels of interest in science. While these education systems have succeeded in conveying scientific knowledge and competencies to students, they have been less successful at engaging them in science-related issues and fostering their career aspirations in science. These countries may thus not fully realise the potential of these students. Fostering interest and motivation in science thus seems to be an important policy goal in its own right. The potential payoff is significant: a large and diverse talent pool ready to take up the challenge of a career in science.

### **Evidence and explanations**

#### **Top performers' engagement in science**

##### *Enjoyment of science*

Top performers in science are engaged science learners, reporting that they enjoy learning science, that they want to learn more, that their science lessons are fun and that they are motivated to do

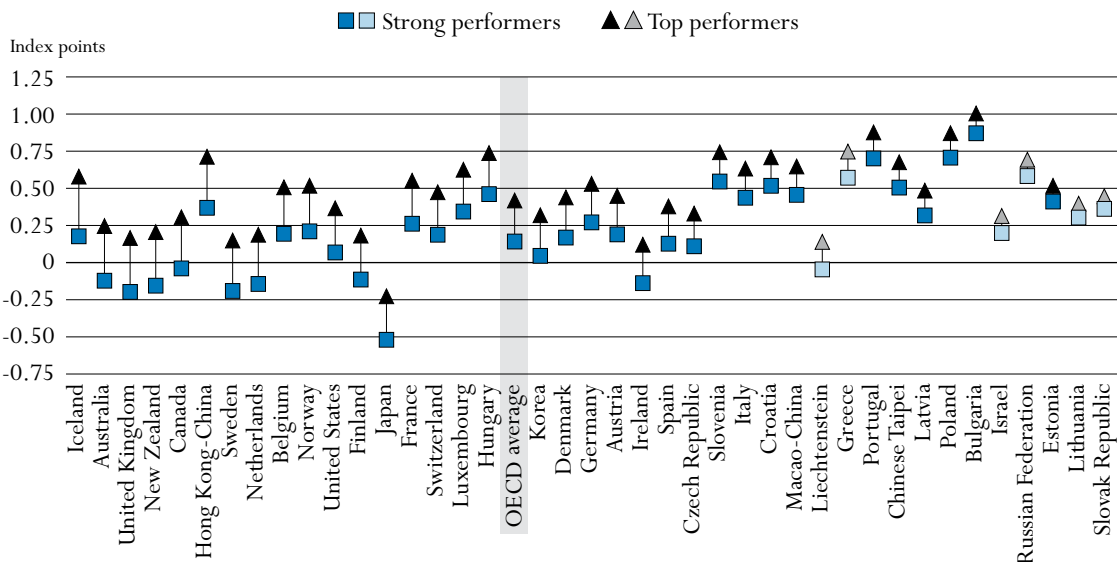
well in science. On average, 68% of top performers report being happy doing science problems (only 53% of strong performers did so) and 75% like reading about science (compared with 60% of strong performers). Over 80% of top performers report that they enjoy acquiring new knowledge in science, are interested in learning about science and generally have fun when learning science (Table A5.1b and Table A5.7a).

As shown in Chart A5.1, across OECD countries, the top performers' index of enjoyment is two-thirds above the OECD average and the difference between top performers and strong performers is statistically significant in all OECD countries, with more than 0.45 index point in Australia, Canada, Germany, Sweden and Switzerland - the smallest difference being in Italy with 0.25 index point. Partner countries and economies also have statistically significant differences in favour of top performers except in three countries where these differences are not significant. In France, Iceland, Norway and Portugal, top performers show a mean index higher than 0.9 index point while the Netherlands and Poland, and the partner countries Latvia and Slovenia, have a mean index lower than 0.3 index point.

### Science-related activities outside of school

Top performers actively engage in science-related activities outside of school. About a third of top performers regularly or very often watch science programmes on TV (32%) and read science magazines or science articles in newspapers (38%). A somewhat smaller proportion of top performers regularly or very often visit science-related websites (21%) or borrow or buy science books (14%). A few top performers attend science clubs (7%) or listen to radio programs on science (5%), however these two activities are not very popular as regular activities (less than 10% of all students, whatever their performance level) (Table A5.7b).

**Chart A5.2. Students' science-related activities for strong performers and top performers**



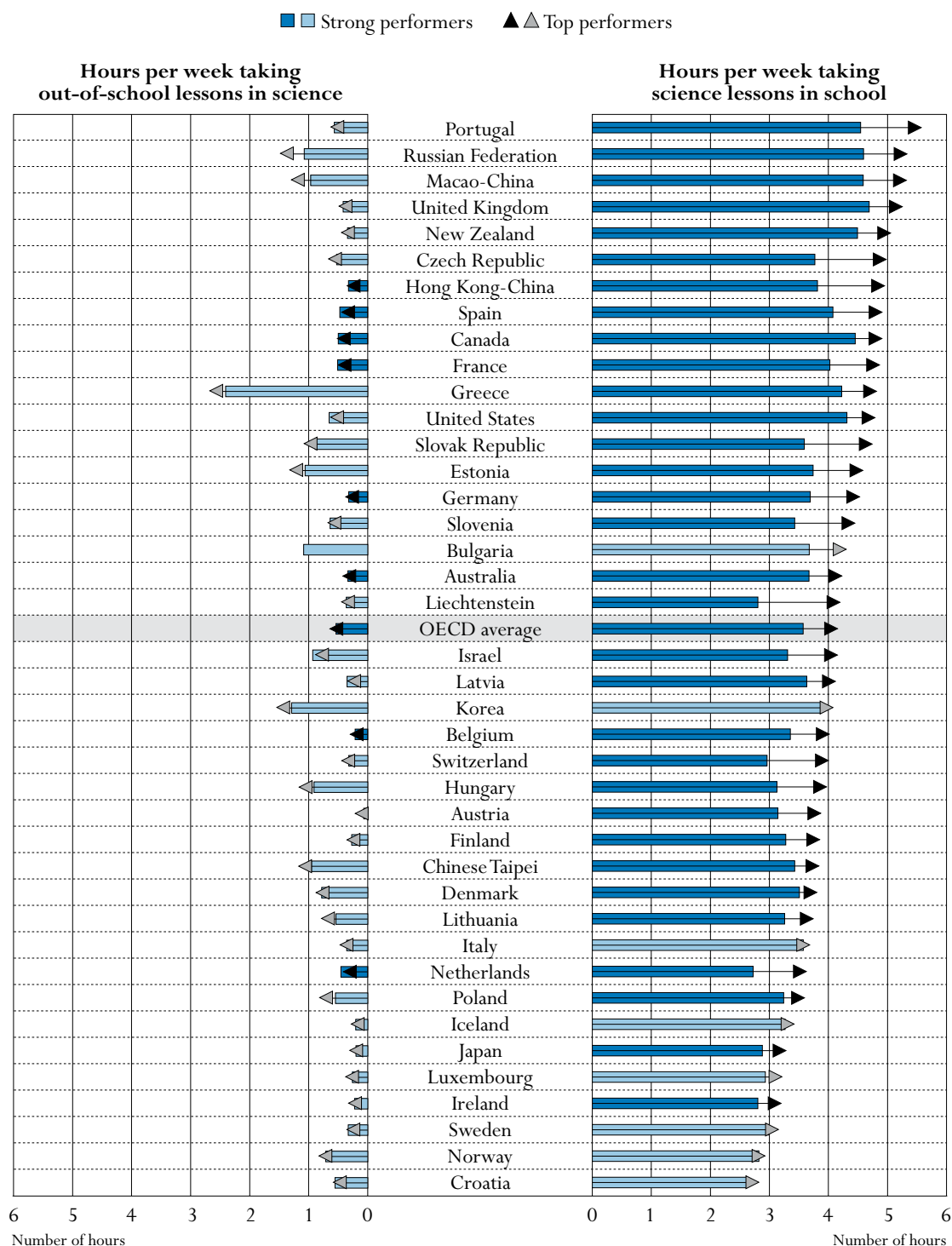
Countries are ranked in descending order of the difference in the mean index between top performers and strong performers.

Note: Significant differences are highlighted with darker tone.

Source: OECD, PISA 2006 Database, Table A5.2a.

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**Chart A5.3. Regular science lessons in school and out-of-school science lessons for strong performers and top performers**

Countries are ranked in descending order of the average number of hours per week for top performers taking science lessons in school.

Note: Significant differences are highlighted with darker tone.

Source: OECD, PISA 2006 Database, Table A5.3.

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As illustrated in Chart A5.2, the index of students' science-related activities is, on average and across OECD countries, equal to 0.42 for the top performers (*i.e.* a quarter or more of a standard deviation above the strong performers) - a difference that is moderately large and statistically significant. Significantly more top performers than strong performers reported pursuing science-related activities on a regular basis in all countries, except Greece, the Slovak Republic, and the partner countries Bulgaria, Israel, Liechtenstein and the Russian Federation.

Given the strong link between science performance and socio-economic status and the strong and direct relationship between science performance and frequency of participation in student-initiated science activities in each of the OECD countries, an adjustment was made for students' socio-economic background. Even after accounting for socio-economic background (Table A5.2a), it was found that all countries for which there are adequate data, except the partner economy Chinese Taipei, continue to show a statistically significant difference between top performers and strong performers.

### **Time in learning science: in school and out-of-school lessons**

Previous PISA analysis has shown that student time spent in regular lessons at school is positively related to student performance (OECD, 2007a). The percentage of top performers taking regular science lessons is greater than the percentage of strong performers in all the countries except in Italy, with 2.2 percentage points in favour of strong performers, and in Iceland and Poland where this difference is less than 0.5 percentage point.

On average, top performers receive four hours of instruction in science at school, half an hour more than strong performers (Chart A5.3). This type of difference is even found in countries with the largest proportions of top performers such as Australia, Canada, Finland, Japan and New Zealand. In the Czech Republic, Portugal, the Slovak Republic, Switzerland, and the partner countries and economies Hong Kong-China and Liechtenstein, the top performers received about an hour or more of science lessons per week than the strong performers.

Conversely, across the OECD countries only 26.4% of top performers take out-of-school lessons compared with 30.6% of strong performers. Furthermore, top performers spend less time than strong performers in out-of-school lessons in science, although the absolute levels and differences among these performance groups are modest (but still significant). At the country level, this difference on time spent in out-of-school lessons between the two performance groups is more than 10 minutes only in France, the Netherlands and Spain (Chart A5.3).

### **Top performers' motivations in science**

#### ***Instrumental motivation to learn science and the importance of doing well***

Top performers in science report being motivated to learn science because they believe it will help them with their future studies or career. Top performers report that they study science because they know it is useful for them (81%), because what they learn will improve their career prospects (76%) or that they need it for what they want to study later on (70%) (Table A5.7c).

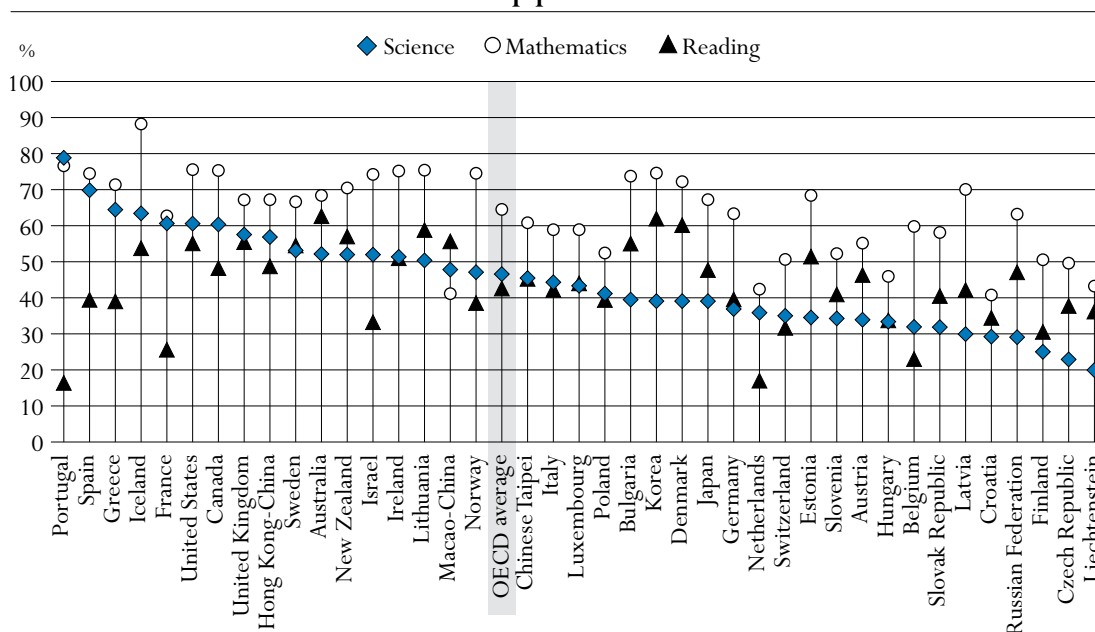
Values on the index of instrumental motivation are calculated from students' levels of agreement with each of five statements concerning their motivation to learn science. On average across OECD countries, the index of instrumental motivation is higher for top performers (0.44) than

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for strong performers (0.14). There are significant differences between top performers and strong performers in all OECD countries except Greece and Portugal (Table A5.4a).

The proportion of top performers in science reporting that doing well in science is very important to them can also be an indicator of the academic importance of science to students, beyond whether the subject is of interest to them or whether they enjoy their science lessons. Taken together with the degree of importance they attribute to mathematics and test language subjects, this can also indicate the relative importance of science to top performers. Students were asked to report how important it is in general for them to do well in science, mathematics and test language subjects. They could give one of four possible answers: “very important”, “important”, “of little importance” or “not important at all”.

**Chart A5.4. Importance of doing very well in science, mathematics and reading for top performers**



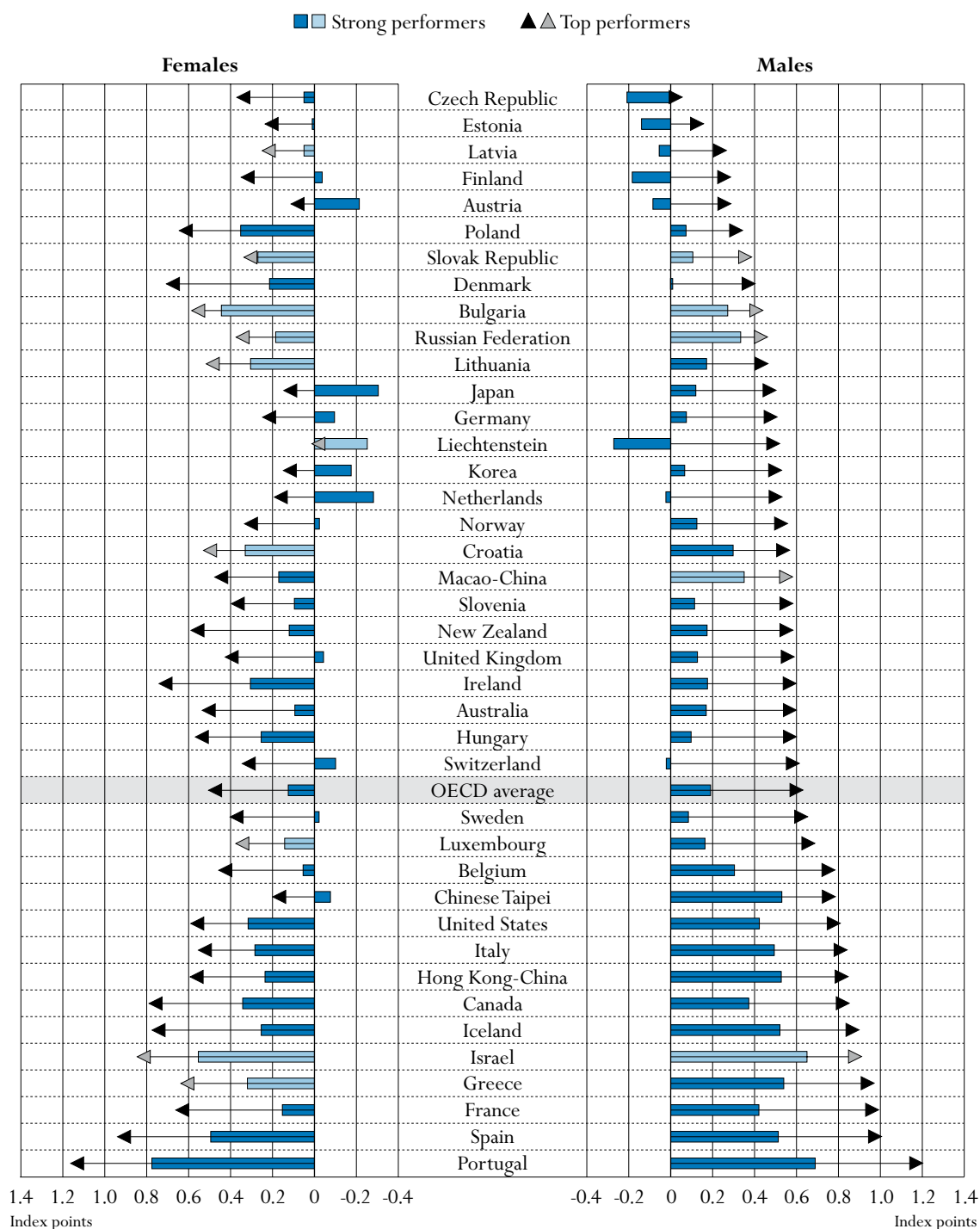
Countries are ranked in descending order of the percentage of top performers reporting that doing well in science is very important.

Source: OECD, PISA 2006 Database, Table A5.5.

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Chart A5.4 shows that among science top performers in all the countries but Portugal, the most important subject for them to do well in is mathematics. Across the OECD countries, 64% of science top performers on average reported that doing well in mathematics is very important to them. This compared with 47% indicating that science is very important to them and 41% indicating that test language subjects were very important to them. Countries with the largest proportions of top performers reporting that doing well in science is very important to them include Portugal (78%), Spain (70%), Greece (65%), Iceland (63%), France (61%), the United States (61%) and Canada (60%).<sup>1</sup>

1. Note however that for both Portugal and Greece, we are talking about a small proportion of all students as only 3% of all students are top performers. The evidence in this case for these two countries should be interpreted with caution.

**Chart A5.5. Index of future-oriented motivation to learn science for strong performers and top performers, by gender**

Countries are ranked in ascending order of the index of future-oriented motivation to learn science for top performers.

Note: Significant differences are highlighted with darker tone.

Source: OECD, PISA 2006 Database, Table A5.4d, available on line.

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***Future-oriented motivation to learn science***

The index of future-oriented motivation seeks to ascertain students' aspirations with regard to study beyond secondary school and active involvement in scientific careers or projects.

On average across the OECD countries, 61% of top performers reported that they would like to work in a career involving science and 56% reported that they would like to study science after secondary school. In contrast, top performers showed less enthusiasm for working on science projects as adults or spending their lives doing advanced science (47% and 39% on average across OECD countries, respectively) (Table A5.7e).

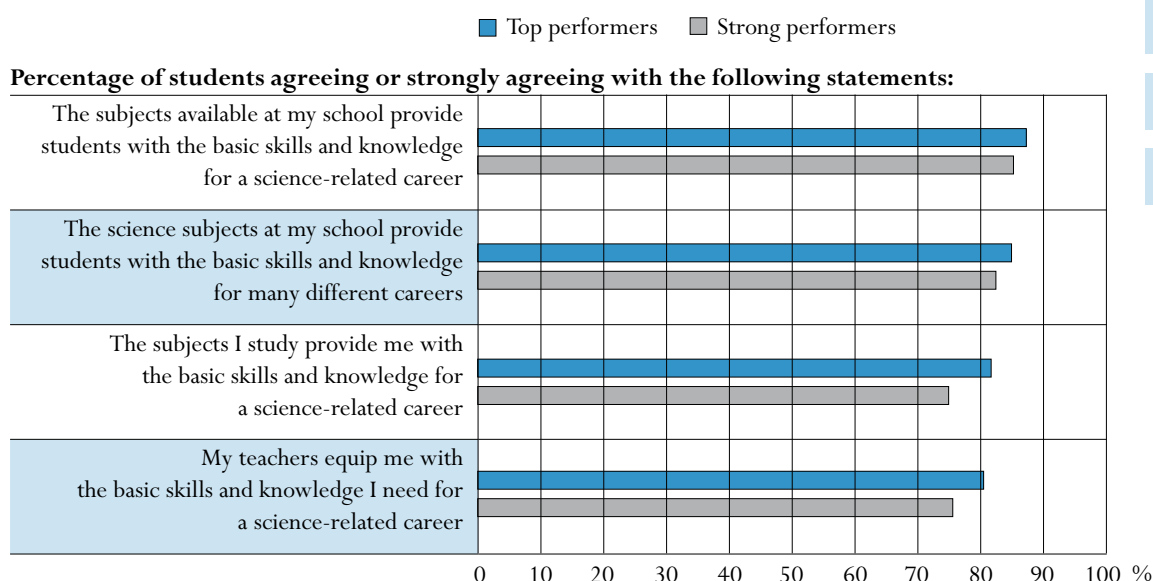
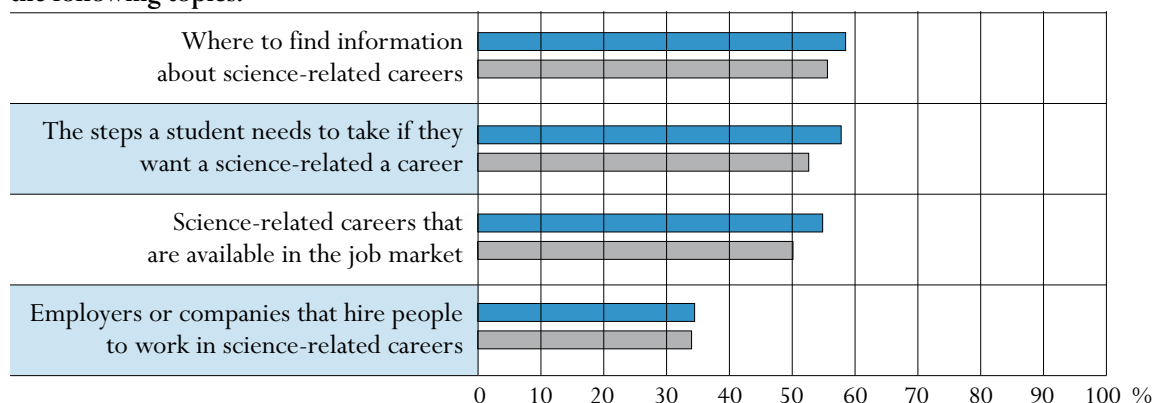
Among the OECD countries, the difference in the index of future-orientated motivation to learn science between top performers and strong performers is 40% of a standard deviation, a substantively large and significant difference between the two adjacent performance groups. For example, on average across OECD countries only 39% of the strong performers reported that they would like to study science after secondary school – this compares to 56% of top performers. These index differences are observed in all OECD countries except the Slovak Republic, ranging from 22% of a standard deviation in Poland to 54% in France (Table A5.4a).

It is therefore instructive to compare future-oriented science aspirations according to gender given that in the past, females have been much less likely to choose scientific study and science careers than males. Chart A5.5 shows a male index value of 0.61 in contrast to the female index value of 0.47 on average across the OECD countries. The difference between genders is statistically significant. Of the 28 OECD countries included in this comparison, 12 show that male top performers in science have significantly higher aspirations to use science in the future than females. Only in the Czech Republic and Poland do female top performers report higher aspirations to use science in the future than male top performers. In the partner countries and economies, Hong Kong-China and Chinese Taipei also have significant differences in favour of males. Yet, the overall aspiration pattern among science top and strong performers is the same for both males and females in these countries. As is the case for males, female top performers report higher aspirations to use science in the future than female strong performers. So, the goal of increasing the number of adults engaged in the study and pursuit of scientific activities by fostering aspirations is valid for both males and females.


**Science-related careers: school preparation and student information**

As shown in Chart A5.6, across the OECD countries, for instance, top performers agree that the subjects they study (82%) and their teachers (81%) and the subjects available at their school (88%) provide them with the basic skills and knowledge for a science-related career.

The index of school preparation for science-related careers shows that top performers in science report being significantly better prepared for science-related careers than the strong performers (index values of 0.31 for top performers and 0.10 for strong performers, on average across the OECD, Table A5.6a). However, at the country level, some differences appear. Top performers in Australia, Canada, France and the United Kingdom have an index value higher than 0.71 (more than 0.4 index point above the OECD average for top performers) while other countries, Greece, Japan, Korea and the partner economy Macao-China, have an index value smaller than -0.21 (more than 0.5 index point below the OECD average for top performers).

**Chart A5.6 Science-related careers for strong performers and top performers: school preparation and student information****Percentage of students who reported that they were very well informed or fairly informed about the following topics:**

Source: OECD, PISA 2006 Database, Table A5.6b and Table A5.6c, available on line.

StatLink  <http://dx.doi.org/10.1787/664103188707>

The largest differences between top performers and strong performers are found in Australia, the Netherlands, New Zealand, Switzerland and the United Kingdom with more than 0.31 index point in favour of top performers. On the other end, among the OECD countries, Germany, Greece, Korea, Luxembourg, Poland and Portugal do not have significant differences between top performers and strong performers.

But Chart A5.6 also shows that only around half of top performers in science report being well informed about science-related careers available in the job market, about where to find information on science-related careers or about the steps they need to take if they want a science-related career. And only around a third of top performers feel well informed about employers or companies that hire people to work in science-related careers.

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As shown in Table A5.6a, there are few differences between top performers and strong performers on the index of student information on science-related careers. Top performers have an index value of 0.15, a small advantage compared with strong performers who have an index value of 0.06. The only countries where there is a significant advantage in favour of top performers are Australia, Canada, Iceland, Korea, the Netherlands, New Zealand, Norway, the United Kingdom and the partner economy Chinese Taipei.

### Definitions and methodologies

The achievement scores are based on assessments administered as part of the Programme for International Student Assessment (PISA) undertaken by the Organisation for Economic Co-operation and Development (OECD). The most recent and available PISA data were collected during the 2006 school year.

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 at the secondary level, 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.

### Further references

For further information about PISA 2006, see OECD (2007a) *PISA 2006: Science Competencies for Tomorrow's World*, OECD, Paris, and OECD (2009a) *Top of the Class: High Performing Learners in PISA 2006*, OECD, Paris. PISA data are also available on the PISA website: [www.pisa.oecd.org](http://www.pisa.oecd.org).

The following additional material relevant to this indicator is available on line at:

**StatLink**  <http://dx.doi.org/10.1787/664103188707>

- *Table A5.1b. Enjoyment of science: percentage of strong performers and top performers*
- *Table A5.2b. Science-related activities: percentage of strong performers and top performers*
- *Table A5.4b. Instrumental motivation to learn science: percentage of strong performers and top performers*
- *Table A5.4c. Future-oriented motivation to learn science: percentage of strong performers and top performers*
- *Table A5.4d. Index of future-oriented motivation to learn science for strong performers and top performers, by gender*
- *Table A5.6b. School preparation of science-related careers: percentage of strong performers and top performers*
- *Table A5.6c. Student information on science-related careers: percentage of strong performers and top performers*

Table A5.1a.  
Index of enjoyment of science for strong performers and top performers

	Index of enjoyment of science						Correlation between the index of enjoyment of science and the index of students' science-related activities	
	Strong performers		Top performers		Difference in the mean index between strong performers and top performers			
	Mean index	S.E.	Mean index	S.E.	Dif.	S.E.	Correl.	S.E.
OECD countries	Australia	0.23 (0.02)	0.68 (0.03)	-0.45 (0.04)	0.60 (0.01)			
	Austria	0.10 (0.04)	0.48 (0.07)	-0.38 (0.09)	0.66 (0.01)			
	Belgium	0.24 (0.03)	0.64 (0.03)	-0.39 (0.04)	0.59 (0.01)			
	Canada	0.39 (0.03)	0.85 (0.03)	-0.46 (0.04)	0.59 (0.01)			
	Czech Republic	0.05 (0.04)	0.32 (0.05)	-0.27 (0.05)	0.62 (0.01)			
	Denmark	0.31 (0.04)	0.70 (0.08)	-0.39 (0.10)	0.62 (0.01)			
	Finland	0.21 (0.03)	0.54 (0.03)	-0.33 (0.04)	0.58 (0.01)			
	France	0.49 (0.03)	0.92 (0.05)	-0.43 (0.06)	0.59 (0.01)			
	Germany	0.16 (0.04)	0.65 (0.05)	-0.49 (0.06)	0.63 (0.01)			
	Greece	0.51 (0.05)	0.81 (0.11)	-0.30 (0.12)	0.60 (0.01)			
	Hungary	0.42 (0.04)	0.74 (0.07)	-0.33 (0.08)	0.62 (0.01)			
	Iceland	0.58 (0.04)	0.99 (0.06)	-0.41 (0.08)	0.63 (0.01)			
	Ireland	0.21 (0.04)	0.61 (0.05)	-0.39 (0.06)	0.60 (0.01)			
	Italy	0.40 (0.06)	0.65 (0.10)	-0.25 (0.13)	0.56 (0.01)			
	Japan	-0.05 (0.03)	0.38 (0.03)	-0.43 (0.05)	0.60 (0.01)			
	Korea	0.18 (0.04)	0.62 (0.06)	-0.44 (0.05)	0.57 (0.01)			
	Luxembourg	0.35 (0.04)	0.78 (0.08)	-0.43 (0.09)	0.59 (0.01)			
	Mexico	0.86 (0.05)	c c	c c	0.46 (0.02)			
	Netherlands	-0.14 (0.03)	0.29 (0.04)	-0.44 (0.04)	0.60 (0.01)			
	New Zealand	0.20 (0.03)	0.63 (0.04)	-0.44 (0.05)	0.60 (0.01)			
	Norway	0.50 (0.04)	0.91 (0.06)	-0.41 (0.08)	0.58 (0.01)			
	Poland	-0.09 (0.04)	0.27 (0.06)	-0.36 (0.07)	0.44 (0.01)			
	Portugal	0.62 (0.03)	0.97 (0.06)	-0.34 (0.07)	0.59 (0.01)			
	Slovak Republic	0.15 (0.04)	0.33 (0.06)	-0.18 (0.07)	0.60 (0.01)			
	Spain	0.29 (0.03)	0.69 (0.05)	-0.40 (0.06)	0.57 (0.01)			
	Sweden	0.24 (0.04)	0.72 (0.05)	-0.48 (0.07)	0.57 (0.01)			
Switzerland	0.25 (0.04)	0.73 (0.05)	-0.48 (0.08)	0.59 (0.01)				
Turkey	1.02 (0.06)	c c	c c	0.63 (0.01)				
United Kingdom	0.14 (0.03)	0.57 (0.04)	-0.42 (0.05)	0.57 (0.01)				
United States	0.29 (0.04)	0.68 (0.06)	-0.39 (0.06)	0.57 (0.01)				
OECD average	0.26 (0.01)	0.65 (0.01)	-0.39 (0.01)	0.59 (0.00)				
Partner countries and economies	Argentina	0.11 (0.10)	c c	c c	0.57 (0.01)			
	Azerbaijan	c c	c c	c c	0.39 (0.02)			
	Brazil	0.58 (0.08)	c c	c c	0.50 (0.01)			
	Bulgaria	0.50 (0.04)	0.70 (0.08)	-0.20 (0.10)	0.48 (0.02)			
	Chile	0.65 (0.06)	c c	c c	0.56 (0.01)			
	Colombia	c c	c c	c c	0.46 (0.02)			
	Croatia	0.24 (0.04)	0.43 (0.08)	-0.19 (0.08)	0.60 (0.01)			
	Estonia	0.13 (0.04)	0.38 (0.05)	-0.25 (0.06)	0.57 (0.01)			
	Hong Kong-China	0.55 (0.03)	0.87 (0.03)	-0.32 (0.04)	0.60 (0.01)			
	Indonesia	c c	c c	c c	0.32 (0.02)			
	Israel	0.37 (0.02)	0.65 (0.05)	-0.28 (0.05)	0.61 (0.01)			
	Jordan	1.16 (0.06)	c c	c c	0.42 (0.01)			
	Kyrgyzstan	c c	c c	c c	0.48 (0.01)			
	Latvia	0.09 (0.04)	0.26 (0.07)	-0.17 (0.08)	0.54 (0.01)			
	Liechtenstein	-0.03 (0.12)	0.41 (0.21)	-0.44 (0.25)	0.61 (0.04)			
	Lithuania	0.41 (0.04)	0.68 (0.07)	-0.27 (0.09)	0.49 (0.01)			
	Macao-China	0.67 (0.03)	0.86 (0.09)	-0.19 (0.10)	0.57 (0.01)			
	Montenegro	0.32 (0.11)	c c	c c	0.52 (0.02)			
	Qatar	c c	c c	c c	0.51 (0.01)			
	Romania	0.64 (0.08)	c c	c c	0.47 (0.03)			
	Russian Federation	0.23 (0.03)	0.38 (0.07)	-0.15 (0.08)	0.53 (0.01)			
	Serbia	0.08 (0.06)	c c	c c	0.49 (0.01)			
	Slovenia	-0.05 (0.04)	0.20 (0.06)	-0.26 (0.07)	0.59 (0.01)			
	Chinese Taipei	0.35 (0.02)	0.61 (0.03)	-0.27 (0.03)	0.57 (0.01)			
	Thailand	1.11 (0.05)	c c	c c	0.49 (0.01)			
	Tunisia	c c	c c	c c	0.35 (0.02)			
Uruguay	0.28 (0.07)	c c	c c	0.53 (0.01)				

Note: Values that are statistically significant are indicated in bold.

Source: OECD, PISA 2006 Database.

Please refer to the Reader's Guide for information on the abbreviations used in this table.


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Table A5.2a.

## Index of students' science-related activities for strong performers and top performers

	Index of students' science-related activities							
	Strong performers		Top performers		Difference in the mean index between strong performers and top performers		Difference in the mean index between strong performers and top performers after accounting for the PISA index of economic, social and cultural status	
	Mean index	S.E.	Mean index	S.E.	Dif.	S.E.	Dif.	S.E.
OECD countries	Australia	-0.12 (0.02)	0.25 (0.03)		<b>-0.37</b> (0.04)		<b>-0.34</b> (0.04)	
	Austria	0.19 (0.04)	0.45 (0.05)		<b>-0.26</b> (0.07)		<b>-0.25</b> (0.07)	
	Belgium	0.19 (0.03)	0.51 (0.04)		<b>-0.31</b> (0.05)		<b>-0.29</b> (0.05)	
	Canada	-0.04 (0.03)	0.31 (0.03)		<b>-0.34</b> (0.04)		<b>-0.32</b> (0.04)	
	Czech Republic	0.11 (0.03)	0.33 (0.05)		<b>-0.22</b> (0.06)		<b>-0.20</b> (0.06)	
	Denmark	0.17 (0.04)	0.44 (0.06)		<b>-0.27</b> (0.08)		<b>-0.24</b> (0.07)	
	Finland	-0.11 (0.02)	0.18 (0.03)		<b>-0.30</b> (0.04)		<b>-0.28</b> (0.04)	
	France	0.26 (0.03)	0.55 (0.05)		<b>-0.29</b> (0.06)		<b>-0.26</b> (0.06)	
	Germany	0.27 (0.03)	0.53 (0.04)		<b>-0.26</b> (0.06)		<b>-0.22</b> (0.06)	
	Greece	0.57 (0.04)	0.75 (0.08)		-0.18 (0.09)		-0.14 (0.09)	
	Hungary	0.46 (0.04)	0.74 (0.06)		<b>-0.28</b> (0.07)		<b>-0.26</b> (0.07)	
	Iceland	0.18 (0.04)	0.58 (0.06)		<b>-0.40</b> (0.07)		<b>-0.38</b> (0.07)	
	Ireland	-0.14 (0.04)	0.12 (0.05)		<b>-0.26</b> (0.06)		<b>-0.24</b> (0.06)	
	Italy	0.44 (0.03)	0.63 (0.04)		<b>-0.20</b> (0.05)		<b>-0.18</b> (0.05)	
	Japan	-0.52 (0.03)	-0.23 (0.03)		<b>-0.29</b> (0.04)		<b>-0.27</b> (0.04)	
	Korea	0.05 (0.04)	0.32 (0.07)		<b>-0.27</b> (0.06)		<b>-0.22</b> (0.06)	
	Luxembourg	0.34 (0.04)	0.63 (0.05)		<b>-0.28</b> (0.07)		<b>-0.25</b> (0.07)	
	Mexico	0.86 (0.05)	c	c	c	c	c	c
	Netherlands	-0.14 (0.03)	0.19 (0.03)		<b>-0.33</b> (0.04)		<b>-0.29</b> (0.04)	
	New Zealand	-0.16 (0.03)	0.21 (0.03)		<b>-0.36</b> (0.05)		<b>-0.32</b> (0.05)	
	Norway	0.21 (0.04)	0.52 (0.05)		<b>-0.31</b> (0.06)		<b>-0.29</b> (0.06)	
	Poland	0.71 (0.03)	0.87 (0.04)		<b>-0.16</b> (0.05)		<b>-0.13</b> (0.05)	
	Portugal	0.70 (0.04)	0.88 (0.07)		<b>-0.18</b> (0.07)		<b>-0.17</b> (0.07)	
	Slovak Republic	0.36 (0.03)	0.45 (0.05)		-0.08 (0.06)		-0.10 (0.06)	
	Spain	0.13 (0.03)	0.38 (0.05)		<b>-0.25</b> (0.06)		<b>-0.23</b> (0.06)	
	Sweden	-0.19 (0.04)	0.15 (0.05)		<b>-0.34</b> (0.07)		<b>-0.31</b> (0.07)	
	Switzerland	0.19 (0.03)	0.47 (0.04)		<b>-0.29</b> (0.05)		<b>-0.25</b> (0.05)	
	Turkey	1.03 (0.06)	c	c	c	c	c	c
	United Kingdom	-0.20 (0.03)	0.17 (0.04)		<b>-0.36</b> (0.04)		<b>-0.33</b> (0.04)	
	United States	0.07 (0.04)	0.37 (0.05)		<b>-0.30</b> (0.07)		<b>-0.28</b> (0.07)	
	<i>OECD average</i>	0.14 (0.01)	0.42 (0.01)		<b>-0.28</b> (0.01)		<b>-0.25</b> (0.01)	
Partner countries and economies	Argentina	0.35 (0.10)	c	c	c	c	c	c
	Azerbaijan	c	c	c	c	c	c	c
	Brazil	0.53 (0.09)	c	c	c	c	c	c
	Bulgaria	0.87 (0.03)	1.00 (0.07)		<b>-0.13</b> (0.08)		<b>-0.10</b> (0.08)	
	Chile	0.67 (0.04)	c	c	c	c	c	c
	Colombia	c	c	c	c	c	c	c
	Croatia	0.52 (0.03)	0.71 (0.06)		<b>-0.19</b> (0.08)		<b>-0.18</b> (0.08)	
	Estonia	0.41 (0.03)	0.52 (0.03)		<b>-0.11</b> (0.04)		<b>-0.10</b> (0.04)	
	Hong Kong-China	0.37 (0.03)	0.71 (0.03)		<b>-0.34</b> (0.05)		<b>-0.31</b> (0.05)	
	Indonesia	c	c	c	c	c	c	c
	Israel	0.20 (0.07)	0.31 (0.10)		-0.11 (0.13)		-0.11 (0.13)	
	Jordan	1.00 (0.06)	c	c	c	c	c	c
	Kyrgyzstan	c	c	c	c	c	c	c
	Latvia	0.32 (0.04)	0.48 (0.06)		<b>-0.17</b> (0.07)		<b>-0.16</b> (0.07)	
	Liechtenstein	-0.05 (0.10)	0.14 (0.16)		-0.19 (0.19)		-0.13 (0.19)	
	Lithuania	0.30 (0.04)	0.40 (0.07)		-0.09 (0.08)		-0.09 (0.09)	
	Macao-China	0.46 (0.03)	0.65 (0.07)		<b>-0.19</b> (0.09)		-0.16 (0.09)	
	Montenegro	0.80 (0.07)	c	c	c	c	c	c
	Qatar	c	c	c	c	c	c	c
	Romania	0.84 (0.06)	c	c	c	c	c	c
	Russian Federation	0.58 (0.03)	0.69 (0.07)		-0.11 (0.08)		-0.11 (0.09)	
	Serbia	0.71 (0.05)	c	c	c	c	c	c
	Slovenia	0.55 (0.04)	0.74 (0.04)		<b>-0.20</b> (0.07)		<b>-0.17</b> (0.07)	
	Chinese Taipei	0.51 (0.02)	0.68 (0.02)		<b>-0.17</b> (0.04)		<b>-0.12</b> (0.04)	
	Thailand	1.33 (0.05)	c	c	c	c	c	c
	Tunisia	c	c	c	c	c	c	c
	Uruguay	0.19 (0.08)	c	c	c	c	c	c

Note: Values that are statistically significant are indicated in bold.

Source: OECD, PISA 2006 Database.

Please refer to the Reader's Guide for information on the abbreviations used in this table.


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Table A5.3.

## Regular science lessons in school and out-of-school lessons in science for strong performers and top performers

	Regular science lessons in school									
	Percentage of students taking lessons				Hours per week taking science lessons in school					
									Difference in hours between strong performers and top performers	
	Strong performers		Top performers		Strong performers		Top performers		Dif.	S.E.
	%	S.E.	%	S.E.	Mean	S.E.	Mean	S.E.		
OECD countries	Australia	90.5 (0.8)	95.6 (0.7)		3.67 (0.04)		4.18 (0.05)		<b>-0.52</b>	(0.06)
	Austria	91.7 (1.3)	96.4 (1.2)		3.14 (0.09)		3.82 (0.14)		<b>-0.61</b>	(0.13)
	Belgium	97.3 (0.5)	99.1 (0.4)		3.36 (0.06)		3.97 (0.07)		<b>-0.58</b>	(0.10)
	Canada	94.0 (0.7)	96.4 (0.6)		4.45 (0.06)		4.86 (0.07)		<b>-0.46</b>	(0.09)
	Czech Republic	93.2 (1.4)	97.3 (1.3)		3.77 (0.10)		4.93 (0.11)		<b>-1.18</b>	(0.13)
	Denmark	99.0 (0.5)	99.7 (0.4)		3.51 (0.06)		3.76 (0.11)		<b>-0.23</b>	(0.11)
	Finland	98.0 (0.5)	99.1 (0.3)		3.28 (0.05)		3.80 (0.06)		<b>-0.49</b>	(0.08)
	France	98.7 (0.4)	99.8 (0.5)		4.02 (0.08)		4.82 (0.09)		<b>-0.87</b>	(0.14)
	Germany	96.3 (0.9)	98.2 (0.8)		3.69 (0.07)		4.48 (0.10)		<b>-0.74</b>	(0.12)
	Greece	99.5 (0.3)	100.0 (0.0)		4.23 (0.07)		4.77 (0.15)		<b>-0.56</b>	(0.19)
	Hungary	91.9 (1.5)	94.4 (2.1)		3.13 (0.09)		3.92 (0.14)		<b>-0.82</b>	(0.19)
	Iceland	98.7 (0.6)	98.6 (0.9)		3.27 (0.05)		3.37 (0.10)		-0.13	(0.14)
	Ireland	92.7 (1.1)	95.9 (1.4)		2.80 (0.05)		3.15 (0.08)		<b>-0.28</b>	(0.11)
	Italy	90.8 (2.1)	88.6 (3.5)		3.57 (0.09)		3.64 (0.18)		-0.15	(0.14)
	Japan	97.7 (0.9)	99.2 (0.5)		2.88 (0.07)		3.23 (0.08)		<b>-0.32</b>	(0.07)
	Korea	98.6 (0.6)	99.3 (0.5)		3.87 (0.09)		4.03 (0.23)		-0.09	(0.18)
	Luxembourg	95.4 (0.9)	98.7 (1.0)		2.93 (0.07)		3.17 (0.11)		-0.30	(0.16)
	Mexico	87.0 (2.7)	c c		3.76 (0.15)		c c		c c	
	Netherlands	85.0 (1.2)	91.9 (1.5)		2.72 (0.06)		3.58 (0.12)		<b>-0.86</b>	(0.13)
	New Zealand	96.0 (0.7)	97.9 (0.6)		4.49 (0.05)		5.01 (0.05)		<b>-0.48</b>	(0.08)
	Norway	99.5 (0.3)	99.6 (0.7)		2.82 (0.04)		2.88 (0.05)		-0.02	(0.07)
	Poland	99.2 (0.4)	98.7 (0.7)		3.24 (0.06)		3.55 (0.09)		<b>-0.29</b>	(0.12)
	Portugal	86.7 (1.7)	94.1 (2.2)		4.55 (0.09)		5.53 (0.15)		<b>-1.00</b>	(0.21)
	Slovak Republic	96.6 (1.1)	99.6 (0.4)		3.59 (0.13)		4.69 (0.14)		<b>-1.03</b>	(0.22)
	Spain	95.0 (0.7)	97.6 (0.9)		4.08 (0.06)		4.86 (0.11)		<b>-0.83</b>	(0.16)
	Sweden	98.5 (0.7)	99.1 (0.7)		2.98 (0.04)		3.11 (0.06)		-0.10	(0.08)
	Switzerland	93.5 (0.9)	98.4 (0.7)		2.96 (0.06)		3.95 (0.10)		<b>-1.00</b>	(0.13)
	Turkey	97.8 (2.3)	c c		5.57 (0.14)		c c		c c	
	United Kingdom	99.1 (0.3)	99.4 (0.2)		4.69 (0.04)		5.20 (0.06)		<b>-0.49</b>	(0.08)
	United States	96.3 (1.0)	97.1 (1.1)		4.31 (0.06)		4.74 (0.09)		<b>-0.35</b>	(0.13)
	<i>OECD average</i>	95.3 (0.2)	97.5 (0.2)		3.57 (0.01)		4.11 (0.02)		<b>-0.53</b>	(0.03)
Partner countries and economies	Argentina	96.8 (1.6)	c c		3.94 (0.23)		c c		c c	
	Azerbaijan	c c	c c		c c		c c		c c	
	Brazil	99.4 (0.7)	c c		4.13 (0.13)		c c		c c	
	Bulgaria	97.3 (1.0)	97.5 (1.5)		3.68 (0.13)		4.25 (0.22)		-0.42	(0.22)
	Chile	96.7 (0.9)	c c		3.77 (0.13)		c c		c c	
	Colombia	c c	c c		c c		c c		c c	
	Croatia	91.5 (1.1)	95.1 (1.7)		2.62 (0.07)		2.77 (0.14)		-0.21	(0.18)
	Estonia	98.9 (0.5)	99.3 (0.4)		3.74 (0.06)		4.54 (0.10)		<b>-0.83</b>	(0.11)
	Hong Kong-China	71.7 (1.6)	82.8 (1.8)		3.81 (0.10)		4.90 (0.11)		<b>-1.20</b>	(0.16)
	Indonesia	c c	c c		c c		c c		c c	
	Israel	85.9 (2.4)	91.1 (3.0)		3.31 (0.12)		4.11 (0.15)		<b>-0.69</b>	(0.21)
	Jordan	98.0 (1.4)	c c		4.70 (0.15)		c c		c c	
	Kyrgyzstan	c c	c c		c c		c c		c c	
	Latvia	97.6 (0.8)	97.9 (1.5)		3.63 (0.09)		4.07 (0.21)		<b>-0.62</b>	(0.29)
	Liechtenstein	100.0 (0.0)	100.0 (0.0)		2.81 (0.17)		4.15 (0.27)		<b>-1.21</b>	(0.44)
	Lithuania	99.3 (0.4)	99.9 (0.2)		3.26 (0.07)		3.70 (0.10)		<b>-0.42</b>	(0.16)
	Macao-China	90.4 (1.0)	93.0 (1.9)		4.59 (0.07)		5.27 (0.14)		<b>-0.62</b>	(0.26)
	Montenegro	98.8 (1.0)	c c		4.48 (0.17)		c c		c c	
	Qatar	c c	c c		c c		c c		c c	
	Romania	97.9 (1.0)	c c		4.17 (0.17)		c c		c c	
	Russian Federation	97.6 (0.7)	99.3 (0.7)		4.60 (0.10)		5.28 (0.12)		<b>-0.49</b>	(0.21)
	Serbia	98.6 (0.8)	c c		4.43 (0.10)		c c		c c	
	Slovenia	96.1 (1.0)	98.4 (0.9)		3.43 (0.07)		4.40 (0.09)		<b>-0.88</b>	(0.15)
	Chinese Taipei	94.2 (1.2)	97.8 (0.8)		3.43 (0.07)		3.79 (0.06)		<b>-0.36</b>	(0.09)
	Thailand	100.0 (0.0)	c c		5.81 (0.13)		c c		c c	
	Tunisia	c c	c c		c c		c c		c c	
	Uruguay	92.7 (1.8)	c c		3.59 (0.13)		c c		c c	

Note: Values that are statistically significant are indicated in bold.

Source: OECD, PISA 2006 Database.

Please refer to the Reader's Guide for information on the abbreviations used in this table.


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Table A5.3. (continued)

## Regular science lessons in school and out-of-school lessons in science for strong performers and top performers

	Out-of-school lessons in science									
	Percentage of students taking lessons				Hours per week taking out-of-school lessons in science					
	Strong performers		Top performers		Strong performers		Top performers		Difference in hours between strong performers and top performers	
	%	S.E.	%	S.E.	Mean	S.E.	Mean	S.E.	Dif.	S.E.
OECD countries	Australia	21.9 (1.0)	17.8 (1.1)		0.34 (0.02)		0.26 (0.02)		<b>0.07</b> (0.03)	
	Austria	4.7 (0.8)	3.8 (1.2)		0.07 (0.02)		0.05 (0.02)		0.01 (0.03)	
	Belgium	14.4 (0.9)	9.1 (1.2)		0.21 (0.02)		0.14 (0.02)		<b>0.08</b> (0.03)	
	Canada	30.3 (1.2)	23.3 (1.6)		0.50 (0.03)		0.36 (0.03)		<b>0.14</b> (0.04)	
	Czech Republic	32.4 (1.8)	33.1 (2.3)		0.53 (0.04)		0.51 (0.05)		0.02 (0.06)	
	Denmark	53.8 (2.1)	48.9 (4.4)		0.78 (0.04)		0.72 (0.08)		0.06 (0.09)	
	Finland	20.5 (1.6)	13.7 (1.7)		0.27 (0.03)		0.19 (0.03)		0.08 (0.05)	
	France	32.6 (2.0)	21.7 (3.3)		0.51 (0.04)		0.34 (0.06)		<b>0.17</b> (0.08)	
	Germany	20.6 (1.6)	15.7 (1.7)		0.32 (0.03)		0.22 (0.03)		<b>0.11</b> (0.04)	
	Greece	77.3 (2.1)	75.2 (4.8)		2.41 (0.10)		2.52 (0.25)		-0.11 (0.26)	
	Hungary	49.8 (2.3)	52.6 (3.6)		0.91 (0.05)		1.00 (0.08)		-0.09 (0.09)	
	Iceland	14.5 (1.5)	9.2 (2.2)		0.20 (0.03)		0.13 (0.03)		0.08 (0.04)	
	Ireland	15.6 (1.3)	11.3 (2.2)		0.22 (0.02)		0.17 (0.04)		0.05 (0.05)	
	Italy	20.7 (1.4)	17.9 (2.8)		0.36 (0.03)		0.32 (0.06)		0.04 (0.08)	
	Japan	15.4 (1.2)	12.8 (1.5)		0.20 (0.02)		0.15 (0.02)		0.05 (0.03)	
	Korea	59.3 (2.6)	59.1 (4.6)		1.29 (0.07)		1.39 (0.18)		-0.10 (0.16)	
	Luxembourg	18.0 (1.6)	14.0 (2.5)		0.26 (0.03)		0.22 (0.05)		0.04 (0.06)	
	Mexico	31.3 (3.2)	c c		0.61 (0.09)		c c		c c	
	Netherlands	29.4 (1.6)	19.3 (2.3)		0.46 (0.03)		0.25 (0.03)		<b>0.20</b> (0.05)	
	New Zealand	21.8 (1.6)	19.3 (1.7)		0.34 (0.03)		0.29 (0.03)		0.05 (0.04)	
	Norway	52.8 (2.2)	47.3 (3.6)		0.71 (0.04)		0.67 (0.08)		0.04 (0.08)	
	Poland	37.7 (1.9)	40.2 (2.9)		0.55 (0.04)		0.66 (0.07)		-0.11 (0.09)	
	Portugal	26.7 (2.2)	21.3 (3.9)		0.57 (0.05)		0.47 (0.11)		0.10 (0.12)	
	Slovak Republic	50.1 (2.7)	50.4 (2.8)		0.89 (0.06)		0.92 (0.09)		-0.03 (0.10)	
	Spain	21.5 (1.5)	13.9 (2.3)		0.47 (0.05)		0.28 (0.06)		<b>0.19</b> (0.07)	
	Sweden	25.5 (1.9)	16.7 (2.8)		0.33 (0.03)		0.20 (0.04)		<b>0.13</b> (0.04)	
	Switzerland	21.0 (1.4)	16.4 (1.8)		0.32 (0.02)		0.28 (0.05)		0.04 (0.06)	
	Turkey	75.4 (5.6)	c c		2.90 (0.18)		c c		c c	
	United Kingdom	29.8 (1.5)	24.2 (1.9)		0.42 (0.03)		0.33 (0.03)		0.08 (0.04)	
	United States	39.1 (2.2)	29.8 (2.6)		0.66 (0.06)		0.47 (0.06)		0.18 (0.10)	
	<i>OECD average</i>	30.6 (0.3)	26.4 (0.5)		0.54 (0.01)		0.48 (0.01)		<b>0.06</b> (0.02)	
Partner countries and economies	Argentina	14.5 (4.4)	c c		0.24 (0.09)		c c		c c	
	Azerbaijan	c c	c c		c c		c c		c c	
	Brazil	42.4 (2.3)	43.2 (4.9)		0.83 (0.07)		0.69 (0.12)		0.13 (0.13)	
	Bulgaria	57.1 (4.9)	c c		1.09 (0.15)		c c		c c	
	Chile	44.1 (3.4)	c c		0.77 (0.07)		c c		c c	
	Colombia	c c	c c		c c		c c		c c	
	Croatia	36.6 (1.7)	27.8 (2.8)		0.55 (0.04)		0.43 (0.05)		0.13 (0.08)	
	Estonia	43.4 (1.7)	49.4 (2.3)		1.06 (0.06)		1.17 (0.09)		-0.11 (0.11)	
	Hong Kong-China	19.7 (1.3)	14.2 (2.2)		0.33 (0.03)		0.19 (0.04)		<b>0.14</b> (0.05)	
	Indonesia	c c	c c		c c		c c		c c	
	Israel	46.4 (2.7)	41.7 (4.0)		0.93 (0.08)		0.73 (0.11)		0.20 (0.14)	
	Jordan	59.3 (4.6)	c c		1.43 (0.16)		c c		c c	
	Kyrgyzstan	c c	c c		c c		c c		c c	
	Latvia	20.7 (5.4)	12.0 (4.5)		0.35 (0.11)		0.19 (0.10)		0.17 (0.15)	
	Liechtenstein	26.1 (2.5)	23.4 (4.9)		0.36 (0.04)		0.29 (0.06)		0.07 (0.07)	
	Lithuania	33.1 (2.3)	35.9 (5.3)		0.54 (0.05)		0.63 (0.14)		-0.09 (0.16)	
	Macao-China	46.3 (2.2)	51.1 (3.6)		0.97 (0.08)		1.14 (0.19)		-0.17 (0.24)	
	Montenegro	39.8 (5.1)	c c		0.73 (0.15)		c c		c c	
	Qatar	c c	c c		c c		c c		c c	
	Romania	54.8 (6.7)	c c		1.02 (0.13)		c c		c c	
	Russian Federation	54.9 (2.0)	61.2 (4.2)		1.08 (0.06)		1.33 (0.14)		-0.25 (0.15)	
	Serbia	37.3 (3.3)	c c		0.72 (0.11)		c c		c c	
	Slovenia	40.1 (2.0)	36.3 (3.0)		0.64 (0.04)		0.52 (0.05)		0.12 (0.08)	
	Chinese Taipei	38.4 (1.5)	37.4 (1.7)		0.95 (0.04)		1.01 (0.05)		-0.06 (0.07)	
	Thailand	68.2 (4.8)	c c		2.33 (0.25)		c c		c c	
	Tunisia	c c	c c		c c		c c		c c	
	Uruguay	23.2 (2.8)	c c		0.43 (0.08)		c c		c c	

Note: Values that are statistically significant are indicated in bold.

Source: OECD, PISA 2006 Database.

Please refer to the Reader's Guide for information on the abbreviations used in this table.


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Table A5.4a.

### Indices of instrumental motivation and future-oriented motivation to learn science for strong performers and top performers

	Index of instrumental motivation to learn science						Index of future-oriented motivation to learn science					
	Strong performers		Top performers		Difference in the mean index between strong performers and top performers		Strong performers		Top performers		Difference in the mean index between strong performers and top performers	
	Mean index	S.E.	Mean index	S.E.	Dif.	S.E.	Mean index	S.E.	Mean index	S.E.	Dif.	S.E.
OECD countries	Australia	0.31 (0.03)	0.65 (0.03)		<b>-0.33</b>	(0.05)	0.13 (0.02)		0.54 (0.03)		<b>-0.41</b>	(0.03)
	Austria	-0.33 (0.06)	-0.13 (0.07)		<b>-0.20</b>	(0.09)	-0.15 (0.05)		0.18 (0.07)		<b>-0.33</b>	(0.09)
	Belgium	-0.10 (0.03)	0.18 (0.04)		<b>-0.29</b>	(0.05)	0.19 (0.03)		0.62 (0.04)		<b>-0.43</b>	(0.05)
	Canada	0.46 (0.03)	0.79 (0.04)		<b>-0.33</b>	(0.04)	0.36 (0.02)		0.79 (0.03)		<b>-0.44</b>	(0.04)
	Czech Republic	-0.21 (0.04)	-0.02 (0.05)		<b>-0.19</b>	(0.05)	-0.09 (0.04)		0.16 (0.05)		<b>-0.25</b>	(0.05)
	Denmark	0.25 (0.04)	0.50 (0.08)		<b>-0.24</b>	(0.10)	0.10 (0.05)		0.51 (0.09)		<b>-0.40</b>	(0.12)
	Finland	-0.15 (0.03)	0.24 (0.03)		<b>-0.39</b>	(0.04)	-0.11 (0.03)		0.29 (0.04)		<b>-0.39</b>	(0.05)
	France	0.22 (0.03)	0.68 (0.05)		<b>-0.46</b>	(0.07)	0.28 (0.04)		0.83 (0.06)		<b>-0.54</b>	(0.08)
	Germany	-0.01 (0.04)	0.27 (0.05)		<b>-0.27</b>	(0.06)	-0.01 (0.04)		0.38 (0.06)		<b>-0.38</b>	(0.09)
	Greece	0.28 (0.06)	0.50 (0.11)		-0.22	(0.14)	0.43 (0.05)		0.81 (0.12)		<b>-0.38</b>	(0.13)
	Hungary	-0.07 (0.05)	0.23 (0.08)		<b>-0.30</b>	(0.09)	0.17 (0.04)		0.56 (0.09)		<b>-0.39</b>	(0.09)
	Iceland	0.49 (0.05)	0.86 (0.07)		<b>-0.37</b>	(0.09)	0.39 (0.04)		0.81 (0.08)		<b>-0.42</b>	(0.09)
	Ireland	0.42 (0.04)	0.71 (0.05)		<b>-0.29</b>	(0.07)	0.24 (0.04)		0.64 (0.06)		<b>-0.39</b>	(0.08)
	Italy	0.30 (0.03)	0.48 (0.05)		<b>-0.17</b>	(0.06)	0.39 (0.03)		0.69 (0.06)		<b>-0.30</b>	(0.06)
	Japan	-0.27 (0.03)	0.16 (0.04)		<b>-0.42</b>	(0.05)	-0.10 (0.03)		0.32 (0.04)		<b>-0.42</b>	(0.05)
	Korea	-0.06 (0.04)	0.23 (0.10)		<b>-0.29</b>	(0.09)	-0.05 (0.04)		0.33 (0.10)		<b>-0.38</b>	(0.08)
	Luxembourg	-0.02 (0.04)	0.27 (0.08)		<b>-0.28</b>	(0.09)	0.15 (0.04)		0.55 (0.08)		<b>-0.39</b>	(0.09)
	Mexico	0.60 (0.06)	c	c	c	c	0.66 (0.06)	c	c	c	c	c
	Netherlands	-0.18 (0.04)	0.18 (0.05)		<b>-0.36</b>	(0.06)	-0.15 (0.03)		0.36 (0.05)		<b>-0.52</b>	(0.07)
	New Zealand	0.31 (0.04)	0.64 (0.04)		<b>-0.33</b>	(0.07)	0.14 (0.04)		0.56 (0.04)		<b>-0.41</b>	(0.05)
	Norway	0.09 (0.05)	0.44 (0.07)		<b>-0.35</b>	(0.10)	0.05 (0.04)		0.43 (0.07)		<b>-0.38</b>	(0.08)
	Poland	0.18 (0.04)	0.36 (0.05)		<b>-0.18</b>	(0.07)	0.21 (0.03)		0.44 (0.06)		<b>-0.22</b>	(0.07)
	Portugal	1.02 (0.04)	1.19 (0.09)		-0.18	(0.11)	0.73 (0.05)		1.16 (0.10)		<b>-0.43</b>	(0.11)
	Slovak Republic	-0.12 (0.04)	0.03 (0.06)		<b>-0.16</b>	(0.07)	0.18 (0.05)		0.34 (0.08)		<b>-0.16</b>	(0.11)
	Spain	0.44 (0.04)	0.79 (0.05)		<b>-0.35</b>	(0.06)	0.50 (0.03)		0.95 (0.05)		<b>-0.45</b>	(0.05)
	Sweden	0.17 (0.04)	0.62 (0.06)		<b>-0.45</b>	(0.07)	0.03 (0.03)		0.51 (0.05)		<b>-0.48</b>	(0.06)
	Switzerland	-0.12 (0.03)	0.26 (0.04)		<b>-0.38</b>	(0.05)	-0.06 (0.04)		0.46 (0.05)		<b>-0.52</b>	(0.07)
	Turkey	0.78 (0.08)	c	c	c	c	1.14 (0.09)	c	c	c	c	c
	United Kingdom	0.30 (0.03)	0.64 (0.04)		<b>-0.35</b>	(0.05)	0.04 (0.04)		0.49 (0.04)		<b>-0.45</b>	(0.05)
	United States	0.44 (0.03)	0.65 (0.06)		<b>-0.22</b>	(0.07)	0.37 (0.04)		0.68 (0.06)		<b>-0.31</b>	(0.07)
	<i>OECD average</i>	0.14 (0.01)	0.44 (0.01)		<b>-0.30</b>	(0.01)	0.16 (0.01)		0.55 (0.01)		<b>-0.39</b>	(0.01)
Partner countries and economies	Argentina	0.44 (0.12)	c	c	c	c	0.43 (0.11)	c	c	c	c	c
	Azerbaijan	c	c	c	c	c	c	c	c	c	c	c
	Brazil	0.50 (0.10)	c	c	c	c	0.47 (0.10)	c	c	c	c	c
	Bulgaria	0.32 (0.05)	0.40 (0.10)		-0.08	(0.12)	0.36 (0.06)		0.47 (0.12)		-0.11	(0.13)
	Chile	0.72 (0.08)	c	c	c	c	0.56 (0.08)	c	c	c	c	c
	Colombia	c	c	c	c	c	c	c	c	c	c	c
	Croatia	0.08 (0.04)	0.19 (0.07)		-0.12	(0.08)	0.31 (0.04)		0.52 (0.08)		<b>-0.21</b>	(0.08)
	Estonia	0.04 (0.03)	0.19 (0.04)		<b>-0.14</b>	(0.05)	-0.07 (0.03)		0.17 (0.04)		<b>-0.23</b>	(0.05)
	Hong Kong-China	0.22 (0.04)	0.48 (0.04)		<b>-0.26</b>	(0.05)	0.38 (0.04)		0.70 (0.03)		<b>-0.32</b>	(0.05)
	Indonesia	c	c	c	c	c	c	c	c	c	c	c
	Israel	-0.68 (0.06)	-0.87 (0.07)		<b>0.19</b>	(0.08)	0.60 (0.06)		0.86 (0.07)		<b>-0.25</b>	(0.09)
	Jordan	1.12 (0.05)	c	c	c	c	1.46 (0.06)	c	c	c	c	c
	Kyrgyzstan	c	c	c	c	c	c	c	c	c	c	c
	Latvia	0.05 (0.04)	0.18 (0.08)		-0.13	(0.08)	0.00 (0.05)		0.23 (0.08)		<b>-0.23</b>	(0.09)
	Liechtenstein	-0.35 (0.13)	0.14 (0.16)		<b>-0.48</b>	(0.22)	-0.26 (0.11)		0.22 (0.20)		<b>-0.47</b>	(0.26)
	Lithuania	0.42 (0.04)	0.57 (0.07)		-0.15	(0.08)	0.24 (0.04)		0.46 (0.07)		<b>-0.22</b>	(0.07)
	Macao-China	0.54 (0.04)	0.76 (0.08)		<b>-0.22</b>	(0.09)	0.26 (0.03)		0.51 (0.07)		<b>-0.25</b>	(0.08)
	Montenegro	0.29 (0.11)	c	c	c	c	0.30 (0.13)	c	c	c	c	c
	Qatar	c	c	c	c	c	c	c	c	c	c	c
	Romania	0.44 (0.09)	c	c	c	c	0.57 (0.07)	c	c	c	c	c
	Russian Federation	0.11 (0.04)	0.18 (0.06)		-0.07	(0.07)	0.26 (0.04)		0.40 (0.07)		-0.14	(0.08)
	Serbia	0.14 (0.08)	c	c	c	c	0.45 (0.07)	c	c	c	c	c
	Slovenia	0.09 (0.04)	0.28 (0.06)		<b>-0.19</b>	(0.08)	0.10 (0.04)		0.46 (0.06)		<b>-0.35</b>	(0.08)
	Chinese Taipei	0.35 (0.02)	0.56 (0.03)		<b>-0.21</b>	(0.04)	0.25 (0.02)		0.50 (0.04)		<b>-0.25</b>	(0.04)
	Thailand	1.07 (0.07)	c	c	c	c	1.09 (0.09)	c	c	c	c	c
	Tunisia	c	c	c	c	c	c	c	c	c	c	c
	Uruguay	0.26 (0.06)	c	c	c	c	0.29 (0.07)	c	c	c	c	c

Note: Values that are statistically significant are indicated in bold.

Source: OECD, PISA 2006 Database.

Please refer to the Reader's Guide for information on the abbreviations used in this table.


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Table A5.5.

## Importance of doing well in science, mathematics and reading for strong performers and top performers

	Students reporting doing well in science is very important				Students reporting doing well in mathematics is very important				Students reporting doing well in reading is very important			
	Strong performers		Top performers		Strong performers		Top performers		Strong performers		Top performers	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD countries	Australia	38.7 (1.3)	52.2 (1.3)	66.2 (1.3)	68.4 (1.4)	66.3 (1.1)	62.6 (1.6)					
	Austria	22.8 (1.8)	33.9 (2.8)	54.4 (1.9)	55.2 (3.0)	49.8 (2.2)	46.3 (3.3)					
	Belgium	22.7 (1.2)	31.9 (2.0)	51.5 (1.4)	59.8 (2.1)	30.0 (1.5)	23.0 (2.0)					
	Canada	46.4 (1.2)	60.3 (1.6)	70.1 (1.3)	75.3 (1.4)	52.4 (1.4)	48.2 (1.6)					
	Czech Republic	16.1 (1.7)	22.9 (2.1)	51.7 (2.1)	49.6 (2.2)	47.7 (1.9)	37.7 (2.2)					
	Denmark	29.6 (2.1)	39.1 (3.7)	67.8 (2.4)	72.2 (3.9)	67.0 (1.6)	60.2 (2.9)					
	Finland	11.8 (1.0)	25.0 (1.6)	34.0 (1.4)	50.6 (1.6)	28.2 (1.5)	30.6 (1.8)					
	France	37.9 (1.8)	60.6 (3.1)	55.1 (2.3)	62.7 (3.7)	32.8 (1.8)	25.6 (2.7)					
	Germany	28.6 (1.6)	36.9 (2.4)	62.3 (1.6)	63.3 (2.4)	49.9 (1.7)	39.6 (2.0)					
	Greece	49.9 (2.2)	64.5 (4.0)	64.4 (2.0)	71.4 (4.3)	45.1 (2.3)	39.0 (5.1)					
	Hungary	18.3 (1.7)	33.4 (3.0)	35.7 (2.3)	45.9 (3.5)	39.2 (1.8)	33.8 (3.3)					
	Iceland	51.1 (2.1)	63.4 (3.0)	83.6 (1.8)	88.2 (2.8)	57.2 (2.1)	53.8 (3.8)					
	Ireland	39.8 (2.0)	51.4 (3.0)	71.3 (1.8)	75.2 (2.6)	59.3 (2.4)	51.0 (3.5)					
	Italy	34.1 (2.0)	44.3 (3.0)	56.4 (2.2)	58.9 (3.3)	49.9 (1.6)	42.2 (3.4)					
	Japan	29.2 (1.4)	39.1 (1.6)	58.5 (1.8)	67.2 (1.9)	50.2 (1.6)	47.7 (2.3)					
	Korea	30.3 (1.8)	39.1 (3.9)	68.5 (1.6)	74.6 (2.5)	59.7 (1.9)	62.0 (4.8)					
	Luxembourg	31.4 (1.9)	43.3 (3.5)	49.9 (2.1)	58.9 (3.8)	42.8 (2.0)	44.0 (4.4)					
	Mexico	48.2 (3.6)	c c	82.7 (2.2)	c c	58.2 (3.7)	c c					
	Netherlands	25.3 (1.9)	35.9 (2.8)	40.2 (1.7)	42.4 (2.4)	30.3 (2.0)	17.0 (1.8)					
	New Zealand	36.8 (1.9)	52.0 (2.3)	67.0 (1.5)	70.5 (1.9)	59.2 (2.0)	57.0 (2.0)					
	Norway	37.0 (2.9)	47.1 (4.8)	67.0 (2.4)	74.5 (4.2)	44.8 (2.3)	38.6 (3.5)					
	Poland	31.1 (1.6)	41.2 (3.1)	48.4 (2.0)	52.4 (3.2)	47.9 (1.9)	39.4 (3.1)					
	Portugal	66.6 (2.5)	78.8 (4.5)	68.9 (2.2)	76.6 (4.1)	25.9 (2.0)	16.4 (5.7)					
	Slovak Republic	20.0 (1.7)	31.9 (2.7)	55.2 (2.4)	58.1 (3.2)	53.9 (2.6)	40.5 (4.0)					
	Spain	54.0 (2.3)	69.8 (2.5)	67.0 (1.4)	74.5 (2.5)	42.9 (1.2)	39.5 (3.1)					
	Sweden	34.0 (1.8)	53.1 (3.2)	58.5 (2.0)	66.6 (3.4)	58.7 (2.5)	54.5 (3.2)					
	Switzerland	20.4 (1.7)	35.0 (2.4)	55.0 (1.7)	50.6 (3.1)	44.9 (1.5)	31.7 (2.1)					
	Turkey	61.0 (3.6)	c c	78.6 (3.3)	c c	32.3 (3.6)	c c					
	United Kingdom	43.6 (1.7)	57.5 (2.0)	66.3 (1.8)	67.2 (1.8)	66.3 (1.2)	55.4 (1.9)					
	United States	50.3 (1.7)	60.6 (2.7)	71.0 (2.1)	75.6 (2.5)	59.3 (2.4)	55.1 (3.0)					
	<i>OECD average</i>	<i>34.2 (0.3)</i>	<i>46.6 (0.6)</i>	<i>59.5 (0.4)</i>	<i>64.5 (0.6)</i>	<i>48.6 (0.4)</i>	<i>42.6 (0.6)</i>					
Partner countries and economies	Argentina	45.4 (4.9)	c c	59.3 (4.8)	c c	38.8 (4.1)	c c					
	Azerbaijan	c c	c c	c c	c c	c c	c c					
	Brazil	45.7 (4.1)	c c	63.5 (4.5)	c c	58.7 (4.3)	c c					
	Bulgaria	35.5 (2.4)	39.5 (5.8)	71.8 (2.6)	73.7 (3.3)	68.1 (3.2)	55.0 (8.2)					
	Chile	57.2 (3.9)	c c	81.7 (2.6)	c c	60.7 (3.3)	c c					
	Colombia	c c	c c	c c	c c	c c	c c					
	Croatia	22.0 (1.7)	29.2 (3.4)	40.7 (2.4)	40.8 (3.6)	41.2 (2.2)	34.4 (3.5)					
	Estonia	26.8 (1.7)	34.5 (2.5)	61.5 (1.9)	68.4 (2.8)	56.1 (1.9)	51.4 (3.0)					
	Hong Kong-China	40.3 (1.7)	56.9 (2.1)	59.7 (1.9)	67.2 (1.7)	55.4 (1.8)	48.7 (1.8)					
	Indonesia	c c	c c	c c	c c	c c	c c					
	Israel	45.3 (2.8)	52.0 (3.9)	75.6 (2.4)	74.2 (3.1)	40.0 (2.6)	33.2 (3.6)					
	Jordan	79.1 (2.6)	c c	80.3 (2.7)	c c	41.8 (4.5)	c c					
	Kyrgyzstan	c c	c c	c c	c c	c c	c c					
	Latvia	18.3 (1.7)	29.9 (4.1)	64.4 (2.6)	70.1 (4.7)	46.6 (2.4)	42.2 (3.6)					
	Liechtenstein	23.3 (6.4)	20.0 (6.0)	48.2 (5.9)	43.2 (7.4)	36.0 (6.0)	36.2 (8.2)					
	Lithuania	39.7 (2.6)	50.4 (4.6)	72.6 (1.9)	75.4 (4.9)	64.0 (2.3)	58.8 (3.9)					
	Macao-China	36.5 (2.3)	47.8 (5.2)	41.1 (2.1)	41.1 (5.7)	58.3 (2.4)	55.7 (4.8)					
	Montenegro	36.8 (7.3)	c c	41.9 (6.6)	c c	53.4 (6.5)	c c					
	Qatar	c c	c c	c c	c c	c c	c c					
	Romania	35.3 (5.3)	c c	59.8 (5.7)	c c	57.1 (4.7)	c c					
	Russian Federation	23.7 (1.9)	29.1 (4.2)	58.9 (2.4)	63.2 (3.9)	53.2 (2.3)	47.1 (3.9)					
	Serbia	30.0 (3.9)	c c	44.3 (3.4)	c c	37.8 (3.4)	c c					
	Slovenia	22.5 (1.6)	34.3 (2.8)	46.5 (2.0)	52.3 (2.8)	44.2 (1.7)	41.0 (2.6)					
	Chinese Taipei	32.8 (1.3)	45.5 (2.0)	52.1 (1.3)	60.8 (1.6)	45.7 (1.2)	45.3 (1.6)					
	Thailand	85.4 (3.4)	c c	82.8 (3.2)	c c	32.3 (5.9)	c c					
	Tunisia	c c	c c	c c	c c	c c	c c					
	Uruguay	44.0 (3.1)	c c	68.7 (3.8)	c c	38.4 (4.1)	c c					

Source: OECD, PISA 2006 Database.

Please refer to the Reader's Guide for information on the abbreviations used in this table.


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Table A5.5. (continued)

## Importance of doing well in science, mathematics and reading for strong performers and top performers

	Students reporting doing well in science is very important or important				Students reporting doing well in mathematics is very important or important				Students reporting doing well in reading is very important or important			
	Strong performers		Top performers		Strong performers		Top performers		Strong performers		Top performers	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD countries	Australia	82.2 (1.0)	91.3 (0.9)	95.6 (0.5)	96.3 (0.6)	95.1 (0.6)	94.8 (0.7)					
	Austria	70.0 (2.2)	76.5 (2.7)	91.5 (1.1)	92.2 (1.2)	87.0 (1.4)	83.2 (2.4)					
	Belgium	72.2 (1.3)	84.3 (1.4)	93.3 (1.0)	93.3 (1.2)	78.1 (1.2)	68.2 (2.2)					
	Canada	88.8 (0.9)	94.1 (0.8)	96.0 (0.6)	97.0 (0.7)	90.3 (0.7)	86.8 (1.2)					
	Czech Republic	60.1 (2.3)	71.3 (2.4)	90.3 (1.2)	89.1 (1.3)	89.9 (1.0)	83.0 (1.7)					
	Denmark	78.3 (1.7)	86.5 (2.4)	97.6 (0.7)	97.6 (1.3)	95.2 (0.9)	93.4 (2.4)					
	Finland	67.9 (1.5)	81.7 (1.7)	88.7 (1.0)	93.3 (0.9)	81.2 (1.3)	80.1 (1.6)					
	France	79.3 (1.6)	89.5 (1.5)	91.0 (1.0)	92.5 (1.4)	76.4 (1.5)	69.6 (2.8)					
	Germany	80.2 (1.6)	88.7 (1.8)	94.4 (0.7)	95.2 (1.2)	90.7 (1.1)	84.8 (1.6)					
	Greece	85.6 (1.6)	92.0 (3.3)	89.7 (1.3)	95.0 (1.9)	78.6 (1.9)	75.5 (5.1)					
	Hungary	68.5 (2.2)	78.8 (3.3)	85.7 (1.4)	87.1 (2.3)	81.9 (1.8)	76.8 (3.4)					
	Iceland	83.8 (1.7)	93.3 (2.2)	98.8 (0.5)	99.0 (0.7)	89.0 (1.4)	90.8 (1.9)					
	Ireland	86.2 (1.4)	92.1 (1.4)	96.0 (0.8)	95.3 (1.1)	92.0 (1.1)	86.3 (1.9)					
	Italy	87.7 (1.0)	93.0 (1.3)	92.3 (1.1)	95.7 (1.1)	90.9 (0.9)	87.9 (1.5)					
	Japan	76.3 (1.4)	84.7 (1.4)	91.6 (0.9)	94.2 (1.0)	88.5 (1.0)	86.2 (1.4)					
	Korea	82.2 (1.5)	85.9 (2.2)	91.4 (0.9)	94.4 (1.3)	93.4 (1.0)	91.8 (2.1)					
	Luxembourg	73.2 (1.7)	84.0 (2.3)	84.8 (1.4)	89.3 (2.5)	82.1 (1.3)	81.1 (2.6)					
	Mexico	93.4 (1.3)	c	c	98.8 (0.6)	c	c	93.5 (1.7)	c	c		
	Netherlands	76.4 (1.8)	85.1 (2.3)	92.5 (1.0)	94.6 (1.3)	83.4 (1.7)	70.7 (2.3)					
	New Zealand	82.8 (1.9)	90.5 (1.1)	96.2 (0.9)	97.0 (0.8)	93.1 (0.8)	91.8 (0.9)					
	Norway	87.9 (1.4)	94.2 (1.6)	95.4 (0.8)	98.0 (1.1)	84.7 (2.1)	84.7 (3.3)					
	Poland	81.5 (1.6)	84.0 (2.1)	90.6 (1.1)	90.2 (2.1)	87.7 (1.2)	82.7 (2.5)					
	Portugal	94.8 (1.2)	97.0 (1.7)	97.0 (1.0)	98.3 (1.5)	80.4 (2.2)	73.6 (4.5)					
	Slovak Republic	72.3 (2.2)	80.9 (2.9)	91.0 (1.1)	91.4 (1.9)	90.8 (1.3)	80.6 (2.7)					
	Spain	87.4 (1.3)	95.1 (1.2)	94.2 (0.9)	95.1 (1.7)	81.1 (1.2)	79.0 (2.2)					
	Sweden	80.5 (1.6)	91.7 (1.6)	95.0 (0.9)	96.9 (1.1)	93.2 (1.2)	91.9 (1.8)					
	Switzerland	72.6 (1.5)	86.8 (1.6)	91.0 (0.9)	89.1 (1.9)	86.9 (1.2)	81.1 (1.9)					
	Turkey	92.1 (1.7)	c	c	96.4 (1.7)	c	c	81.8 (2.6)	c	c		
	United Kingdom	89.5 (1.2)	93.7 (1.1)	96.3 (0.6)	96.8 (0.6)	95.1 (0.9)	90.9 (1.3)					
	United States	88.7 (1.2)	93.6 (1.5)	95.3 (0.9)	97.0 (0.8)	89.7 (1.4)	87.3 (1.8)					
	<i>OECD average</i>	<i>79.9 (0.3)</i>	<i>87.9 (0.4)</i>	<i>93.0 (0.2)</i>	<i>94.3 (0.3)</i>	<i>87.4 (0.2)</i>	<i>83.4 (0.5)</i>					
Partner countries and economies	Argentina	90.1 (3.5)	c	c	92.0 (2.7)	c	c	83.5 (3.4)	c	c		
	Azerbaijan	c	c	c	c	c	c	c	c	c		
	Brazil	93.7 (1.9)	c	c	93.2 (2.3)	c	c	91.5 (2.6)	c	c		
	Bulgaria	88.3 (2.2)	90.7 (2.8)	93.6 (1.6)	93.0 (2.5)	95.4 (1.2)	86.4 (5.2)					
	Chile	93.4 (1.2)	c	c	98.1 (0.7)	c	c	89.2 (1.7)	c	c		
	Colombia	c	c	c	c	c	c	c	c	c		
	Croatia	69.0 (2.1)	78.2 (3.4)	79.8 (2.1)	85.2 (3.0)	81.2 (1.5)	74.3 (2.8)					
	Estonia	85.1 (1.4)	89.6 (1.4)	93.1 (1.0)	95.2 (1.1)	92.9 (0.9)	91.0 (1.4)					
	Hong Kong-China	74.8 (1.5)	87.5 (1.4)	95.1 (0.8)	97.2 (0.7)	91.1 (1.0)	89.8 (1.2)					
	Indonesia	c	c	c	c	c	c	c	c	c		
	Israel	79.8 (2.0)	86.6 (3.0)	95.8 (1.1)	93.2 (2.4)	81.8 (1.9)	72.2 (3.2)					
	Jordan	98.7 (0.7)	c	c	97.8 (1.1)	c	c	85.5 (2.6)	c	c		
	Kyrgyzstan	c	c	c	c	c	c	c	c	c		
	Latvia	78.3 (1.9)	83.5 (4.0)	95.0 (1.0)	95.4 (1.6)	89.3 (1.2)	80.1 (3.3)					
	Liechtenstein	73.0 (5.9)	85.5 (6.8)	89.7 (3.8)	91.9 (4.8)	82.9 (4.8)	86.1 (5.7)					
	Lithuania	88.5 (1.3)	90.6 (2.2)	97.6 (0.6)	96.7 (1.6)	92.5 (1.1)	90.9 (2.1)					
	Macao-China	86.8 (2.0)	93.7 (3.5)	87.7 (2.2)	85.2 (5.8)	91.6 (1.3)	93.0 (2.5)					
	Montenegro	80.2 (4.9)	c	c	79.4 (4.6)	c	c	85.5 (4.6)	c	c		
	Qatar	c	c	c	c	c	c	c	c	c		
	Romania	91.2 (2.4)	c	c	91.7 (3.2)	c	c	89.1 (3.1)	c	c		
	Russian Federation	76.3 (2.0)	81.5 (3.5)	92.3 (1.6)	93.8 (1.8)	92.3 (1.2)	90.2 (2.3)					
	Serbia	79.8 (2.4)	c	c	82.9 (2.5)	c	c	77.7 (2.8)	c	c		
	Slovenia	75.2 (1.6)	81.9 (2.0)	90.1 (1.1)	93.5 (1.2)	86.1 (1.5)	83.7 (1.7)					
	Chinese Taipei	82.8 (0.9)	89.4 (0.9)	88.1 (0.8)	91.6 (0.9)	86.5 (0.8)	85.2 (1.3)					
	Thailand	99.0 (0.8)	c	c	99.4 (0.7)	c	c	83.3 (3.5)	c	c		
	Tunisia	c	c	c	c	c	c	c	c	c		
	Uruguay	89.2 (2.8)	c	c	96.2 (1.2)	c	c	79.7 (3.0)	c	c		

Source: OECD, PISA 2006 Database.

Please refer to the Reader's Guide for information on the abbreviations used in this table.


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Table A5.6a.

## Indices of school preparation of science-related careers and student information on science-related careers for strong performers and top performers

	Index of school preparation of science-related careers						Index of student information on science-related careers					
	Strong performers		Top performers		Difference in the mean index between strong performers and top performers		Strong performers		Top performers		Difference in the mean index between strong performers and top performers	
	Mean index	S.E.	Mean index	S.E.	Dif.	S.E.	Mean index	S.E.	Mean index	S.E.	Dif.	S.E.
OECD countries	Australia	0.41 (0.03)	0.74 (0.03)		<b>-0.33</b> (0.04)		0.29 (0.02)		0.48 (0.03)		<b>-0.18</b> (0.04)	
	Austria	-0.08 (0.06)	0.07 (0.08)		<b>-0.15</b> (0.07)		-0.05 (0.03)		-0.05 (0.05)		0.00 (0.06)	
	Belgium	0.03 (0.03)	0.26 (0.04)		<b>-0.23</b> (0.05)		-0.25 (0.02)		-0.21 (0.03)		-0.04 (0.04)	
	Canada	0.45 (0.03)	0.74 (0.03)		<b>-0.29</b> (0.04)		0.32 (0.02)		0.44 (0.04)		<b>-0.13</b> (0.05)	
	Czech Republic	-0.17 (0.04)	0.09 (0.05)		<b>-0.26</b> (0.06)		-0.11 (0.05)		-0.03 (0.05)		-0.07 (0.08)	
	Denmark	0.15 (0.05)	0.36 (0.07)		<b>-0.21</b> (0.09)		0.03 (0.04)		0.13 (0.08)		-0.10 (0.09)	
	Finland	0.19 (0.03)	0.35 (0.04)		<b>-0.16</b> (0.06)		0.13 (0.03)		0.21 (0.03)		-0.09 (0.06)	
	France	0.44 (0.04)	0.71 (0.07)		<b>-0.27</b> (0.07)		0.15 (0.04)		0.23 (0.06)		-0.08 (0.08)	
	Germany	0.20 (0.04)	0.31 (0.06)		-0.11 (0.06)		0.06 (0.03)		0.14 (0.05)		-0.08 (0.07)	
	Greece	-0.19 (0.04)	-0.24 (0.12)		0.06 (0.14)		0.43 (0.05)		0.45 (0.10)		-0.02 (0.11)	
	Hungary	0.03 (0.05)	0.26 (0.09)		<b>-0.23</b> (0.10)		-0.05 (0.03)		0.04 (0.06)		-0.09 (0.07)	
	Iceland	0.33 (0.04)	0.52 (0.07)		<b>-0.18</b> (0.09)		0.15 (0.04)		0.32 (0.06)		<b>-0.17</b> (0.07)	
	Ireland	0.40 (0.04)	0.57 (0.05)		<b>-0.17</b> (0.07)		0.08 (0.04)		0.22 (0.07)		-0.13 (0.09)	
	Italy	-0.05 (0.04)	0.15 (0.07)		<b>-0.20</b> (0.06)		0.05 (0.02)		0.06 (0.05)		-0.01 (0.06)	
	Japan	-0.47 (0.04)	-0.21 (0.06)		<b>-0.27</b> (0.08)		-0.37 (0.03)		-0.34 (0.03)		-0.02 (0.04)	
	Korea	-0.28 (0.03)	-0.21 (0.09)		-0.07 (0.09)		-0.27 (0.03)		-0.10 (0.06)		<b>-0.17</b> (0.06)	
	Luxembourg	-0.10 (0.05)	-0.02 (0.08)		-0.07 (0.09)		-0.05 (0.03)		-0.05 (0.07)		0.00 (0.08)	
	Mexico	0.61 (0.08)	c	c	c	c	-0.14 (0.08)		c	c	c	c
	Netherlands	-0.15 (0.02)	0.16 (0.04)		<b>-0.31</b> (0.04)		-0.32 (0.03)		-0.03 (0.04)		<b>-0.29</b> (0.05)	
	New Zealand	0.35 (0.03)	0.68 (0.03)		<b>-0.34</b> (0.05)		0.17 (0.04)		0.32 (0.04)		<b>-0.15</b> (0.05)	
	Norway	-0.15 (0.04)	0.00 (0.06)		<b>-0.15</b> (0.08)		-0.14 (0.04)		0.02 (0.06)		<b>-0.16</b> (0.08)	
	Poland	-0.07 (0.03)	-0.01 (0.06)		-0.06 (0.06)		0.29 (0.04)		0.39 (0.07)		-0.10 (0.09)	
	Portugal	0.41 (0.05)	0.63 (0.10)		-0.22 (0.12)		0.50 (0.04)		0.48 (0.09)		0.02 (0.10)	
	Slovak Republic	-0.14 (0.05)	0.04 (0.09)		<b>-0.18</b> (0.09)		-0.07 (0.05)		-0.01 (0.06)		-0.06 (0.08)	
	Spain	0.25 (0.03)	0.40 (0.06)		<b>-0.14</b> (0.07)		0.20 (0.03)		0.24 (0.05)		-0.04 (0.06)	
	Sweden	0.04 (0.05)	0.26 (0.08)		<b>-0.22</b> (0.10)		-0.08 (0.04)		-0.05 (0.06)		-0.02 (0.07)	
	Switzerland	0.23 (0.03)	0.59 (0.05)		<b>-0.36</b> (0.05)		0.13 (0.03)		0.18 (0.05)		-0.05 (0.06)	
	Turkey	0.02 (0.11)	c	c	c	c	1.03 (0.07)		c	c	c	c
	United Kingdom	0.38 (0.04)	0.75 (0.04)		<b>-0.37</b> (0.05)		-0.02 (0.03)		0.17 (0.04)		<b>-0.19</b> (0.05)	
	United States	0.44 (0.04)	0.67 (0.05)		<b>-0.23</b> (0.05)		0.35 (0.04)		0.43 (0.07)		-0.07 (0.09)	
	<b>OECD average</b>	<b>0.10</b> (0.01)	<b>0.31</b> (0.01)		<b>-0.20</b> (0.01)		<b>0.06</b> (0.01)		<b>0.15</b> (0.01)		<b>-0.09</b> (0.01)	
Partner countries and economies	Argentina	0.05 (0.11)	c	c	c	c	-0.42 (0.10)		c	c	c	c
	Azerbaijan	c	c	c	c	c	c	c	c	c	c	c
	Brazil	0.40 (0.09)	c	c	c	c	0.21 (0.05)		0.23 (0.10)		-0.02 (0.11)	
	Bulgaria	0.40 (0.06)	0.51 (0.08)		-0.11 (0.10)		0.47 (0.08)		c	c	c	c
	Chile	0.39 (0.07)	c	c	c	c	0.38 (0.06)		c	c	c	c
	Colombia	c	c	c	c	c	c	c	c	c	c	c
	Croatia	0.19 (0.04)	0.31 (0.07)		-0.12 (0.07)		0.12 (0.03)		0.27 (0.07)		-0.14 (0.08)	
	Estonia	0.25 (0.03)	0.35 (0.04)		<b>-0.10</b> (0.05)		-0.13 (0.03)		-0.16 (0.04)		0.03 (0.05)	
	Hong Kong-China	-0.08 (0.04)	0.03 (0.05)		-0.11 (0.07)		0.22 (0.03)		0.25 (0.03)		-0.03 (0.05)	
	Indonesia	c	c	c	c	c	c	c	c	c	c	c
	Israel	0.00 (0.06)	0.05 (0.09)		-0.05 (0.11)		0.29 (0.06)		0.31 (0.08)		-0.03 (0.09)	
	Jordan	0.44 (0.07)	c	c	c	c	0.38 (0.09)		c	c	c	c
	Kyrgyzstan	c	c	c	c	c	c	c	c	c	c	c
	Latvia	0.25 (0.04)	0.26 (0.08)		-0.01 (0.10)		-0.04 (0.04)		0.00 (0.08)		-0.04 (0.09)	
	Liechtenstein	0.31 (0.13)	0.56 (0.21)		-0.26 (0.24)		0.10 (0.12)		-0.07 (0.18)		0.17 (0.24)	
	Lithuania	0.53 (0.04)	0.66 (0.06)		<b>-0.12</b> (0.07)		0.30 (0.04)		0.37 (0.07)		-0.06 (0.09)	
	Macao-China	-0.23 (0.04)	-0.23 (0.07)		0.00 (0.09)		-0.11 (0.03)		0.00 (0.10)		-0.11 (0.12)	
	Montenegro	0.17 (0.09)	c	c	c	c	-0.16 (0.09)		c	c	c	c
	Qatar	c	c	c	c	c	c	c	c	c	c	c
	Romania	0.33 (0.08)	c	c	c	c	0.06 (0.08)		c	c	c	c
	Russian Federation	0.28 (0.04)	0.40 (0.08)		-0.13 (0.08)		0.39 (0.05)		0.41 (0.06)		-0.02 (0.09)	
	Serbia	0.01 (0.08)	c	c	c	c	0.19 (0.07)		c	c	c	c
	Slovenia	0.12 (0.03)	0.24 (0.04)		-0.12 (0.06)		0.00 (0.03)		0.06 (0.05)		-0.06 (0.07)	
	Chinese Taipei	0.22 (0.02)	0.28 (0.03)		-0.06 (0.04)		0.14 (0.02)		0.23 (0.03)		<b>-0.09</b> (0.04)	
	Thailand	0.75 (0.06)	c	c	c	c	0.42 (0.06)		c	c	c	c
	Tunisia	c	c	c	c	c	c	c	c	c	c	c
	Uruguay	0.28 (0.06)	c	c	c	c	-0.17 (0.07)		c	c	c	c

Note: Values that are statistically significant are indicated in bold.

Source: OECD, PISA 2006 Database.

Please refer to the Reader's Guide for information on the abbreviations used in this table.



StatLink  <http://dx.doi.org/10.1787/664103188707>

Table A5.7a.  
Enjoyment of learning science


Average percentage of students in OECD countries agreeing or strongly agreeing with the following:	Strong performers (%)	Top performers (%)
I enjoy acquiring new knowledge in science.	77.6	87.5
I am interested in learning about science.	73.4	84.6
I generally have fun when I am learning science topics.	72.4	83.1
I like reading about science.	60.2	74.8
I am happy doing science problems.	52.7	67.6

Source: OECD, PISA 2006 Database.

StatLink  <http://dx.doi.org/10.1787/664103188707>Table A5.7b.  
Science-related activities


Average percentage of students in OECD countries who do the following activities regularly or very often:	Strong performers (%)	Top performers (%)
Read science magazines or science articles in newspapers	25.8	38.1
Watch TV programmes about science	23.5	31.9
Visit web sites about science topics	14.6	21.4
Borrow or buy books on science topics	8.3	13.8
Listen to radio programmes about advances in science	5.3	6.8
Attend a science club	3.5	4.9

Source: OECD, PISA 2006 Database.

StatLink  <http://dx.doi.org/10.1787/664103188707>Table A5.7c.  
Instrumental motivation to learn science


Average percentage of students in OECD countries agreeing or strongly agreeing with the following:	Strong performers (%)	Top performers (%)
I study science because I know it is useful for me.	73.3	81.4
Studying my science subject(s) is worthwhile for me because what I learn will improve my career prospects.	66.7	76.4
Making an effort in my science subject(s) is worth it because this will help me in the work I want to do later on.	65.6	75.0
What I learn in my science subject(s) is important for me because I need this for what I want to study later on.	58.5	69.7
I will learn many things in my science subject(s) that will help me get a job.	59.0	67.2

Source: OECD, PISA 2006 Database.

StatLink  <http://dx.doi.org/10.1787/664103188707>Table A5.7d.  
Importance of doing well in science


Average percentage of students in OECD countries reporting that it is VERY IMPORTANT to do well in the following subjects:	Strong performers (%)	Top performers (%)
Mathematics	59.5	64.5
Science	34.2	46.6
Reading	48.6	42.6

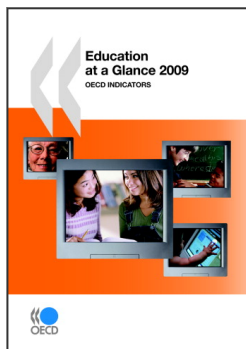
Source: OECD, PISA 2006 Database.

StatLink  <http://dx.doi.org/10.1787/664103188707>Table A5.7e.  
Future-oriented motivation to learn science

Average percentage of students in OECD countries agreeing or strongly agreeing with the following:	Strong performers (%)	Top performers (%)
I would like to work in a career involving science.	45.4	60.8
I would like to study science after secondary school.	38.9	56.0
I would like to spend my life doing advanced science.	24.4	38.6
I would like to work on science projects as an adult.	31.4	46.6

Source: OECD, PISA 2006 Database.

StatLink  <http://dx.doi.org/10.1787/664103188707>



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