

# CHAPTER 7

# 7

## School Contexts for Learning and Instruction

Chapter 7 presents findings about the school contexts for learning and instruction in science, including school characteristics, policies, and practices. Information is presented about the extent of school resources in each country, including computers and Internet access. Data also are provided about the role of the school principal and issues related to school climate and environment, including attendance problems and school safety.





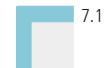
## What School Resources Are Available to Support Science Learning?

Some school resources are specific to science, which is unique among school subjects in that it requires an emphasis on laboratory exploration. Many other school resources are general ones that improve learning opportunities across the curriculum. All the available resources can work together to support science learning and instruction.

To measure the extent of school resources in each of the participating countries, TIMSS created an index of availability of school resources for science instruction (ASRSI). As described in Exhibit 7.1, the index is based on schools' average response to five questions about shortages that affect general capacity to provide instruction and six questions about shortages that affect science instruction in particular. Students were placed in the high category if principals reported that shortages, both general and for science in particular, had no or little effect on instructional capacity. The medium level indicates that one type of shortage affects instruction some or a lot, and the low level that both shortages affect it some or a lot.

On average internationally, only 18 percent of the students were in schools reporting that both shortages had little effect on instruction, and 63 percent were in the middle category. Only in two countries – Belgium (Flemish) and Singapore – were the majority of students in the high category. In very few countries – Moldova, the Russian Federation, and Thailand – were the majority of students in schools where across-the-board shortages affect science instructional capacity some or a lot. In many countries, students in schools in the high category had higher average science achievement than students in the low category. For example, in the United States 34 percent of the students were in the high category with an average science achievement of 531, compared with six percent in the low category with an average of 512.

At the international level, the availability of school resources for instruction appears to be related to science achievement. Of the 17 countries with 20 percent or more of their students in schools where both types of shortage have little effect on science instruction, only Chile, Indonesia, Israel, Italy, and Malaysia did not score above the international average. However, the relationship between a country's average science achievement and availability of resources for instruction is complex. For example, among some countries that performed significantly above the international average, including Korea, Chinese Taipei, the Slovak Republic, the Russian Federation, and Bulgaria, few



students (seven percent or less) were in schools with high availability of resources for science instruction. In contrast, in other high-performing countries such as Belgium (Flemish), the Czech Republic, England, Finland, Japan, the Netherlands, New Zealand, and Singapore, five percent or less of the students were in schools with low availability of resources.

R4.1



Exhibit R4.1 in the reference section shows the results for each of the types of facilities and materials summarized in the general capacity part of the index. There was substantial variation across countries, but internationally on average, nearly half the students were in schools where instruction was negatively affected by shortages or inadequacies in instructional materials, the budget for supplies, school buildings, and instructional space. Countries that were significantly below the international average in science achievement tended to report a majority of students in schools where instruction was affected by shortages. Eight of the 13 countries that performed below the international average had shortages affecting 50 percent or more of the students in at least four of the five areas. This compares with only three of the 19 high-performing countries with the same pattern.

R4.2



Exhibit R4.2, also in the reference section, shows the results for each of the types of equipment and materials summarized in the science instructional capacity part of the index. About 60 percent of the students, on average internationally, were in schools where shortages or inadequacies in computers and computer software affected the capacity to provide science instruction. Half the students were in schools where the lack of library materials relevant to science instruction affected instruction, and 53 percent were in schools needing more audio-visual resources. A full 58 percent of students, on average internationally, were in schools where shortages of science laboratory equipment and materials adversely affected the capacity to provide instruction. At the country level, 11 of the 13 low-performing countries, five of the six countries at about the international average, and seven of the 19 high-performing countries had the majority of their students in schools where this was the case.

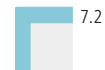
R4.3–R4.4



Exhibits R4.3 and R4.4 in the reference section present more data on access to computers and the Internet for instructional purposes. Countries seem to have computers either in nearly all of their schools or in only a fraction of them. Internationally on average, 60 percent of the students were in schools with a student to computer ratio of less than 15 to one, and 25 percent were in schools having no computers. Forty-one percent of the students, on average across countries, attended schools with access to the World Wide Web, and another 29 percent were in schools planning to have access to the Internet by 2001.



Exhibit 7.2 presents trends in the index of availability of school resources for science instruction. Internationally on average, there was little or no change between 1995 and 1999 in the percentages of students at the three index levels. Four countries – Israel, Italy, New Zealand, and the United States – had significant increases in the percentages of students in the high category. The United States, in addition to having a significant increase in the high category, had effectively no change in the low category and a significant decrease in the middle category.



## Exhibit 7.1 Index of Availability of School Resources for Science Instruction (ASRSI)

### Index of Availability of School Resources for Science Instruction

Index based on schools' average response to five questions about shortages that affect general capacity to provide instruction (instructional materials; budget for supplies; school buildings and grounds; heating/cooling and lighting systems; instructional space), and the average response to six questions about shortages that affect science instruction (laboratory equipment and materials; computers; computer software; calculators; library materials; audio-visual resources) (see reference exhibits R4.1–R4.2). High level indicates that both shortages, on average, affect instructional capacity none or a little. Medium level indicates that one shortage affects instructional capacity none or a little and the other shortage affects instructional capacity some or a lot. Low level indicates that both shortages affect instructional capacity some or a lot.

	High ASRSI		Medium ASRSI		Low ASRSI	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Belgium (Flemish)	60 (4.5)	531 (4.8)	40 (4.5)	538 (8.1)	0 (0.0)	~ ~
Singapore	56 (3.9)	569 (11.8)	40 (4.1)	569 (9.8)	4 (1.4)	554 (25.1)
Czech Republic	43 (4.3)	542 (6.5)	57 (4.3)	538 (4.9)	0 (0.1)	~ ~
New Zealand	37 (4.1)	521 (7.2)	62 (4.1)	501 (6.7)	1 (1.0)	~ ~
Israel	36 (4.1)	486 (6.8)	59 (4.1)	461 (8.3)	5 (1.7)	399 (20.0)
United States <sup>r</sup>	34 (3.3)	531 (8.5)	60 (3.2)	508 (6.2)	6 (2.4)	512 (12.0)
Netherlands <sup>r</sup>	33 (6.5)	542 (9.7)	66 (6.5)	547 (11.8)	1 (0.7)	~ ~
Australia	31 (3.8)	553 (8.3)	60 (4.0)	535 (6.0)	9 (2.5)	526 (20.1)
Japan	30 (3.7)	556 (3.5)	65 (4.1)	547 (3.1)	5 (1.9)	545 (6.6)
Canada	28 (2.0)	542 (3.9)	66 (2.4)	529 (3.1)	6 (1.3)	540 (10.5)
England <sup>r</sup>	27 (4.2)	572 (10.6)	68 (4.6)	530 (6.3)	5 (2.1)	547 (11.6)
Finland	25 (3.9)	540 (7.0)	71 (4.0)	534 (4.1)	4 (2.0)	531 (10.0)
Hungary	24 (3.6)	547 (7.5)	69 (3.9)	555 (4.6)	7 (2.2)	540 (16.8)
Malaysia	23 (3.7)	508 (11.4)	70 (4.1)	486 (5.4)	7 (2.0)	507 (15.0)
Italy	23 (3.2)	495 (9.4)	71 (3.8)	494 (4.5)	7 (2.0)	483 (8.5)
Indonesia	22 (3.9)	453 (10.9)	66 (4.7)	432 (5.7)	12 (3.1)	420 (14.4)
Chile	20 (3.0)	456 (10.4)	69 (3.4)	413 (3.8)	10 (2.2)	397 (6.5)
Hong Kong, SAR	19 (3.3)	524 (12.2)	73 (3.5)	533 (4.5)	8 (2.3)	521 (11.6)
Cyprus	15 (0.1)	444 (5.8)	80 (0.2)	465 (2.8)	5 (0.2)	474 (8.9)
Slovenia	13 (2.8)	525 (7.3)	64 (4.1)	536 (4.4)	23 (3.2)	529 (5.9)
Philippines	11 (2.5)	372 (20.3)	55 (4.1)	348 (10.0)	34 (3.9)	332 (12.5)
Korea, Rep. of	7 (2.2)	555 (12.1)	76 (3.7)	550 (2.7)	17 (3.2)	542 (5.5)
South Africa	7 (1.9)	276 (38.9)	45 (4.0)	258 (10.9)	48 (4.1)	226 (12.8)
Lithuania <sup>†</sup>	6 (2.1)	487 (17.2)	71 (3.7)	489 (4.7)	23 (3.6)	487 (9.0)
Chinese Taipei	5 (2.1)	567 (14.5)	78 (3.4)	571 (5.0)	17 (2.9)	562 (9.3)
Slovak Republic	5 (2.0)	564 (9.2)	87 (3.1)	532 (3.6)	8 (2.4)	534 (8.7)
Morocco	5 (1.8)	324 (14.0)	70 (4.1)	323 (5.1)	25 (3.8)	322 (6.0)
Iran, Islamic Rep.	5 (1.9)	469 (14.1)	71 (3.9)	450 (5.0)	23 (3.6)	437 (7.4)
Tunisia	5 (1.9)	441 (12.7)	66 (4.3)	431 (3.6)	30 (3.8)	427 (5.0)
Jordan	5 (1.8)	458 (22.7)	59 (4.4)	448 (5.4)	37 (4.3)	453 (8.0)
Turkey	2 (1.4)	~ ~	53 (4.1)	434 (5.8)	44 (4.0)	430 (5.1)
Latvia (LSS)	2 (1.3)	~ ~	59 (4.5)	504 (6.3)	39 (4.3)	502 (6.7)
Macedonia, Rep. of	2 (1.2)	~ ~	59 (3.8)	462 (7.3)	39 (3.9)	450 (8.2)
Romania	2 (1.1)	~ ~	72 (3.6)	465 (6.6)	26 (3.4)	483 (9.9)
Russian Federation	1 (0.9)	~ ~	46 (4.6)	539 (8.3)	52 (4.6)	521 (7.6)
Thailand	1 (0.8)	~ ~	43 (3.9)	484 (5.1)	56 (4.0)	481 (6.2)
Bulgaria	0 (0.0)	~ ~	66 (4.3)	517 (7.5)	34 (4.3)	522 (8.2)
Moldova	0 (0.0)	~ ~	30 (3.9)	454 (7.9)	70 (3.9)	462 (5.3)
<b>International Avg.</b>	<b>18 (0.5)</b>	<b>498 (2.6)</b>	<b>63 (0.6)</b>	<b>487 (1.0)</b>	<b>20 (0.5)</b>	<b>476 (2.4)</b>

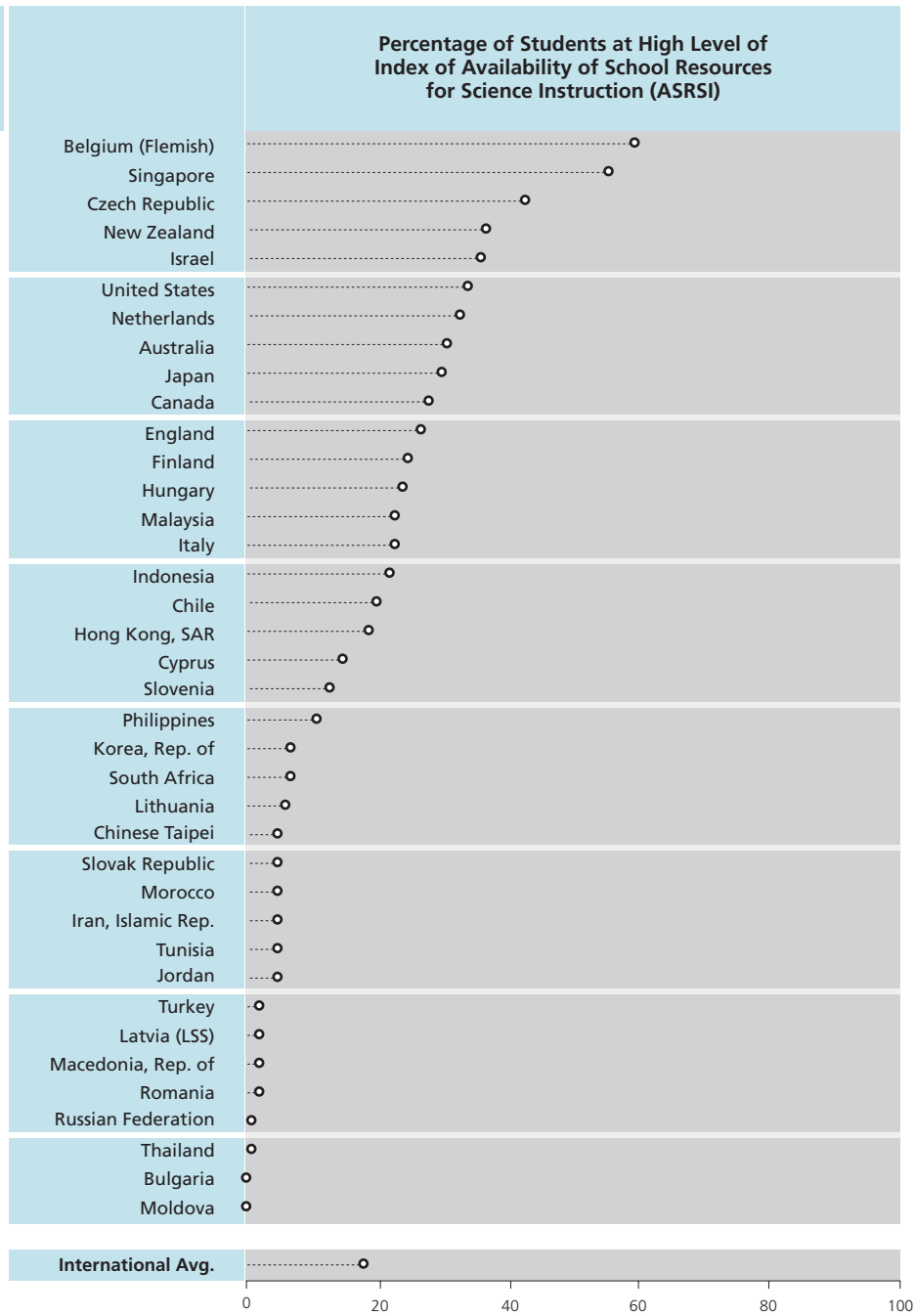
SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

<sup>†</sup> Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

( ) Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates school response data available for 70-84% of students.



## Exhibit 7.2 Trends in Index of Availability of School Resources for Science Instruction (ASRSI)

	High ASRSI			Medium ASRSI			Low ASRSI		
	Percent of Students			Percent of Students			Percent of Students		
	1995	1999	1995-1999 Difference	1995	1999	1995-1999 Difference	1995	1999	1995-1999 Difference
Australia <sup>r</sup>	42 (5.2)	31 (3.8)	-11 (6.5) ●	52 (5.4)	60 (4.0)	8 (6.7) ●	6 (2.3)	9 (2.5)	3 (3.5) ●
Belgium (Flemish)	52 (5.8)	60 (4.5)	8 (7.3) ●	48 (5.8)	40 (4.5)	-7 (7.3) ●	1 (0.8)	0 (0.0)	-1 (0.8) ●
Canada	23 (2.9)	28 (2.0)	5 (3.5) ●	75 (2.8)	66 (2.4)	-8 (3.7) ●	2 (0.7)	6 (1.3)	4 (1.4) ●
Cyprus <sup>r</sup>	23 (0.5)	15 (0.1)	-8 (0.5) ▼	69 (0.6)	80 (0.2)	11 (0.6) ▲	8 (0.4)	5 (0.2)	-3 (0.5) ▼
Czech Republic	30 (4.8)	43 (4.3)	13 (6.5) ●	69 (4.8)	57 (4.3)	-13 (6.5) ●	0 (0.4)	0 (0.1)	0 (0.4) ●
England <sup>r</sup>	24 (4.5)	27 (4.2)	3 (6.2) ●	71 (4.8)	68 (4.6)	-3 (6.6) ●	4 (1.6)	5 (2.1)	1 (2.7) ●
Hong Kong, SAR	23 (5.4)	19 (3.3)	-4 (6.3) ●	72 (5.7)	73 (3.5)	1 (6.7) ●	5 (2.6)	8 (2.3)	3 (3.5) ●
Hungary	21 (3.3)	24 (3.6)	3 (4.8) ●	77 (3.4)	69 (3.9)	-8 (5.1) ●	1 (1.0)	7 (2.2)	5 (2.4) ●
Iran, Islamic Rep.	2 (1.1)	5 (1.9)	3 (2.2) ●	67 (4.9)	71 (3.9)	5 (6.2) ●	31 (4.8)	23 (3.6)	-7 (6.0) ●
Israel <sup>† s</sup>	14 (6.9)	42 (4.9)	28 (8.4) ▲	82 (7.6)	57 (4.7)	-25 (8.9) ●	4 (3.7)	1 (1.0)	-3 (3.9) ●
Italy	6 (1.9)	23 (3.7)	17 (4.1) ▲	76 (3.6)	72 (4.2)	-5 (5.5) ●	18 (3.2)	5 (2.1)	-13 (3.8) ▼
Japan	25 (3.5)	30 (3.7)	5 (5.1) ●	67 (3.8)	65 (4.1)	-2 (5.6) ●	8 (2.4)	5 (1.9)	-3 (3.1) ●
Korea, Rep. of	3 (1.5)	7 (2.2)	3 (2.7) ●	80 (3.0)	76 (3.7)	-4 (4.7) ●	17 (2.9)	17 (3.2)	0 (4.3) ●
Latvia (LSS)	2 (1.3)	2 (1.3)	0 (1.8) ●	51 (4.2)	59 (4.5)	8 (6.1) ●	47 (4.2)	39 (4.3)	-8 (6.0) ●
Lithuania	4 (1.6)	6 (2.1)	2 (2.7) ●	77 (3.7)	71 (3.7)	-6 (5.2) ●	19 (3.3)	23 (3.6)	4 (4.9) ●
Netherlands <sup>r</sup>	52 (7.1)	33 (6.5)	-19 (9.6) ●	48 (7.1)	66 (6.5)	18 (9.6) ●	0 (0.0)	1 (0.7)	1 (0.7) ●
New Zealand	20 (3.3)	37 (4.1)	17 (5.3) ▲	73 (3.9)	62 (4.1)	-12 (5.7) ●	7 (2.3)	1 (1.0)	-6 (2.5) ●
Romania	3 (1.1)	2 (1.1)	-1 (1.6) ●	73 (3.8)	72 (3.6)	-1 (5.3) ●	24 (3.9)	26 (3.4)	3 (5.1) ●
Russian Federation	1 (0.0)	1 (0.9)	1 (0.9) ●	47 (4.2)	46 (4.6)	0 (6.2) ●	53 (4.3)	52 (4.6)	0 (6.3) ●
Singapore	61 (4.8)	56 (3.9)	-5 (6.2) ●	38 (4.7)	40 (4.1)	3 (6.2) ●	1 (0.8)	4 (1.4)	3 (1.6) ●
Slovak Republic	11 (2.5)	5 (2.0)	-6 (3.2) ●	86 (2.8)	87 (3.1)	1 (4.2) ●	3 (1.5)	8 (2.4)	5 (2.8) ●
Slovenia <sup>r</sup>	7 (2.6)	13 (2.8)	6 (3.9) ●	73 (4.4)	64 (4.1)	-9 (6.0) ●	20 (3.8)	23 (3.2)	3 (5.0) ●
Thailand <sup>†</sup>	2 (1.9)	1 (0.8)	-1 (2.1) ●	51 (5.5)	43 (3.9)	-8 (6.8) ●	47 (5.4)	56 (4.0)	9 (6.7) ●
United States <sup>r</sup>	16 (3.3)	34 (3.3)	18 (4.6) ▲	77 (3.5)	60 (3.2)	-17 (4.7) ▼	7 (0.9)	6 (2.4)	0 (2.5) ●
<b>International Avg.<sup>§</sup></b>	<b>21 (0.8)</b>	<b>23 (0.7)</b>	<b>2 (1.0) ●</b>	<b>67 (0.9)</b>	<b>65 (0.9)</b>	<b>-2 (1.3) ●</b>	<b>13 (0.6)</b>	<b>12 (0.5)</b>	<b>0 (0.8) ●</b>

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

- ▲ 1999 significantly higher than 1995
  - No significant difference between 1995 and 1999
  - ▼ 1999 significantly lower than 1995
- Significance tests adjusted for multiple comparisons

Background data provided by schools.

<sup>†</sup> Countries with unapproved sampling procedures at the classroom level in 1995.

<sup>§</sup> International average is for countries that participated and met sampling guidelines in both 1995 and 1999.

Trend notes: Because coverage fell below 65% in 1995 and 1999, Latvia is annotated LSS for Latvian-Speaking Schools only. Lithuania tested later in 1999 than in 1995, at the beginning of the next school year. In 1995, Italy and Israel were unable to cover their International Desired Population; 1999 data are based on their comparable populations.

Background data for Bulgaria and South Africa are unavailable for 1995.

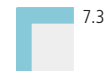
( ) Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

An "r" indicates school response data available for 70-84% of students, based on the lower response rate in either 1995 or 1999. An "s" indicates school response data available for 50-69% of students, based on the lower response rate in either 1995 or 1999.



## What Is the Role of the School Principal?

To better understand the roles and responsibilities of schools across countries, TIMSS asked school principals how much time per month they spend on various school-related activities. More specifically, they were asked how much time they spend on instructional leadership activities, including discussing educational objectives with teachers, initiating curriculum revisions and planning, training teachers, and engaging in professional development activities. They were asked how much time they spend per month talking with parents, counseling and disciplining students, and responding to requests from local, regional, or national education officials. They also responded to questions about how much time they spend carrying out administrative duties, including hiring teachers, representing the school in the community and at official meetings, and doing internal tasks (e.g., regulations, school budget, and timetable). Finally, they were asked how much time they spend teaching. The results presented in Exhibit 7.3 show that principals reported spending, internationally on average, 51 hours per month on administrative duties, 35 hours per month communicating with various constituents, 33 hours per month on instructional leadership activities, and 16 hours per month teaching.<sup>1</sup>



Countries where principals reported spending an average of at least 75 hours per month on administrative duties included Australia, Chinese Taipei, Hong Kong, and New Zealand. Principals reported spending at least 50 hours per month communicating with various groups in Australia, Canada, and the United States. Principals in 10 countries reported spending at least 40 hours per month on instructional leadership activities, and in eight countries they reported that teaching duties (including preparation) occupied at least 30 hours per month.

It is noteworthy that a number of countries, such as Australia, Canada, Chinese Taipei, Hong Kong, New Zealand, Singapore, Thailand, and the United States, have similar patterns in principals' use of time. For example, unlike in most European countries, principals in these countries spend relatively little time teaching, and most of it on administrative duties, communicating with constituents, and engaging in instructional leadership activities.

<sup>1</sup> Activities reported by principals are not necessarily exclusive; principals may have reported engaging in more than one activity at the same time.

	Average Total Hours Per Month Spent on Activities <sup>1</sup>			
	Instructional Leadership Activities <sup>2</sup>	Communicating with Students, Parents, and Education Officials <sup>3</sup>	Administrative Duties <sup>4</sup>	Teaching (including preparation)
Australia	r 33 (1.9)	r 50 (2.7)	r 75 (3.2)	r 3 (0.7)
Belgium (Flemish)	29 (2.3)	27 (2.1)	56 (2.5)	0 (0.1)
Bulgaria	38 (2.5)	39 (1.9)	47 (2.3)	21 (1.0)
Canada	25 (1.1)	54 (1.4)	54 (2.1)	5 (0.9)
Chile	31 (1.4)	36 (1.5)	53 (3.0)	5 (0.6)
Chinese Taipei	24 (1.4)	34 (1.7)	86 (4.1)	4 (0.6)
Cyprus	r 18 (0.1)	r 46 (0.1)	33 (0.1)	r 18 (0.0)
Czech Republic	32 (1.9)	33 (1.8)	44 (2.4)	36 (1.8)
England	--	--	--	--
Finland	27 (1.5)	29 (1.2)	66 (2.7)	24 (1.6)
Hong Kong, SAR	r 43 (3.2)	r 29 (1.8)	r 75 (4.2)	r 3 (0.6)
Hungary	47 (2.1)	28 (1.2)	46 (2.1)	35 (1.6)
Indonesia	15 (1.8)	20 (1.6)	40 (2.9)	16 (1.8)
Iran, Islamic Rep.	28 (1.6)	42 (2.4)	35 (3.0)	4 (0.6)
Israel	43 (2.4)	38 (2.1)	43 (2.5)	24 (1.8)
Italy	36 (1.4)	44 (2.1)	45 (1.7)	--
Japan	33 (2.0)	19 (1.3)	69 (3.6)	1 (0.8)
Jordan	31 (1.8)	43 (2.1)	27 (1.8)	9 (0.9)
Korea, Rep. of	30 (2.1)	22 (1.6)	46 (3.6)	3 (0.5)
Latvia (LSS)	r 33 (1.9)	r 26 (1.9)	r 58 (3.8)	r 41 (2.7)
Lithuania <sup>*</sup>	40 (1.7)	34 (1.4)	50 (2.4)	33 (1.4)
Macedonia, Rep. of	40 (2.2)	34 (1.7)	32 (1.9)	16 (1.9)
Malaysia	24 (1.5)	31 (1.7)	61 (3.1)	22 (2.1)
Moldova	r 45 (1.9)	r 32 (1.5)	r 55 (2.7)	r 41 (1.7)
Morocco	9 (0.8)	24 (1.7)	29 (4.9)	0 (0.0)
Netherlands	r 42 (4.0)	r 20 (2.0)	r 49 (5.6)	r 7 (1.7)
New Zealand	r 39 (2.0)	r 45 (1.9)	r 83 (3.6)	r 5 (0.8)
Philippines	30 (2.0)	31 (1.8)	42 (3.4)	10 (1.8)
Romania	31 (1.6)	32 (1.5)	40 (2.3)	45 (2.3)
Russian Federation	r 44 (1.9)	r 33 (1.7)	r 65 (3.1)	r 46 (2.1)
Singapore	45 (2.2)	46 (1.9)	56 (3.1)	3 (0.6)
Slovak Republic	36 (1.8)	31 (1.5)	34 (2.0)	32 (1.2)
Slovenia	43 (2.2)	29 (1.2)	41 (2.2)	11 (1.0)
South Africa	19 (1.2)	34 (2.3)	43 (3.4)	r 22 (2.6)
Thailand	37 (2.2)	32 (1.7)	68 (3.8)	6 (1.0)
Tunisia	28 (2.0)	47 (2.6)	55 (2.6)	--
Turkey	25 (1.7)	43 (2.0)	46 (2.9)	17 (1.9)
United States	r 34 (1.9)	r 52 (2.4)	r 56 (3.2)	r 3 (0.6)
<b>International Avg.</b>	33 (0.3)	35 (0.3)	51 (0.5)	16 (0.2)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by schools.

<sup>1</sup> Total hours reported for activities in each category averaged across students. Activities are not necessarily exclusive; principals may have reported engaging in more than one activity at the same time.

<sup>2</sup> Includes discussing educational objectives with teachers; initiating curriculum revision and/or planning; training teachers; and professional development activities.

<sup>3</sup> Includes talking with parents, counseling and disciplining of students and responding to requests from local, regional, or national education officials.

<sup>4</sup> Includes hiring teachers; representing the school in the community; representing the school at official meetings; internal administrative tasks (e.g., regulations, school budget, timetable).

<sup>\*</sup> Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

( ) Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A dash (–) indicates data are not available.

An "r" indicates school response data available for 70-84% of students.

## What Are the Schools' Expectations of Parents?

The schools' expectations for parental involvement are shown in Exhibit 7.4. Clearly schools expect help from parents. On average across countries, 85 percent of the students attended schools expecting parents to ensure that their children complete their homework, and 79 percent attended schools expecting parents to volunteer for school projects or field trips. About half the students were in schools expecting parents to help raise funds and to serve on committees. Only 28 percent were in schools expecting parents to help as aides in the classroom.



At the country level, in all countries with the exception of Japan, at least 60 percent of students were in schools where parents were expected to ensure that their children complete their homework. Twenty countries had at least 90 percent of their students in such schools, and in Canada and the United States almost all students (99 percent) were in such schools. The expectation that parents would serve as classroom aides was especially high in Iran, and low in Finland, Indonesia, Japan, and New Zealand. All Malaysian and Lithuanian students were in schools where parents were expected to volunteer for school projects or field trips. Raising funds was an expectation of parents for at least 75 percent of the students in Cyprus, Morocco, the Slovak Republic, South Africa, and Turkey. At least three-quarters of students were in schools where parents were expected to serve on committees in Australia, Iran, Latvia (LSS), Macedonia, Romania, South Africa, and Turkey.

	Percentage of Students Whose Schools Reported That They Expect Parents to Be Involved in the School-Related Activity				
	Be Sure Child Completes Homework	Serve as Teacher Aides in Classroom	Volunteer for School Projects, Programs, or Field Trips	Raise Funds for the School	Serve on Committees <sup>1</sup>
Australia	96 (1.7)	6 (1.9)	66 (4.5)	61 (5.4)	78 (3.9)
Belgium (Flemish)	94 (2.1)	19 (3.7)	39 (4.3)	9 (2.7)	10 (2.7)
Bulgaria	73 (5.6)	64 (5.1)	63 (5.5)	55 (5.2)	22 (3.5)
Canada	99 (0.6)	15 (1.7)	82 (2.2)	52 (3.4)	55 (2.7)
Chile	92 (2.1)	73 (3.3)	94 (1.9)	57 (3.6)	33 (3.1)
Chinese Taipei	97 (1.3)	58 (4.2)	90 (2.5)	41 (4.2)	56 (4.4)
Cyprus	78 (0.2)	15 (0.1)	44 (0.2)	87 (0.1)	18 (0.2)
Czech Republic	91 (3.1)	7 (2.7)	80 (3.8)	32 (4.7)	35 (4.9)
England	--	--	--	--	--
Finland	94 (2.0)	4 (1.5)	72 (4.3)	23 (4.2)	57 (4.8)
Hong Kong, SAR	96 (1.8)	30 (4.2)	77 (3.8)	60 (4.6)	21 (3.7)
Hungary	96 (1.6)	35 (3.8)	95 (1.9)	12 (2.5)	35 (3.9)
Indonesia	97 (1.5)	4 (1.8)	70 (4.5)	59 (4.2)	28 (4.4)
Iran, Islamic Rep.	95 (2.1)	82 (3.7)	96 (2.0)	74 (3.7)	85 (2.7)
Israel	77 (4.0)	16 (3.0)	90 (2.4)	42 (4.6)	48 (4.8)
Italy	91 (2.3)	9 (2.2)	70 (3.4)	25 (3.1)	42 (3.7)
Japan	43 (4.4)	5 (2.0)	81 (2.8)	6 (2.0)	8 (2.2)
Jordan	78 (3.7)	23 (3.5)	77 (3.9)	29 (4.1)	17 (3.3)
Korea, Rep. of	64 (3.9)	33 (4.1)	71 (3.8)	31 (3.8)	44 (4.2)
Latvia (LSS)	69 (4.1)	65 (4.4)	95 (2.1)	45 (4.7)	75 (4.0)
Lithuania <sup>‡</sup>	88 (2.6)	11 (2.6)	100 (0.0)	62 (3.9)	73 (3.8)
Macedonia, Rep. of	72 (3.6)	27 (4.1)	48 (4.1)	53 (3.9)	95 (2.0)
Malaysia	97 (1.4)	29 (4.0)	100 (0.0)	64 (4.3)	21 (3.2)
Moldova	66 (4.5)	46 (4.4)	66 (3.4)	55 (4.5)	62 (4.3)
Morocco	62 (3.2)	37 (3.9)	90 (2.2)	80 (2.9)	14 (2.6)
Netherlands	r 81 (5.6)	r 46 (6.2)	r 61 (6.2)	r 16 (5.2)	r 46 (6.5)
New Zealand	r 97 (1.6)	r 4 (1.6)	r 74 (3.7)	r 62 (4.2)	r 21 (3.5)
Philippines	86 (2.9)	30 (4.1)	89 (2.8)	65 (4.1)	37 (4.0)
Romania	90 (2.6)	8 (2.4)	86 (3.2)	73 (4.1)	79 (4.3)
Russian Federation	78 (3.1)	36 (3.3)	91 (1.7)	59 (2.8)	59 (4.1)
Singapore	95 (1.8)	6 (2.2)	44 (4.5)	51 (4.3)	41 (4.3)
Slovak Republic	84 (2.8)	42 (5.0)	90 (2.9)	81 (3.3)	65 (4.1)
Slovenia	98 (1.3)	16 (2.8)	94 (2.1)	35 (3.8)	42 (4.0)
South Africa	93 (1.8)	39 (4.4)	97 (1.2)	87 (2.4)	99 (0.8)
Thailand	92 (2.2)	40 (3.6)	76 (3.5)	69 (3.6)	48 (3.8)
Tunisia	73 (4.0)	15 (3.2)	71 (3.6)	55 (3.7)	21 (3.3)
Turkey	85 (2.8)	33 (3.9)	94 (2.3)	78 (3.2)	89 (2.4)
United States	r 99 (0.7)	r 15 (3.0)	r 94 (1.7)	r 55 (4.7)	r 68 (4.1)
<b>International Avg.</b>	85 (0.5)	28 (0.6)	79 (0.5)	51 (0.6)	47 (0.6)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by schools.

<sup>1</sup> Serve on committees which select school personnel or review school finances.<sup>‡</sup> Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

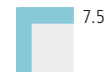
A dash (–) indicates data are not available.

An "r" indicates school response data available for 70-84% of students.

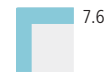
## How Serious Are School Attendance Problems?

In some countries, schools are confronted with high rates of absenteeism, which can influence instructional continuity and reduce the time for learning. In general, research has shown that greater truancy is related to less serious attitudes towards school and lower academic achievement. To examine this issue, TIMSS developed an index of good school and class attendance (SCA) based on schools' responses to three questions about the seriousness of students' absenteeism, arriving late at school, and skipping class. The high index level indicates schools reported that all three behaviors are not a problem. The low level indicates that two or more are a serious problem, or two are minor problems and the third a serious problem. The medium category includes all other possible combinations of responses.

The results of the index are presented in Exhibit 7.5. Sixty percent of students on average internationally were in the medium category, where principals had judged their schools to have a moderate attendance problem. Exactly one-fifth of the students were in schools at the high level of the index, and another 19 percent were in schools at the low index level. Although countries varied considerably, there was a modest positive relationship between good attendance and science achievement on average across countries.



The information used to compute this index appears in Exhibit 7.6, together with data showing the percentages of students in schools where the behaviors occur at least weekly. Student attendance problems were common and considered to be a serious problem in many countries, and were most acute in South Africa. For most countries, however, schools reported the frequency of the attendance problems to be greater than their seriousness.



## Exhibit 7.5 Index of Good School and Class Attendance (SCA)

### Index of Good School and Class Attendance

Index based on schools' responses to three questions about the seriousness of attendance problems in school: arriving late at school; absenteeism; skipping class (see exhibit 7.6). High level indicates that all three behaviors are reported to be not a problem. Low level indicates that two or more behaviors are reported to be a serious problem, or two behaviors are reported to be minor problems and the third a serious problem. Medium level includes all other possible combinations of responses.

	High SCA		Medium SCA		Low SCA	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Belgium (Flemish)	52 (4.4)	550 (5.2)	45 (4.5)	520 (6.6)	3 (1.0)	539 (10.1)
Slovenia	39 (4.0)	538 (5.6)	58 (4.0)	532 (3.7)	4 (1.7)	496 (17.5)
Jordan	39 (4.2)	464 (5.6)	56 (4.5)	444 (6.0)	5 (1.9)	423 (11.9)
Iran, Islamic Rep.	37 (4.9)	445 (7.9)	61 (4.9)	451 (4.2)	2 (1.3)	~ ~
Czech Republic	36 (5.8)	544 (6.7)	56 (6.0)	538 (5.6)	8 (2.3)	555 (17.7)
Italy	33 (3.3)	508 (5.0)	58 (3.6)	494 (5.4)	9 (2.4)	442 (14.3)
Singapore	32 (4.1)	599 (15.4)	64 (4.0)	553 (8.9)	3 (1.6)	552 (22.5)
Korea, Rep. of	31 (3.7)	547 (3.7)	61 (4.0)	549 (3.2)	9 (2.4)	557 (7.5)
Macedonia, Rep. of	31 (4.2)	452 (10.9)	51 (4.5)	465 (8.3)	19 (3.2)	446 (16.1)
Slovak Republic	31 (4.3)	535 (6.7)	57 (4.5)	538 (3.9)	12 (3.3)	510 (8.7)
Netherlands	30 (7.3)	531 (10.2)	46 (7.3)	560 (6.2)	24 (7.5)	519 (28.3)
Chinese Taipei	28 (3.7)	591 (8.3)	61 (3.6)	558 (4.1)	11 (2.7)	576 (9.1)
Turkey	26 (3.1)	453 (7.9)	62 (3.9)	428 (4.8)	12 (2.8)	421 (10.1)
Hong Kong, SAR	25 (3.9)	540 (7.9)	68 (4.3)	531 (5.6)	7 (2.5)	500 (10.8)
Bulgaria	23 (5.7)	516 (8.9)	61 (5.4)	525 (8.0)	17 (3.1)	502 (11.3)
Hungary	23 (3.6)	565 (8.3)	60 (4.2)	552 (4.6)	17 (3.1)	536 (10.7)
United States	19 (3.0)	553 (10.2)	68 (3.4)	512 (6.5)	13 (2.5)	480 (11.8)
Cyprus	19 (0.1)	465 (5.8)	54 (0.2)	460 (4.0)	27 (0.2)	465 (3.8)
Canada	18 (2.2)	536 (5.7)	73 (3.0)	533 (2.5)	9 (2.0)	535 (11.8)
Thailand	17 (3.3)	481 (8.8)	68 (4.3)	485 (5.3)	14 (3.3)	488 (15.8)
Australia	17 (3.5)	559 (7.0)	70 (4.0)	542 (5.4)	13 (3.3)	506 (14.2)
Chile	16 (3.1)	440 (10.8)	70 (3.8)	418 (4.7)	13 (2.7)	413 (7.4)
Finland	15 (2.9)	532 (7.0)	67 (4.4)	536 (4.8)	18 (3.8)	535 (6.0)
Tunisia	15 (3.1)	439 (6.9)	60 (3.8)	429 (4.2)	26 (3.6)	427 (4.4)
New Zealand	15 (2.9)	531 (10.4)	69 (3.7)	515 (6.0)	16 (2.5)	461 (10.2)
Romania	15 (3.2)	483 (15.0)	55 (4.2)	463 (7.5)	31 (4.1)	480 (9.8)
Lithuania †	12 (2.6)	494 (12.3)	56 (4.2)	493 (5.7)	32 (3.7)	480 (6.3)
Latvia (LSS)	11 (2.6)	497 (9.2)	63 (4.6)	504 (5.8)	26 (4.3)	499 (7.1)
Russian Federation	10 (1.7)	538 (16.1)	70 (3.8)	535 (7.4)	20 (3.4)	505 (8.5)
Indonesia	10 (2.6)	423 (14.7)	57 (4.5)	439 (6.7)	33 (4.1)	427 (7.4)
Philippines	8 (2.4)	350 (20.8)	72 (3.9)	352 (9.9)	20 (3.4)	322 (13.0)
Japan	7 (2.4)	560 (5.0)	47 (4.1)	551 (4.1)	46 (3.9)	546 (2.7)
Israel	7 (2.3)	466 (15.1)	57 (4.8)	480 (6.2)	36 (4.6)	451 (12.4)
Malaysia	6 (2.4)	480 (18.4)	69 (4.1)	499 (5.4)	25 (3.8)	478 (8.6)
Morocco	4 (1.4)	325 (7.1)	56 (4.3)	320 (4.8)	40 (4.4)	327 (7.1)
South Africa	3 (1.2)	386 (44.1)	44 (3.9)	270 (15.4)	53 (4.0)	212 (9.7)
Moldova	1 (1.0)	~ ~	63 (3.8)	455 (5.6)	35 (3.8)	463 (8.8)
England	--	--	--	--	--	--
<b>International Avg.</b>	20 (0.6)	498 (2.5)	60 (0.7)	487 (1.0)	19 (0.5)	474 (2.0)

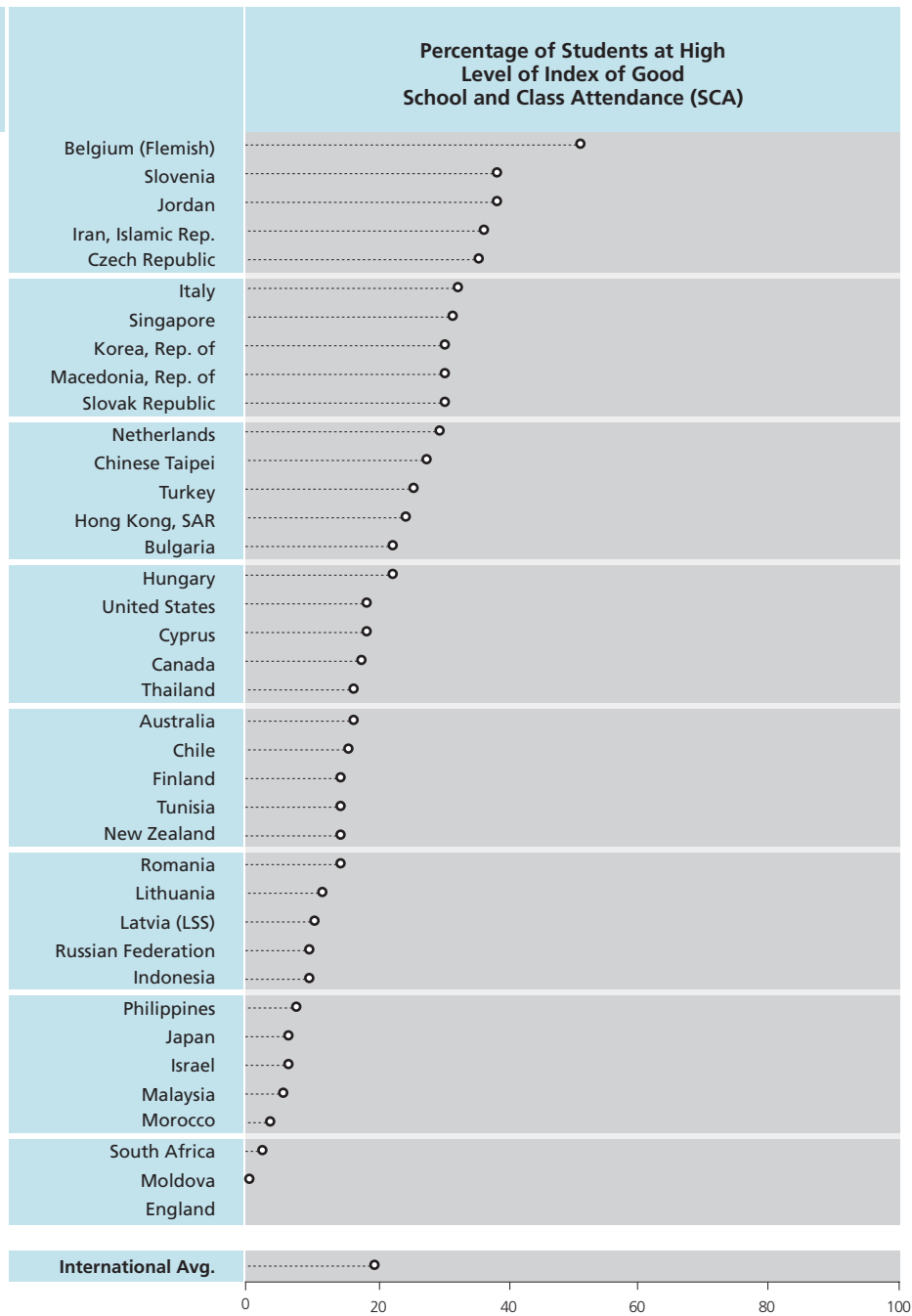
SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

† Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

( ) Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A dash (–) indicates data are not available. A tilde (~) indicates insufficient data to report achievement.

An "r" indicates school response data available for 70-84% of students.



	Percentage of Students Whose Schools Reported the Behavior					
	Arriving Late		Absenteeism		Skipping Class	
	Occurs at Least Weekly	Is a Serious Problem	Occurs at Least Weekly	Is a Serious Problem	Occurs at Least Weekly	Is a Serious Problem
Australia	77 (3.5)	6 (2.5)	63 (4.1)	11 (2.7)	50 (4.0)	4 (2.0)
Belgium (Flemish)	44 (4.7)	3 (1.4)	11 (2.4)	4 (1.8)	4 (1.3)	2 (1.0)
Bulgaria	34 (4.6)	11 (2.8)	26 (3.8)	18 (3.4)	16 (3.3)	8 (2.4)
Canada	58 (2.7)	7 (1.7)	45 (3.1)	7 (1.6)	22 (2.3)	3 (1.0)
Chile	62 (3.6)	17 (2.8)	40 (3.5)	8 (2.1)	11 (2.7)	5 (1.6)
Chinese Taipei	43 (4.1)	2 (1.1)	32 (4.0)	10 (2.7)	30 (3.8)	11 (2.8)
Cyprus	52 (0.2)	r 15 (0.2)	52 (0.2)	r 25 (0.2)	26 (0.2)	r 28 (0.2)
Czech Republic	21 (3.8)	0 (0.3)	9 (2.8)	8 (2.5)	5 (2.2)	8 (2.4)
England	--	--	--	--	--	--
Finland	62 (3.8)	13 (3.4)	46 (4.0)	12 (3.0)	34 (4.3)	11 (3.1)
Hong Kong, SAR	r 61 (4.8)	9 (2.8)	r 34 (4.5)	3 (1.6)	r 10 (2.8)	r 1 (0.9)
Hungary	20 (3.4)	7 (2.2)	10 (2.5)	17 (3.0)	4 (1.7)	10 (2.3)
Indonesia	55 (4.6)	16 (3.0)	44 (4.8)	24 (3.4)	29 (4.2)	32 (4.2)
Iran, Islamic Rep.	29 (3.3)	4 (1.8)	11 (2.6)	5 (2.1)	3 (1.7)	r 3 (1.4)
Israel	74 (4.0)	r 30 (4.2)	53 (4.4)	r 24 (4.1)	48 (4.7)	r 24 (4.3)
Italy	32 (3.6)	4 (1.6)	11 (2.2)	9 (2.3)	8 (2.2)	7 (2.0)
Japan	55 (4.1)	20 (3.4)	63 (4.1)	76 (3.9)	14 (3.2)	27 (3.8)
Jordan	34 (4.0)	3 (1.6)	26 (4.1)	1 (1.0)	17 (3.3)	r 6 (2.2)
Korea, Rep. of	32 (4.0)	1 (1.0)	31 (4.1)	12 (2.9)	21 (3.6)	5 (1.8)
Latvia (LSS)	46 (4.4)	r 12 (3.2)	19 (3.3)	r 16 (3.4)	31 (3.7)	r 21 (3.7)
Lithuania <sup>‡</sup>	45 (3.8)	19 (2.7)	37 (3.8)	27 (3.6)	42 (3.5)	25 (3.2)
Macedonia, Rep. of	34 (4.0)	14 (2.9)	34 (4.0)	13 (2.5)	20 (3.3)	14 (3.2)
Malaysia	41 (4.1)	7 (2.4)	44 (4.2)	23 (3.7)	31 (3.6)	12 (2.5)
Moldova	52 (4.3)	24 (3.6)	44 (3.7)	32 (3.9)	39 (4.1)	14 (2.8)
Morocco	81 (3.4)	16 (2.7)	73 (3.4)	40 (4.4)	42 (3.9)	34 (4.3)
Netherlands	r 76 (4.9)	r 18 (6.8)	r 35 (5.9)	r 12 (6.4)	r 44 (6.5)	r 15 (7.1)
New Zealand	73 (3.8)	7 (1.7)	66 (3.9)	15 (2.5)	60 (4.1)	8 (2.2)
Philippines	57 (4.5)	9 (2.6)	55 (4.5)	17 (3.2)	41 (4.3)	8 (2.2)
Romania	30 (4.0)	11 (2.8)	27 (3.8)	27 (4.0)	20 (3.8)	29 (4.2)
Russian Federation	41 (3.8)	14 (3.5)	22 (2.9)	12 (2.2)	32 (4.2)	10 (2.2)
Singapore	51 (4.8)	3 (1.6)	40 (4.4)	3 (1.5)	23 (4.0)	0 (0.0)
Slovak Republic	20 (3.5)	1 (0.8)	10 (3.0)	11 (3.1)	8 (2.4)	4 (1.9)
Slovenia	52 (4.2)	2 (1.1)	51 (4.0)	3 (1.3)	32 (4.0)	2 (1.2)
South Africa	75 (3.6)	48 (4.5)	69 (3.6)	r 46 (3.9)	57 (4.4)	36 (3.5)
Thailand	45 (4.3)	5 (1.9)	37 (4.3)	11 (3.0)	32 (3.9)	8 (2.3)
Tunisia	49 (3.9)	6 (2.1)	33 (3.9)	20 (3.2)	32 (3.6)	21 (3.5)
Turkey	32 (3.5)	6 (1.5)	33 (3.3)	15 (3.4)	15 (2.4)	5 (2.1)
United States	r 71 (3.7)	r 12 (2.3)	r 60 (4.2)	r 12 (2.7)	r 29 (3.6)	r 4 (1.8)
<b>International Avg.</b>	49 (0.6)	11 (0.4)	38 (0.6)	17 (0.5)	27 (0.6)	13 (0.5)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by schools.

A dash (–) indicates data are not available.

<sup>‡</sup> Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

An "r" indicates school response data available for 70-84% of students.

( ) Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.



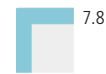
## How Safe and Orderly Are Schools?

The frequency and seriousness of student behavior threatening an orderly school environment are presented in Exhibit 7.7. The three behaviors are violating the dress code, creating a classroom disturbance, and cheating. Violation of dress code is likely to reflect, at least partially, whether there is a uniform requirement. For many countries, violating the dress code was not reported to be a serious problem, and on average internationally only six percent of the students were in schools where it was a serious problem.



In contrast, 13 percent of the students, on average internationally, were in schools that reported classroom disturbances to be a serious problem. Most countries showed a pattern in which a larger percentage of students were in schools where classroom disturbances occurred at least weekly compared with the percentage of students in schools where it was considered a serious problem. The single exception was Japan, where just five percent of the students were in schools in which classroom disturbances occurred weekly, and yet 23 percent were in schools that considered classroom disturbances to be a serious problem.

The frequency and seriousness of student behavior threatening a safe school environment are shown in Exhibit 7.8. The five behaviors are vandalism, theft, physical injury to other students, intimidation or verbal abuse of other students, and intimidation or verbal abuse of teachers or staff. As in other reports of student behavior, cross-national comparisons are difficult because of differing perceptions of what constitutes a serious problem. However, with only a few exceptions, the overwhelming majority of students attend schools judged to have few serious problems. The incidence of these student behaviors was generally low in most countries. The exception was intimidation or verbal abuse of other students, for which several countries had relatively high percentages of students in schools where the behavior occurs at least weekly; in Australia, Israel, the Netherlands, and the United States, close to half of the students were in such schools.



## Exhibit 7.7 Frequency and Seriousness of Student Behavior Threatening an Orderly School Environment

	Percentage of Students Whose Schools Reported the Behavior					
	Violating Dress Code		Classroom Disturbance		Cheating	
	Occurs at Least Weekly	Is a Serious Problem	Occurs at Least Weekly	Is a Serious Problem	Occurs at Least Weekly	Is a Serious Problem
Australia	75 (4.1)	r 9 (3.0)	73 (4.2)	11 (2.8)	7 (2.6)	0 (0.0)
Belgium (Flemish)	6 (2.1)	0 (0.0)	40 (5.4)	7 (2.5)	14 (2.7)	1 (0.0)
Bulgaria	2 (1.1)	0 (0.0)	22 (3.8)	6 (1.9)	3 (1.5)	0 (0.4)
Canada	22 (1.8)	2 (0.8)	60 (2.6)	21 (2.3)	4 (1.4)	2 (0.9)
Chile	31 (3.8)	4 (1.5)	46 (3.6)	15 (2.7)	13 (2.8)	2 (1.0)
Chinese Taipei	41 (4.1)	3 (1.5)	30 (3.8)	4 (1.6)	9 (2.1)	8 (2.3)
Cyprus	26 (0.2)	r 12 (0.1)	r 55 (0.2)	r 25 (0.2)	4 (0.1)	r 15 (0.2)
Czech Republic	3 (1.7)	0 (0.0)	63 (4.7)	21 (4.4)	9 (4.3)	11 (3.5)
England	--	--	--	--	--	--
Finland	2 (1.1)	1 (0.0)	50 (3.9)	6 (2.1)	0 (0.4)	0 (0.4)
Hong Kong, SAR	r 42 (4.6)	r 7 (2.5)	36 (4.7)	r 9 (2.9)	4 (1.7)	r 4 (1.9)
Hungary	2 (1.1)	1 (0.8)	41 (4.2)	15 (2.4)	2 (1.1)	16 (2.9)
Indonesia	31 (4.6)	19 (3.5)	21 (3.4)	12 (3.0)	12 (2.7)	15 (2.9)
Iran, Islamic Rep.	3 (1.1)	2 (1.0)	21 (3.4)	5 (1.9)	0 (0.0)	4 (1.3)
Israel	46 (4.9)	r 12 (3.8)	61 (4.5)	r 35 (4.9)	6 (2.1)	r 5 (2.2)
Italy	--	--	47 (4.0)	32 (3.6)	13 (2.7)	5 (1.4)
Japan	30 (4.0)	18 (3.5)	5 (1.5)	23 (3.7)	2 (1.1)	13 (2.8)
Jordan	23 (3.9)	r 15 (3.4)	28 (3.7)	r 5 (2.2)	5 (2.0)	r 6 (2.1)
Korea, Rep. of	37 (4.3)	3 (1.4)	43 (4.2)	7 (1.8)	3 (1.3)	8 (2.5)
Latvia (LSS)	s 5 (2.4)	r 2 (1.3)	37 (4.5)	17 (3.8)	53 (5.0)	r 18 (3.9)
Lithuania †	4 (1.7)	1 (1.0)	18 (2.8)	12 (2.4)	7 (2.1)	6 (2.0)
Macedonia, Rep. of	1 (1.0)	0 (0.0)	13 (2.3)	5 (2.0)	8 (1.9)	2 (0.7)
Malaysia	30 (3.7)	6 (1.8)	26 (3.7)	8 (2.3)	10 (2.4)	7 (1.8)
Moldova	6 (1.9)	3 (1.4)	29 (3.7)	13 (2.7)	19 (3.2)	14 (3.3)
Morocco	38 (4.9)	13 (2.8)	32 (3.8)	28 (3.2)	9 (2.0)	28 (3.1)
Netherlands	r 10 (4.2)	r 0 (0.0)	r 76 (5.5)	r 14 (5.4)	r 60 (6.5)	r 1 (0.8)
New Zealand	75 (3.9)	7 (2.0)	68 (3.8)	9 (2.5)	6 (2.0)	0 (0.0)
Philippines	33 (4.2)	3 (1.5)	27 (3.7)	4 (1.7)	13 (3.1)	2 (1.3)
Romania	16 (3.2)	7 (2.4)	17 (3.3)	14 (3.0)	0 (0.0)	10 (2.6)
Russian Federation	7 (2.2)	0 (0.0)	13 (2.8)	4 (1.6)	1 (0.5)	2 (1.2)
Singapore	36 (4.8)	2 (1.3)	32 (3.9)	3 (1.7)	3 (1.4)	0 (0.0)
Slovak Republic	3 (1.6)	2 (1.3)	60 (4.4)	21 (4.1)	51 (4.1)	4 (1.8)
Slovenia	4 (1.8)	1 (0.0)	61 (4.3)	9 (2.5)	4 (1.7)	0 (0.4)
South Africa	60 (4.2)	r 33 (3.3)	39 (4.1)	15 (3.3)	21 (3.6)	13 (2.3)
Thailand	40 (4.5)	4 (1.8)	13 (2.6)	3 (1.4)	3 (1.5)	r 2 (1.2)
Tunisia	18 (3.1)	4 (1.7)	54 (4.0)	20 (3.2)	2 (1.4)	38 (4.2)
Turkey	10 (2.2)	6 (2.2)	15 (2.5)	10 (2.8)	5 (1.6)	4 (1.8)
United States	r 42 (4.0)	r 3 (1.2)	r 69 (4.3)	r 11 (2.6)	r 12 (2.8)	r 1 (0.0)
<b>International Avg.</b>	24 (0.6)	6 (0.3)	39 (0.6)	13 (0.5)	11 (0.4)	7 (0.3)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

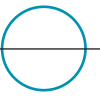
Background data provided by schools.

† Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

( ) Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A dash (–) indicates data are not available.

An "r" indicates school response data available for 70-84% of students. An "s" indicates school response data available for 50-69% of students.



**Exhibit 7.8 Overleaf**

## Exhibit 7.8 Frequency and Seriousness of Student Behavior Threatening a Safe School Environment

	Percentage of Students Whose Schools Reported the Behavior					
	Vandalism		Theft		Physical Injury to Other Students	
	Occurs at Least Weekly	Is a Serious Problem	Occurs at Least Weekly	Is a Serious Problem	Occurs at Least Weekly	Is a Serious Problem
Australia	27 (4.2)	2 (1.2)	23 (3.7)	1 (0.7)	14 (3.1)	3 (1.4)
Belgium (Flemish)	8 (2.4)	9 (2.6)	7 (2.2)	9 (2.5)	8 (1.9)	6 (2.1)
Bulgaria	5 (1.8)	4 (1.6)	1 (0.6)	1 (1.0)	4 (1.4)	1 (0.0)
Canada	15 (1.5)	6 (2.0)	7 (1.4)	6 (1.9)	6 (1.8)	4 (1.5)
Chile	9 (2.3)	7 (2.0)	10 (2.3)	7 (1.9)	12 (2.5)	9 (1.8)
Chinese Taipei	14 (3.1)	11 (2.5)	7 (2.2)	16 (2.9)	8 (2.3)	21 (3.2)
Cyprus	r 18 (0.1)	r 22 (0.2)	r 8 (0.1)	r 23 (0.2)	2 (0.0)	r 20 (0.2)
Czech Republic	13 (2.7)	21 (3.6)	3 (1.9)	17 (3.8)	2 (1.7)	17 (3.7)
England	--	--	--	--	--	--
Finland	6 (2.2)	3 (1.6)	3 (1.8)	1 (0.8)	7 (2.5)	2 (1.4)
Hong Kong, SAR	18 (3.7)	r 6 (2.3)	8 (2.6)	r 5 (2.2)	5 (2.1)	r 3 (1.6)
Hungary	10 (2.6)	30 (3.5)	2 (1.1)	25 (3.4)	8 (2.0)	23 (3.1)
Indonesia	4 (1.8)	29 (4.0)	1 (0.9)	30 (4.1)	0 (0.0)	26 (3.9)
Iran, Islamic Rep.	3 (1.4)	r 4 (1.6)	1 (0.6)	4 (1.6)	3 (1.4)	r 2 (1.4)
Israel	30 (4.2)	r 28 (4.1)	10 (2.9)	r 15 (3.5)	24 (4.3)	r 18 (3.7)
Italy	7 (1.9)	18 (2.8)	4 (1.4)	16 (2.8)	9 (2.1)	19 (3.0)
Japan	3 (1.3)	23 (3.5)	1 (0.9)	25 (3.7)	1 (0.9)	22 (3.6)
Jordan	5 (1.8)	r 16 (3.6)	2 (1.1)	r 12 (3.1)	9 (2.5)	r 10 (2.7)
Korea, Rep. of	12 (2.8)	10 (2.5)	9 (2.5)	13 (3.0)	10 (2.6)	9 (2.6)
Latvia (LSS)	2 (1.3)	r 4 (2.0)	0 (0.0)	10 (3.0)	5 (2.3)	r 8 (2.6)
Lithuania †	0 (0.0)	6 (1.7)	0 (0.0)	9 (2.0)	1 (0.0)	7 (1.3)
Macedonia, Rep. of	3 (1.4)	8 (2.6)	1 (0.9)	6 (2.2)	3 (1.6)	9 (2.4)
Malaysia	12 (3.0)	17 (3.4)	7 (2.0)	12 (2.8)	2 (1.1)	11 (2.2)
Moldova	1 (1.0)	3 (1.3)	0 (0.0)	8 (2.3)	0 (0.0)	2 (1.2)
Morocco	17 (2.8)	34 (4.0)	8 (1.8)	26 (3.3)	9 (2.3)	25 (3.6)
Netherlands	r 45 (7.6)	r 28 (7.4)	r 22 (5.9)	r 19 (6.4)	r 2 (1.3)	r 4 (2.0)
New Zealand	21 (3.5)	4 (1.8)	15 (3.0)	4 (1.5)	8 (2.0)	1 (0.9)
Philippines	16 (3.2)	11 (2.4)	6 (2.2)	2 (1.1)	6 (2.0)	1 (0.7)
Romania	0 (0.0)	11 (2.9)	2 (1.3)	19 (3.5)	9 (2.6)	22 (3.5)
Russian Federation	0 (0.4)	3 (1.5)	1 (0.5)	6 (2.0)	2 (1.1)	4 (1.3)
Singapore	5 (1.8)	2 (1.3)	5 (2.0)	2 (1.4)	1 (0.7)	0 (0.0)
Slovak Republic	15 (3.4)	24 (4.1)	2 (1.4)	17 (3.4)	3 (1.7)	15 (3.8)
Slovenia	8 (2.0)	2 (1.5)	3 (1.3)	1 (0.8)	4 (1.9)	1 (0.8)
South Africa	18 (3.3)	32 (4.2)	16 (2.7)	29 (4.2)	7 (2.0)	14 (3.3)
Thailand	9 (2.3)	3 (1.6)	4 (1.6)	4 (1.7)	3 (1.5)	3 (1.5)
Tunisia	9 (2.5)	35 (4.4)	2 (1.2)	29 (4.0)	5 (1.9)	28 (3.8)
Turkey	10 (2.0)	11 (2.9)	6 (1.9)	10 (3.1)	7 (1.4)	10 (2.8)
United States	r 11 (2.3)	r 1 (0.8)	r 10 (2.5)	r 2 (1.1)	r 10 (2.4)	r 3 (1.8)
<b>International Avg.</b>	11 (0.4)	13 (0.5)	6 (0.3)	12 (0.5)	6 (0.3)	10 (0.4)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

Background data provided by schools.

A dash (–) indicates data are not available.

† Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.

An "r" indicates school response data available for 70-84% of students.

( ) Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

	Percentage of Students Whose Schools Reported the Behavior			
	Intimidation or Verbal Abuse of Other Students		Intimidation or Verbal Abuse of Teachers or Staff	
	Occurs at Least Weekly	Is a Serious Problem	Occurs at Least Weekly	Is a Serious Problem
Australia	51 (4.0)	11 (3.1)	16 (3.2)	5 (1.8)
Belgium (Flemish)	23 (3.4)	15 (3.7)	5 (1.5)	3 (1.2)
Bulgaria	9 (2.3)	2 (0.9)	1 (0.6)	0 (0.4)
Canada	42 (3.0)	22 (2.5)	4 (1.2)	3 (1.1)
Chile	23 (3.3)	14 (2.4)	4 (1.5)	7 (2.0)
Chinese Taipei	11 (2.7)	18 (3.1)	1 (1.0)	17 (3.0)
Cyprus	r 23 (0.2)	r 20 (0.2)	3 (0.1)	r 25 (0.2)
Czech Republic	5 (1.5)	17 (3.6)	0 (0.0)	9 (2.6)
England	--	--	--	--
Finland	14 (3.2)	7 (2.2)	4 (1.4)	2 (1.1)
Hong Kong, SAR	r 8 (2.7)	r 4 (1.8)	r 3 (1.5)	r 2 (1.3)
Hungary	9 (2.5)	25 (3.6)	1 (0.6)	8 (1.9)
Indonesia	2 (1.3)	25 (3.9)	0 (0.0)	28 (3.8)
Iran, Islamic Rep.	11 (2.9)	2 (1.5)	2 (1.2)	r 4 (1.8)
Israel	51 (4.6)	r 32 (5.1)	8 (2.6)	r 14 (3.6)
Italy	14 (2.3)	23 (3.0)	4 (1.7)	13 (2.7)
Japan	3 (1.5)	25 (3.8)	2 (1.2)	23 (3.7)
Jordan	18 (3.0)	r 8 (2.4)	1 (0.8)	r 11 (2.9)
Korea, Rep. of	12 (2.9)	12 (2.8)	8 (2.3)	9 (2.5)
Latvia (LSS)	1 (1.1)	r 5 (2.1)	0 (0.0)	r 1 (0.6)
Lithuania <sup>†</sup>	3 (1.4)	14 (2.2)	0 (0.0)	6 (1.4)
Macedonia, Rep. of	6 (1.8)	7 (2.0)	1 (0.0)	5 (2.0)
Malaysia	4 (1.7)	11 (2.3)	1 (0.9)	8 (2.1)
Moldova	3 (1.4)	5 (1.9)	1 (0.0)	4 (1.7)
Morocco	18 (3.0)	22 (3.1)	10 (2.4)	32 (3.7)
Netherlands	r 49 (7.3)	r 23 (6.9)	r 17 (6.6)	r 16 (6.4)
New Zealand	39 (3.9)	12 (2.7)	13 (2.8)	3 (1.5)
Philippines	10 (2.7)	0 (0.0)	3 (1.6)	1 (0.0)
Romania	10 (2.5)	21 (3.5)	2 (1.1)	14 (3.3)
Russian Federation	3 (1.3)	7 (2.1)	1 (0.5)	1 (0.6)
Singapore	7 (2.3)	2 (1.2)	1 (0.7)	1 (0.9)
Slovak Republic	10 (3.0)	17 (4.0)	0 (0.0)	8 (2.7)
Slovenia	17 (3.0)	3 (1.4)	1 (0.8)	0 (0.4)
South Africa	22 (3.0)	17 (2.8)	4 (1.5)	12 (3.5)
Thailand	7 (2.1)	4 (1.7)	2 (1.2)	3 (1.3)
Tunisia	5 (1.9)	25 (3.6)	2 (1.3)	38 (4.1)
Turkey	9 (1.8)	12 (2.8)	3 (1.4)	6 (2.5)
United States	r 46 (4.3)	r 16 (3.6)	r 7 (2.0)	r 3 (1.5)
<b>International Avg.</b>	16 (0.5)	14 (0.5)	4 (0.3)	9 (0.4)

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1998-1999.

