

## PRIMARY STUDENTS' ATTITUDES TOWARDS MATHEMATICS AND SCIENCE

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### *Key Findings: Canada, England, Japan, United States*

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About 81 percent of U.S. fourth-grade students reported either a positive or strongly positive attitude towards mathematics in 1994–95.<sup>6</sup> The proportion of U.S. fourth-grade students reporting positive or strongly positive attitudes towards mathematics was higher than in Japan (74 percent), but lower than in Canada, where 87 percent reported positive or strongly positive attitudes towards mathematics (figure 9a).

The proportion of U.S. fourth-grade students reporting positive or strongly positive attitudes towards science (84 percent) was lower than in Japan (88 percent), but higher than in England,<sup>7</sup> where 80 percent reported positive or strongly positive attitudes towards science. There was no difference detected in the proportion of U.S. and Canadian fourth-grade students reporting positive or strongly positive attitudes toward science (figure 9b).

### *Definition and Methodology*

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The TIMSS study included the fifth year of formal schooling in England and Scotland in 1994–95.

The index of overall attitudes towards mathematics is based on average of responses to the following statements: 1) I like mathematics; 2) I enjoy learning mathematics; 3) Mathematics is boring (reverse scale).

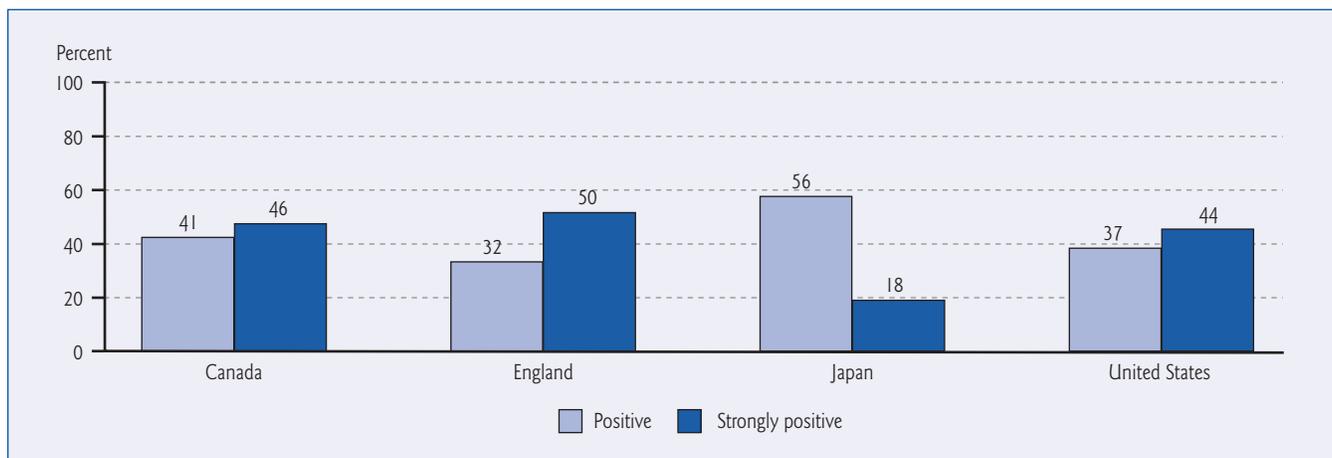
The index of overall attitudes towards science is based on average of responses to the following statements: 1) I like science; 2) I enjoy learning science; 3) Science is boring (reverse scale).

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<sup>6</sup>Fourth-grade data are not available in the Third International Mathematics and Science Study 1999 report and will be available in the TIMSS 2003 report.

<sup>7</sup>The United Kingdom is one of the countries included in this study. Most indicators are reported for the country as a whole, but this indicator only reports student attitudes towards mathematics and science for England, one of the four units in the United Kingdom. The other three units are Wales, Scotland, and Northern Ireland.

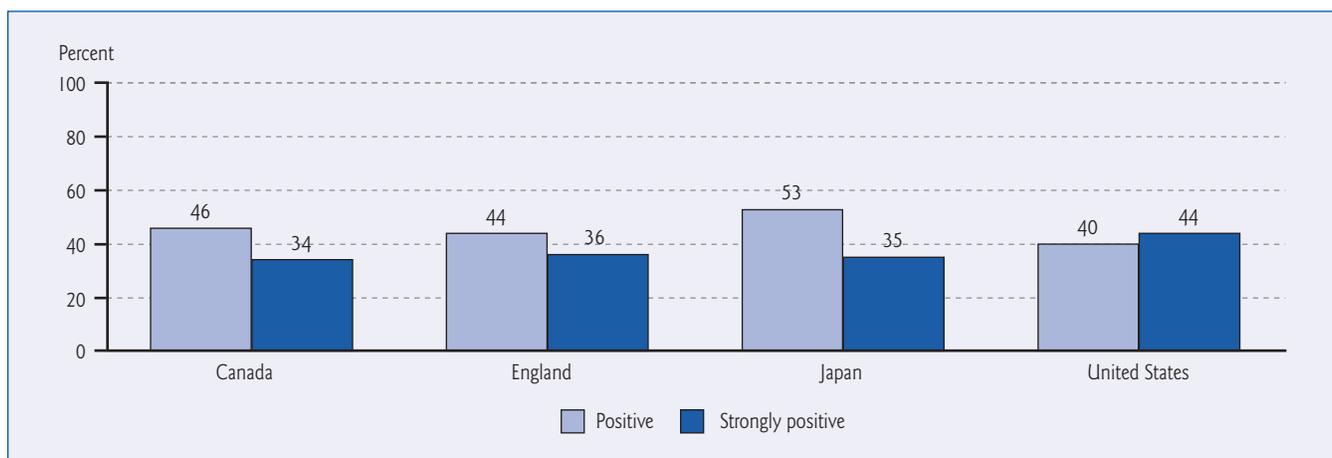
**Figure 9a. Percentage of fourth-grade students with positive or strongly positive attitudes towards mathematics, by country: 1994–95**



NOTE: Fourth-grade in most countries; year 5 in England. Index of overall attitudes towards mathematics is based on average of responses to the following statements: 1) I like mathematics; 2) I enjoy learning mathematics; 3) Mathematics is boring (reversed scale).

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics Achievement in the Primary School Years: Third International Mathematics and Science Study*, 1997, Table 4.15.

**Figure 9b. Percentage of fourth-grade students with positive or strongly positive attitudes towards science, by country: 1994–95**



NOTE: Fourth-grade in most countries; year 5 in England. Index of overall attitudes towards science is based on average of responses to the following statements: 1) I like science; 2) I enjoy learning science; 3) Science is boring (reversed scale).

SOURCE: International Association for the Evaluation of Educational Achievement, *Science Achievement in the Primary School Years: Third International Mathematics and Science Study*, 1997, Table 4.15.

## Primary Students' Attitudes Towards Mathematics and Science – Data Tables

Table A-9a. Percentage of fourth-grade students with positive or strongly positive attitudes towards mathematics, by country: 1994–95

Country	Positive	Strongly Positive
Canada	41 (1.2)	46 (1.1)
England	32 (1.1)	50 (1.5)
Japan	56 (1.0)	18 (0.8)
United States	37 (1.1)	44 (1.5)

NOTE: Fourth-grade in most countries; year 5 in England and Scotland. Index of overall attitudes towards mathematics is based on average of responses to the following statements: 1) I like mathematics; 2) I enjoy learning mathematics; 3) Mathematics is boring (reversed scale). Standard errors are in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics Achievement in the Primary School Years: Third International Mathematics and Science Study*, 1997, Table 4.15.

Table A-9b. Percentage of fourth-grade students with positive or strongly positive attitudes towards science, by country: 1994–95

Country	Positive	Strongly Positive
Canada	46 (0.9)	34 (1.1)
England	44 (1.1)	36 (1.2)
Japan	53 (0.9)	35 (1.1)
United States	40 (0.9)	44 (1.2)

NOTE: Fourth-grade in most countries; year 5 in England and Scotland. Index of overall attitudes towards science is based on average of responses to the following statements: 1) I like science; 2) I enjoy learning science; 3) Science is boring (reversed scale). Standard errors are in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics Achievement in the Primary School Years: Third International Mathematics and Science Study*, 1997, Table 4.15.