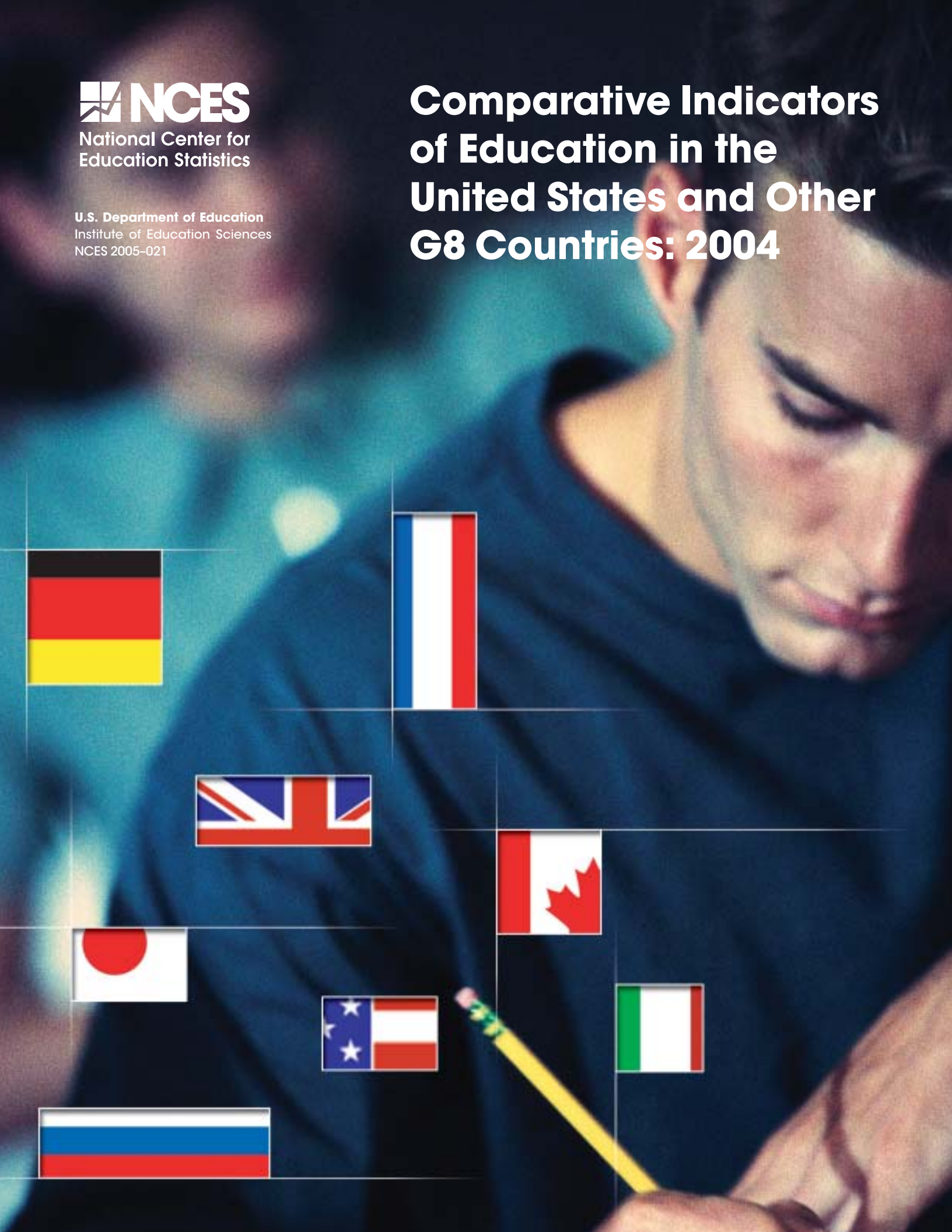

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Comparative Indicators of Education in the United States and Other G8 Countries: 2004

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Comparative Indicators of Education in the United States and Other G8 Countries: 2004

February 2005

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TABLE OF CONTENTS

List of Tables

List of Figures

List of Appendix Figures

Introduction

INTRODUCTION

With the emergence and growth of the global economy, policymakers and educators have turned to international comparisons to assess how well national systems of education are performing. These comparisons shed light on a host of policy issues, from access to education to equity of resources devoted to educational achievement. They provide policymakers with the opportunity to compare different aspects of countries' education systems, assess systems' performances, and identify potential strategies to improve student achievement and system outputs.

Since the 1960s, the United States has participated actively in international projects that are designed to provide key information about the performance of the U.S. education system compared to other countries. These projects include the Indicators of National Education Systems (INES) at the Organization for Economic Cooperation and Development (OECD); the Trends in International Mathematics and Science Study (TIMSS) and the Progress in International Reading Literacy Study (PIRLS), both conducted by the International Association for the Evaluation of Educational Achievement (IEA); and, more recently, the OECD's Program for International Student Assessment (PISA). This report, *Comparative Indicators of Education in the United States and Other G8 Countries: 2004,* draws on the most current information produced by these projects available at the time of production (fall 2003 to spring 2004) to present a set of education indicators that describes how the U.S. education system compares with those in other economically developed countries. Updated information from these various projects will be incorporated in subsequent reports.

Although the four international education projects cited above involve many countries worldwide, the primary comparisons in this report are with the Group of Eight, or G8, countries. These are the eight most industrialized countries in the world, whose representatives meet regularly to discuss economic and other policy issues: Canada, France, Germany, Italy, Japan, the Russian Federation, the United Kingdom, and the United States. The countries were selected for comparison because they are relatively similar to the United States in their economic development and because they are among our major economic competitors. In indicators from the OECD's *Education at a Glance*, the United Kingdom includes England, Northern Ireland, Scotland, and Wales. In indicators from PISA, the United Kingdom includes England, Northern Ireland, and Scotland, because Wales did not participate in PISA 2000. In indicators from PIRLS, the United Kingdom is represented by two of its component jurisdictions, England and Scotland. Some indicators also include comparisons with a smaller grouping of G8 countries based on availability of data. All indicators included in this report and in the 2002 version are available online at http://nces.ed.gov/surveys/international/intlindicators.

What's New in 2004?

Results from PIRLS 2001 have been used to create four new indicators described in the preprimary and primary education section. These indicators cover a range of topics related to reading in the fourth grade, attitudes toward reading, and teachers' strategies for students falling behind in reading. Also, new to this edition of G8 indicators are several indicators using data from PISA 2000. The PISA indicators concern 15-year-olds and deal with a variety of topics, including reading engagement and achievement differences by sex, and by whether the language used in the assessment is spoken at home. Other new indicators are from the IEA's Civic Education Study of 2001 and the 2003 edition of *Education at a Glance.* Another addition to the 2004 G8 report is the appendix, which contains information about the education system of each G8 country, and is an updated version of the "Classification of Countries' Education Systems" found in the 2002 report.

Education Levels Used for the Indicators

The indicators presented in parts II, III, and IV of the report are organized around four education levels—preprimary education, primary education, secondary education, and higher education. A brief overview of the education levels is presented here to provide the reader with a frame of reference while reading the indicators. To ensure comparability in the indicators across countries, each country restructured its national education data to correspond with the definitions of education levels that were developed in the 1997 revision of the International Standard Classification of Education (ISCED).[1] The following two paragraphs highlight the key features of (1) education programs from preprimary through secondary education and (2) higher education programs.

[1]United Nations Educational, Scientific and Cultural Organization. (1997). *International Standard Classification of Education, ISCED 1997.* Montreal, Canada: Author.

Preprimary education includes programs of education for children at least 3 years of age that involve organized, center-based instructional activities; in most countries, preprimary education is not compulsory. Primary education includes programs that are designed to give students a sound basic education in reading, writing, and mathematics, along with an elementary understanding of other subjects such as history, geography, science, art, and music. In the international classification, primary education usually begins at the start of compulsory education (around age 6) and lasts for 6 years. Secondary education encompasses two stages: lower secondary education and upper secondary education. Lower secondary education includes programs that are designed to complete basic education; the standard duration in the international classification is 3 years. Upper secondary education is designed to provide students with more in-depth knowledge of academic or vocational subjects and to prepare them for higher level academic or vocational studies or entry into the labor market. The standard duration of upper secondary education in the international classification is 3 years.

Higher education includes two education levels.[2] The first level contains two types of programs: vocational programs and academic programs. The vocational programs provide a higher level of technical and vocational education that is designed to prepare students for the labor market. In the international classification, these programs are between 2 and 4 years in duration.[3] Academic programs at the first level of higher education are intended to provide sufficient qualifications for gaining entry into advanced research programs and professions with high skill requirements. The international classification includes programs of medium length that are less than 5 years in duration and long programs that are 5 to 7 years in duration. The second level of higher education includes doctoral studies and usually requires the completion of a research thesis or dissertation. For a summary of how the ISCED correlates with these levels, please refer to the appendix.

[2]In the international classification, more advanced education is generally referred to as tertiary education. In this report, the term "higher education" is used because this term is more familiar to American readers.

[3]It should be noted that the international classification includes an education level that straddles the boundary between secondary and higher education: postsecondary nontertiary education. This program of study—which is primarily vocational in nature—is generally taken after the completion of secondary school, but the subject content is not more advanced than the content of secondary school courses. This level of education is included in indicators of primary and secondary education in all other countries except the United States. In the United States, postsecondary nontertiary education is not included in the enrollment indicators; expenditures for this education level are partially included in indicators of expenditures of higher education.

Mapping G8 Countries' Education Systems to the ISCED

Differences in the structure of countries' education systems often make international comparisons difficult. To improve the comparability of education indicators, the OECD worked with countries to standardize their education systems into the ISCED, as described above. Using the OECD ISCED classifications as a starting point, the National Center for Education Statistics (NCES) worked with education professionals in other G8 countries to create a general overview of each country's education system. As an aid to the reader, schematics of how the ISCED applies to each of the G8 countries are provided in the appendix, accompanied by text describing each system in greater detail.

Organization of the Report

Comparative Indicators of Education in the United States and Other G8 Countries: 2004 begins with a section that highlights key findings and then presents 23 indicators that compare different aspects of education systems in the United States and the seven other G8 countries. The 23 indicators are organized into the following sections:

- Context of Education
- Preprimary and Primary Education
- Secondary Education
- Higher Education

The section on the context of education presents indicators that suggest the potential demand for education in countries as measured by the size of the youth population and the countries' current levels of educational attainment. It contains two indicators on the comparison of countries' financial investments in education, as well as the sources of public funding devoted to education. The section concludes with two indicators that examine the relationship between educational attainment and labor force participation and earnings.

The sections on preprimary and primary education and secondary education begin with indicators that pertain to access to education, generally measured by enrollment rates at each education level. The indicators that follow in these sections compare student outcomes, such as test scores on international assessments, and also present demographic profiles of the students by achievement levels. The next set of indicators at these education levels examines home-related and school resources that influence student outcomes, such as student preparedness at the start of school, time spent doing reading homework, home

literacy environment, teachers' instructional strategies and teaching time, and students' attitudes toward reading.

The higher education section also begins with an indicator on enrollment rates. The other two indicators at this education level explore students' chosen field of study and the percentage of foreign students in higher education.

Each indicator is presented in a 2-page format. The first page presents key findings that highlight how the United States compares with other G8 countries (with data available) on the indicator. The key findings are followed by a short section that defines the indicator and describes key features of the methodology used to produce the indicator. The second page presents graphics and tables that support the key findings, sources of data for the indicator, and more detailed notes on interpreting the results.

Most of the indicators included in the report present a snapshot of the U.S. education system during the start of this decade in 2000, although earlier data are used for some indicators when these are the most current data available on the topic.

Finally, it should be noted that all the indicators related to enrollment in education use 2001 as the reference year. In the United States, this designation applies to the 2000–01 school year; indicators are based on enrollment data collected in October 2000. Finance indicators use 2000 as the reference year. In the United States, this designation applies to the 1999–2000 school year; indicators are based on expenditures for the period from mid-1999 to mid-2000.

Data Sources

There are three main sources of data for this report. The first is the OECD's Indicators of National Education Systems (INES) project. Most of the OECD data are from tables in *Education at a Glance* (2003) or the OECD 2003 database.

The second data source is made up of the assessments conducted by the International Association for the Evaluation of Educational Achievement (IEA). These include the 2001 Progress in International Reading Literacy Study (PIRLS) and the 1999 Civic Education Study (CivEd).

The third data source is the Program for International Student Assessment (PISA), conducted by the OECD in 2000.

Data for the indicator on youth population are from the *International Database* of the U.S. Census Bureau.

It should be noted that indicator data from different editions of *Education at a Glance* and the OECD database are derived from annual data collections carried out by the OECD. Data from member countries come from a variety of national data sources. These include administrative data collections, school surveys, household surveys, and national financial reports. Most of the indicator data for the United States come from the NCES Common Core of Data (CCD), the NCES Integrated Postsecondary Education Data System (IPEDS), the Current Population Survey (CPS) of the U.S. Census Bureau, and the NCES Schools and Staffing Survey (SASS). It should further be noted that at the time of production of this report, during spring and summer 2004, these sources provided the latest available data on each of the topics included in this report. Information from a new edition of *Education at a Glance* (2004) or other more recent information was unable to be included because of production deadlines.

Statistical Testing

The majority of indicators presented in this report are derived either from administrative records that are based on collections from the universe of respondents or from national sample surveys, for which standard errors of national estimates were not available. Consequently, for these indicators, no tests of statistical significance were conducted to establish whether the observed differences from the U.S. average were statistically significant. However, for the 9 indicators derived from the international assessments (Indicators 8 to 11 and 14 to 18), standard *t* tests were used to determine whether the U.S. estimates were statistically different from other G8 countries' estimates. Differences were reported if they were found to be statistically significant at the .05 level, using two-tailed tests of significance.

Other International Indicator Publications

NCES participates in numerous international education activities through the International Activities Program. More information about the program and other reports published by NCES can be found at http://nces.ed.gov/surveys/international. The indicators in this report and the 2002 G8 report are available online at http://nces.ed.gov/surveys/international/intlindicators.

Summary

SUMMARY

Introduction

This report is designed to describe how the U.S. education system compares with the education systems in the Group of Eight, or G8, countries. These countries, Canada, France, Germany, Italy, Japan, the Russian Federation, the United Kingdom, and the United States, are among the world's most economically developed. *Comparative Indicators of Education in the United States and Other G8 Countries: 2004* draws on the most current information about education from the Indicators of National Education Systems (INES) project at the Organization for Economic Cooperation and Development (OECD), the international assessments conducted by the International Association for the Evaluation of Educational Achievement (IEA), and the OECD's Program for International Student Assessment (PISA). Started in 2002, this report is published on a biennial basis. The main findings of this report are highlighted below. The highlights are organized around the four major sections of the report: the context of education, preprimary and primary education, secondary education, and higher education. All indicators from this report and the 2002 G8 report are online at http://nces.ed.gov/surveys/international/intlindicators.

Context of Education

Size and Growth Rate of School-Age Population

In 2003, the United States and the Russian Federation had the highest proportion of 5- to 29-year-olds, relative to their total populations, as compared to the other G8 countries. In the past 10 years (1993–2003), the population growth rate for youth ages 5 to 19 was higher in the United States than in any other G8 country (Indicator 1).

Participation in Formal Schooling

In 2001, all of the G8 countries, except the Russian Federation, had close to universal participation in formal education for youth ages 5 to 14. Compulsory education ends at age 18 in Germany; age 17 in the United States; age 16 in Canada, France, and the United Kingdom; and age 15 in Italy, Japan, and the Russian Federation. Participation in formal education tends to be high until the end of compulsory education for all the countries, but in Germany and the United Kingdom, enrollment rates drop below 90 percent before the age at which compulsory education ends (Indicator 2).

Funding and Expenditures

In 2000, the United States ranked the highest among the six G8 countries with data in terms of expenditure per student at both the combined primary and secondary level as well as for higher education (Indicator 3).

In 2000, public funding for higher education was more centralized than funding for primary and secondary education in all of the G8 countries. However, in some G8 countries, including the United States, much of the funding for higher education came from regional sources, including states (Indicator 4).

Education and the Labor Force

In 2001, labor force participation rates increased with educational attainment for adults in the United States and the other G8 countries reporting data. Women participated in the labor force at a lower rate than men in each of the G8 countries reporting data for all education levels examined (Indicator 5).

The earnings premium associated with higher education compared to upper secondary education for adults ages 25 to 64 was higher in the United States than in the other five G8 countries presented (Indicator 6).

Preprimary and Primary Education

Learning in Early Childhood

Sixty-four percent of U.S. children ages 3 to 5 were enrolled in center-based preprimary and primary education in 2001, a rate that was lower than the rates of all G8 countries reporting data except Canada. Eighty-nine percent of 5-year-olds in the United States were enrolled in public or private preprimary programs, while 7 percent were enrolled in primary schooling (Indicator 7).

Reading Literacy

Only fourth-graders from England scored higher than their U.S. counterparts among all the G8 countries on the Progress in International Reading Literacy Study (PIRLS) 2001 combined reading literacy scale (Indicator 8).

In the United States and all the other countries presented, fourth-graders who reported having 0–10 books in the home had lower average reading achievement than did fourth-graders who reported having more books (Indicator 10).

To examine fourth-graders' views on reading for enjoyment, PIRLS 2001 created an index of Students' Attitudes Toward Reading (SATR). All of the participating G8 countries, with the exception of England, had greater percentages of fourth-graders with higher SATR scores than the United States (Indicator 9).

Primary School Teachers

In 2001, the most common strategies employed by U.S. fourth-grade teachers to help a student who was falling behind in reading were to work individually with the student and have other students help the student. These were also some of the most common strategies used in the majority of the other participating G8 countries (Indicator 11).

In the United States in 2001, public primary school teachers with minimum qualifications were paid an average starting salary of $28,681, which was the second highest of all G8 countries reporting data (Indicator 12).

Secondary Education

Secondary School Enrollment

A large majority of 16- and 17-year-olds in the countries presented were enrolled in secondary education in 2001. Eighty-eight percent of 16-year-olds and 75 percent of 17-year-olds were enrolled in secondary education in the United States. Over 90 percent of 17-year-olds were enrolled in secondary education in Canada, Germany, and Japan (Indicator 13).

Academic Achievement

According to PISA 2000, reading literacy scores among 15-year-olds were higher for females than for males in all of the G8 countries, including the United States (Indicator 14).

In the United States, students achieving at the lowest levels on the PISA 2000 reading scale reported lower levels of engagement in reading than their peers who achieved at the highest level. This pattern was found in other G8 countries as well (Indicator 17).

Citizenship

Compared to students in most other G8 countries, U.S. 14-year-olds placed more trust in national government and more importance on adult citizenship activities in 1999. They were less affirming, however, of the role of government in the social and economic spheres than 14-year-olds in most other G8 countries (Indicator 16).

Home Language and Reading Proficiency

In the United States, 15-year-olds whose home language differed from the language of instruction were overrepresented at the lowest levels of reading literacy (Indicator 15).

In the United States in 2000, more 15-year-olds at the lowest level of reading literacy achievement reported attending remedial language courses outside of school than 15-year-olds in the overall population (Indicator 18).

Secondary School Teachers

In 2001, public upper secondary teachers with the minimum qualifications in the United States earned the second-highest starting salary on average ($28,806) of the countries presented (Indicator 19).

Primary and secondary school teachers in the United States also taught more hours per year than teachers in the other G8 countries reporting data in 2001 (Indicator 20).

Higher Education

Enrollment in Higher Education

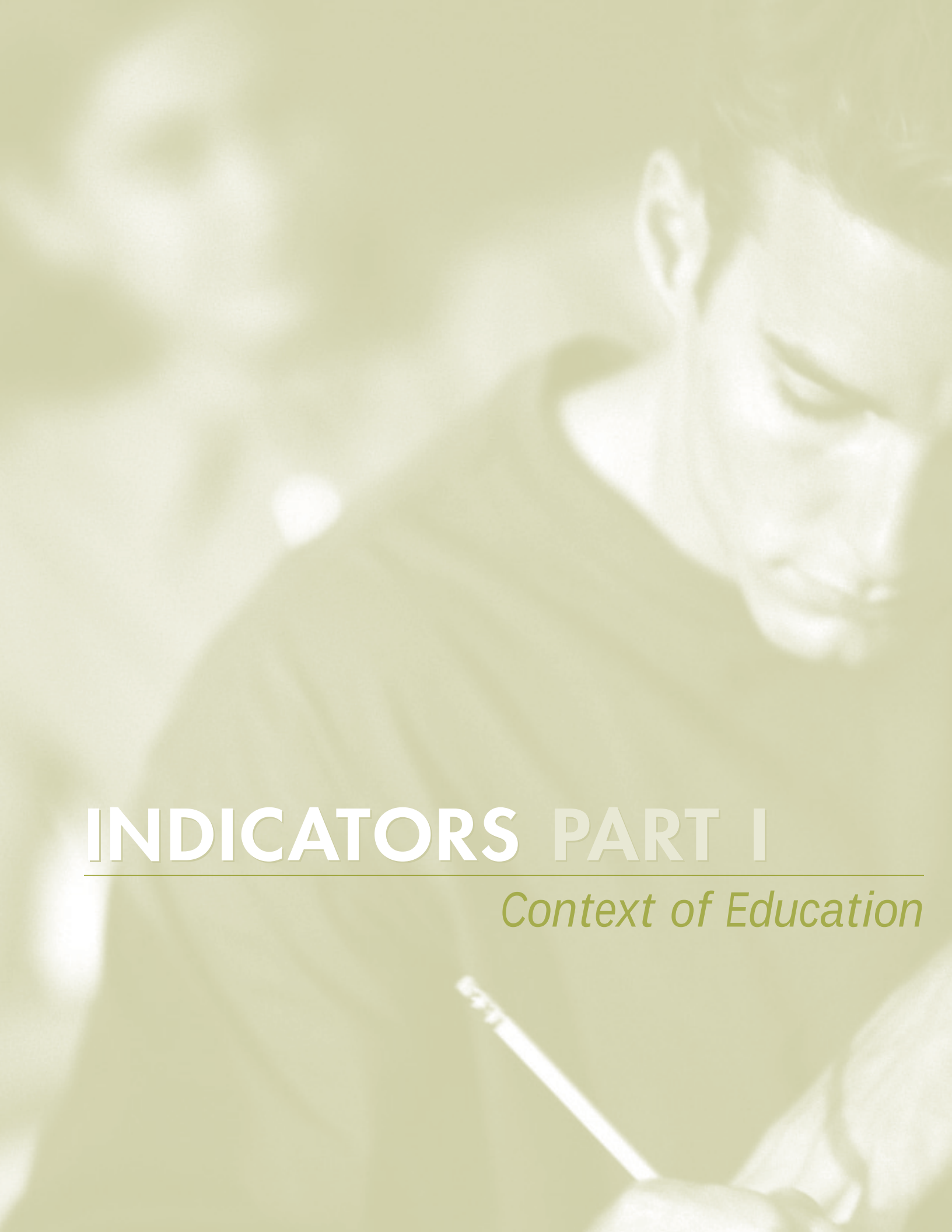
Almost one-quarter of U.S. 18- to 29-year-olds were enrolled in higher education in 2001, the highest enrollment rate among the G8 countries presented. Females had a higher enrollment rate than males in all the countries except Germany (Indicator 21).

Fields of Study

In the United States in 2001, 44 percent of first-university degrees were awarded in the social sciences, business, and law. Seventeen percent were awarded in humanities and arts, and 11 percent were awarded in science. Seven percent of first-university degrees were awarded in the general field of engineering, manufacturing, and construction (Indicator 22).

Foreign Students in Higher Education

The number of foreign students enrolled in higher education in the United States was greater than the numbers in any of the other G8 countries, although as a percentage of all students in the country it was not among the highest (Indicator 23).



INDICATORS PART I

Context of Education

YOUTH POPULATION

Key Findings: Canada, France, Germany, Italy, Japan, Russian Federation, United Kingdom, United States

The population growth rate from 1993 to 2003 for youth ages 5 to 19 was higher in the United States than in all the other G8 countries.

In 2003, the population between the ages of 5 and 29 (which corresponds approximately with the school-age population) represented 35 percent of the total population in the United States and the Russian Federation. This proportion was higher than the proportions found in all the other G8 countries (table 1).

In 2003, the population ages 5 to 19, those generally of primary- and secondary-school age, represented 21 percent of the total population in the United States, and this was higher than the corresponding percentage in all the other G8 countries. The proportion of 5- to 19-year-olds in the other G8 countries ranged from 14 percent in Italy to 20 percent in Canada and the Russian Federation.

The population ages 20 to 29, which generally includes individuals of postsecondary education age, represented 14 percent of the total population of the United States in 2003. While the proportion of 20- to 29-year-olds was slightly higher in the Russian Federation, the United States figure was about the same as the proportion in Japan and a little higher than in all other G8 countries.

The population ages 5 to 29 grew by 7 percent in the United States between 1993 and 2003 (figure 1). The growth rate was higher in the United States than in Canada, the only other country that experienced growth in this age group over this period. Several G8 countries experienced a decline in the 5- to 29-year-old population. This age population in France, Germany, Italy, Japan, the Russian Federation, and the United Kingdom declined by between 4 and 18 percent between 1993 and 2003.

The United States had the highest growth (12 percent) in the population ages 5 to 19 between 1993 and 2003. Three other countries also experienced growth in the population ages 5 to 19: Canada (7 percent), Germany (1 percent) and the United Kingdom (5 percent). The largest decline between 1993 and 2003 was in Japan, which experienced a 21 percent decline in the population ages 5 to 19.

The United States and the Russian Federation experienced growth in the population ages 20 to 29. The increase in the Russian Federation was 11 percent while the increase in the United States was 1 percent. Germany experienced the largest decline of the G8 countries for this age group, with a 27 percent decrease from 1993 to 2003, while the smallest decrease (4 percent) occurred in Canada.

Definitions and Methodology

The percent of the population ages 5 to 29 in 1993 and 2003 is calculated by dividing the population ages 5 to 29 by the total population for each respective country. The percent change in population ages 5 to 29 is calculated by subtracting the total population ages 5 to 29 in 1993 from this population in 2003 and dividing by the 1993 population ages 5 to 29. The share of a population group (e.g., ages 5 to 29) may decline from 1993 to 2003 even though the size of the population group may still have increased between 1993 and 2003. This is due to a higher rate of increase of the total population compared to the rate of increase for the specific population group.

Table 1. Percentage of the total population ages 5 to 29, by age group and country: 1993 and 2003

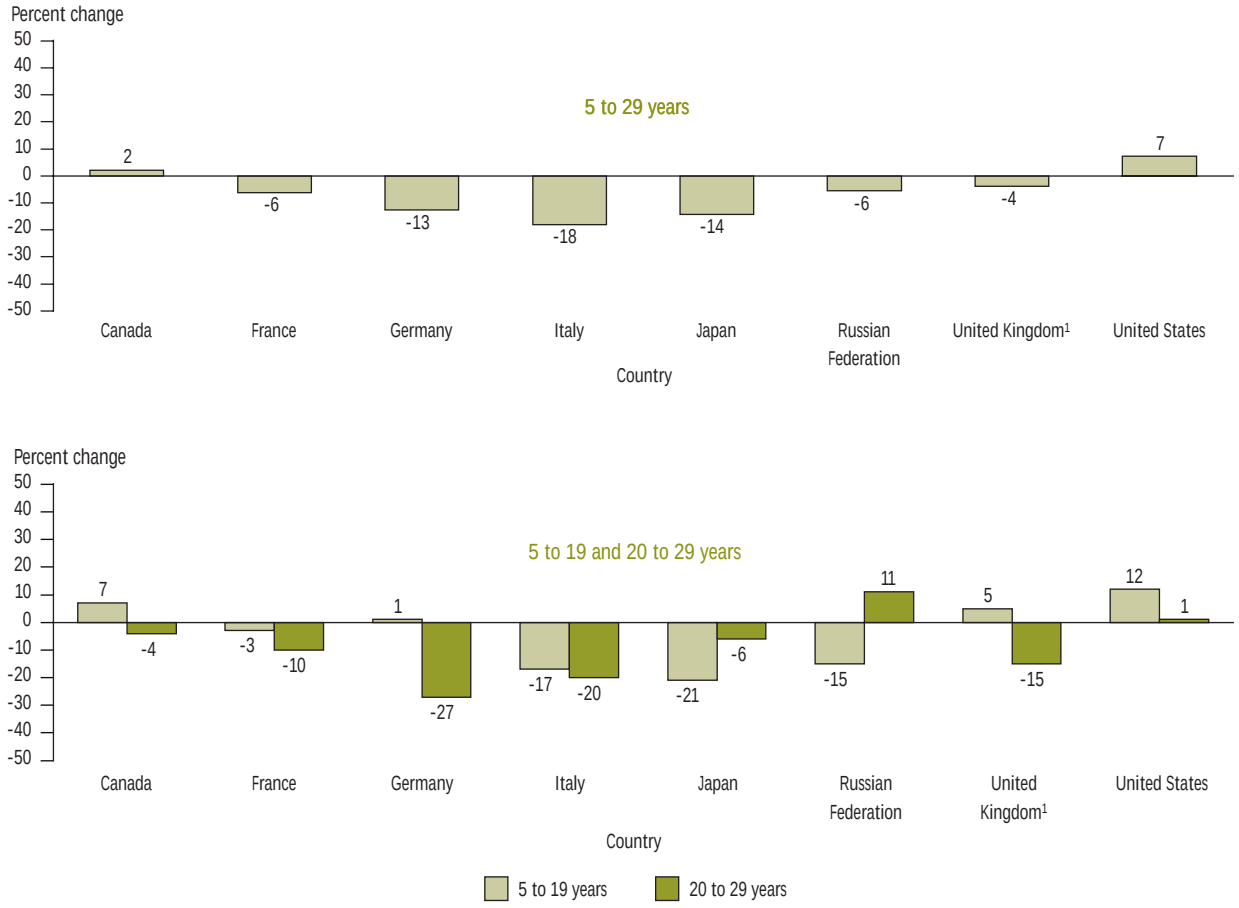
Year	Canada	France	Germany	Italy	Japan	Russian Federation	United Kingdom[1]	United States
Population ages 5 to 29 years								
1993	35.7	35.2	31.8	33.7	34.0	36.2	34.1	36.2
2003	32.8	31.6	27.3	27.1	28.6	35.1	31.7	34.8
Population ages 5 to 19 years								
1993	20.3	20.1	16.1	17.5	19.4	22.9	18.7	21.1
2003	19.5	18.6	16.1	14.3	15.1	19.9	19.0	21.2
Population ages 20 to 29 years								
1993	15.4	15.1	15.7	16.2	14.6	13.3	15.4	15.1
2003	13.3	13.0	11.3	12.8	13.5	15.2	12.6	13.6

[1]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S Department of Commerce, Bureau of the Census, International Database, "Table 94: Midyear Population, by Age and Sex", 1993 and 2003.

Figure 1. Percentage change in the population ages 5 to 29, 5 to 19, and 20 to 29, by country: 1993 to 2003



[1]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

SOURCE: U.S Department of Commerce, Bureau of the Census, International Database, "Table 94: Midyear Population, by Age and Sex", 1993 and 2003.

ENROLLMENT IN FORMAL EDUCATION

Key Findings: Canada, France, Germany, Italy, Japan, Russian Federation, United Kingdom, United States

All the G8 countries, except the Russian Federation, had close to universal participation in formal education for all of the ages in the range of 5 to 14.

In 2001, close to 100 percent of children ages 3 to 4 were enrolled in preprimary or primary programs in France[4] and Italy (table 2). In contrast, lower percentages of children ages 3 to 4 were enrolled in a preprimary or primary program in Canada (21 percent), Germany (70 percent), Japan (77 percent), the Russian Federation (31 percent), the United Kingdom (81 percent), and the United States (47 percent). However, by age 4 in Japan and the United Kingdom, age 5 in the United States, and age 6 in Canada and Germany, at least 90 percent of the population was enrolled in formal education (figure 2). In the Russian Federation, not until the age of 7 did enrollment rates reach 90 percent for the population.

In 2001, the United States and six of the seven other G8 countries had close to universal school participation of children ages 5–14—the age range that generally corresponds with primary and lower secondary education (table 2). The Russian Federation was the only country in which the enrollment rate for this age group was below 90 percent.

[4]Enrollment rates for 3 to 4-year-olds exceed 100 percent. A large number of children below the age of 3 in France are enrolled in formal education and get included in the enrollment figures, due to different reference dates for enrollment and population data.

The United States had an enrollment rate of 78 percent in 2001 for youth ages 15 to 19—the age range that corresponds most closely with upper secondary education in the countries presented. The enrollment rate for the United States for this age group was higher than the corresponding rates for Canada, Italy, the Russian Federation, and the United Kingdom, but lower than the rates for France and Germany.

Compulsory education ends at age 18 in Germany, age 17 in the United States, age 16 in Canada, France, and the United Kingdom, and age 15 in Italy, Japan, and the Russian Federation (figure 2). Participation in formal education tends to be high until the end of compulsory education for all the countries, but in Germany and the United Kingdom, enrollment rates are below 90 percent at the age at which students are still legally required to be enrolled in school.

Enrollment rates of 20- to 29-year olds—the age range that corresponds most closely to the typical age of enrollment in higher education—were less than 25 percent among the seven countries reporting data (table 2). The United States had an enrollment rate of 23 percent for adults ages 20 to 29. This rate was lower than the rate in Germany (24 percent), about the same as the rate in the United Kingdom (23 percent), but higher than the rates in Canada (21 percent), France (20 percent), Italy (17 percent) and the Russian Federation (15 percent).

Definitions and Methodology

Formal education enrollment figures include children who attended center-based programs and exclude children in home-based early childhood education. The percentage of the population at given ages enrolled in education is called an "enrollment rate." In this indicator, the term "enrollment rate" refers to "net enrollment rate," and is defined as the number of students in a particular age group enrolled in education divided by the population of that same age group. Enrollments include all full-time and part-time students in public and private institutions, ages 5 to 14, 15 to 19, and 20 to 29, in 2001. Enrollment rates may exceed 100 percent for some countries and some age categories due to different reference dates for school enrollment and population data. Reference year is 2001 for population and enrollment data in all countries; however, reference dates may differ within 2001. Ending age of compulsory education is the age at which students below that age are legally obliged to participate in education.

Table 2. Percentage of the population ages 3 to 29 enrolled in formal education, by age group and country: 2001

Country	Students participating in formal education as a percentage of the overall population of selected age			
	3- to 4-year-olds	5- to 14-year-olds	15- to 19-year-olds	20- to 29-year-olds
Canada	20.8	97.2	75.0	21.2
France[1]	119.3	101.0	86.6	19.6
Germany[1]	70.4	100.1	89.4	24.2
Italy	98.9	99.4	72.2	17.1
Japan[1]	76.8	101.0	—	—
Russian Federation	30.9	83.3	70.8	15.4
United Kingdom[2]	81.0	98.7	74.7	23.3
United States[1]	47.4	102.1	77.6	22.6

—Not available.

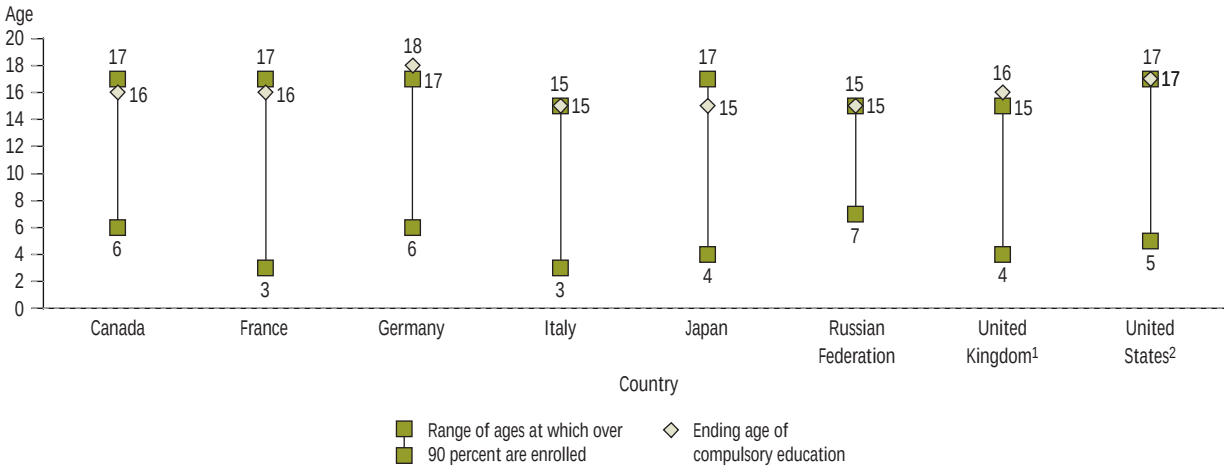
[1]Enrollment rates for France, Germany, Japan, and the United States exceed 100 percent in one or more age ranges due to different reference dates for school enrollment and population data.

[2]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Reference year is 2001 for population and enrollment data in all countries; however, reference dates may differ within 2001. Formal education enrollment figures for preprimary (most 3- to 4-year-olds enrolled) include only children who attended center-based programs and exclude children in home-based early childhood education.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*, Table C1.2.

Figure 2. Range of ages at which over 90 percent of the population is enrolled in formal education, and ending age of compulsory education, by country: 2001



[1]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

[2]The ending age of compulsory education in the United States varies across states, ranging from 16 to 18. The national figure of age 17 is calculated as a weighted average (weighting is based on the population of states) of the ending age of compulsory education for all the states. The modal age for the end of compulsory education in the United States is 16. (Source: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, October 2001. Available: http://www.census.gov/population/socdemo/school/cps2001/tab02.xls.)

NOTE: Reference year is 2001 for population and enrollment data in all countries; however, reference dates may differ within 2001. Ending age of compulsory education is the age at which compulsory schooling ends. For example, an ending age of 18 indicates that all students under 18 are legally obliged to participate in education. The "age range at which over 90 percent are enrolled" refers to the full range of ages at which enrollment reaches this level. Formal education enrollment figures for preprimary include only children who attended center-based programs and exclude children in home-based early childhood education.

SOURCE: Organization for Economic Cooperation and Development (OECD).(2003). *Education at a Glance: OECD Indicators 2003*, Table C1.2.

COMPARISONS OF EXPENDITURES FOR EDUCATION

Key Findings: Canada, France, Germany, Japan, United Kingdom, United States

The United States ranked the highest among the six G8 countries presented in terms of expenditures per student at the combined primary and secondary level as well as the higher education level.

Two measures used to compare public and private spending on education across countries are expenditures per student (expressed in absolute terms) and total expenditures as a percent of Gross Domestic Product (GDP). The latter measure allows a comparison of expenditures within countries relative to their national wealth.

In 2000, expenditures per student varied across the G8 countries, ranging from $5,135 (United Kingdom) to $7,877 (United States) at the combined primary and secondary level and from $8,363 (France) to $20,358 (United States) for higher education (figure 3, table 3).

The United States, the wealthiest country among those reporting data (in terms of GDP per capita), ranked the highest in amounts spent per student on primary and secondary education in 2000 (table 3). Expenditures per student at the combined primary and secondary level in the United States were higher than expenditures in the other G8 countries reporting data. U.S. expenditures at this level were 23 percent higher than those in France, the country reporting the next highest expenditure per student, and 53 percent higher than those in the United Kingdom, the country reporting the lowest expenditure per student.

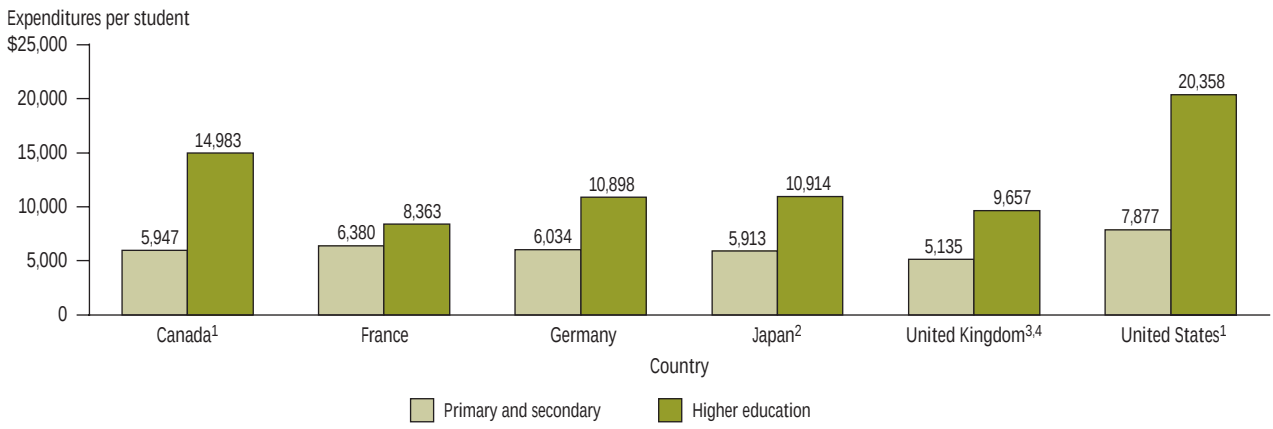
The United States also ranked the highest in amounts spent per student on higher education in 2000. Expenditures per student at the postsecondary level in the United States were 143 percent higher than expenditures in France, 111 percent higher than expenditures in the United Kingdom, 87 percent higher than expenditures in Germany and Japan, and 36 percent higher than expenditures in Canada.

While the United States reported the highest expenditure per student for primary and secondary education among the reporting G8 countries in 2000, it did not devote the highest percentage of its GDP to the cost of education at this level (table 3). In the United States, 3.9 percent of GDP went to the cost of education at the primary and secondary level. The corresponding figures for other countries presented ranged from 3.0 percent in Japan to 4.3 percent in France. For higher education in the United States, 2.7 percent of GDP went to the cost of education, compared to the corresponding figures for other countries presented ranging from 1.0 percent in Germany and the United Kingdom to 2.6 percent in Canada.

Definitions and Methodology

Data include all institutions, public and private. Per student expenditures are calculated based on public and private full-time-equivalent (FTE) enrollment figures and current expenditures and capital outlay from both public and private sources where data are available. Purchasing Power Parity (PPP) indices are used to convert other currencies to U.S. dollars. Within-country consumer price indices are used to adjust the PPP indices to account for inflation because the fiscal year has a different starting date in different countries.

Figure 3. Total expenditures per student in public and private institutions in U.S. dollars converted using Purchasing Power Parities (PPPs), by level of education and country: 2000



[1]Postsecondary nontertiary data included in higher education for Canada and the United States.

[2]Postsecondary nontertiary data included in both primary and secondary and higher education for Japan.

[3]Postsecondary nontertiary data included in primary and secondary for the United Kingdom.

[4]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Education levels are defined according to the International Standard Classification of Education (ISCED). Higher education refers to ISCED level 5A (academic higher education-first stage) except where otherwise noted. For more information on ISCED levels, see the appendix. Educational expenditures are from public and private revenue sources. Within-country consumer price indices are used to adjust the PPP indices to account for inflation because the fiscal year has a different starting date in different countries. Includes all institutions, public and private.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*; OECD Education Database, unpublished data.

Table 3. Total expenditures per student in public and private educational institutions and as a percentage of Gross Domestic Product (GDP), in U.S. dollars converted using Purchasing Power Parities (PPPs), by level of education and country: 2000

Country	Expenditures per student[1]		Expenditures as a percentage of GDP		GDP[2] per capita (in equivalent U.S. dollars converted using PPPs)
	Primary and secondary	Higher education	Primary and secondary	Higher education	
Canada[3]	$5,947	$14,983	3.6	2.6	$28,130
France	6,380	8,363	4.3	1.1	25,090
Germany	6,034	10,898	3.3	1.0	26,139
Japan[4]	5,913	10,914	3.0	1.1	26,011
United Kingdom[5,6]	5,135	9,657	3.7	1.0	24,964
United States[3]	7,877	20,358	3.9	2.7	34,602

[1]Per student expenditures are calculated based on public and private full-time-equivalent (FTE) enrollment figures (adjusted for the 1998–99 school year), and current expenditures and capital outlay from both public and private sources where data are available.

[2]GDP adjusted to national fiscal year.

[3]Postsecondary nontertiary data included in higher education for Canada and the United States.

[4]Postsecondary nontertiary data included in both primary and secondary and higher education for Japan.

[5]Postsecondary nontertiary data included in primary and secondary for the United Kingdom.

[6]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Education levels are defined according to the International Standard Classification of Education (ISCED). Higher education refers to ISCED level 5A (academic higher education-first stage). Postsecondary nontertiary refers to ISCED level 4. For more information on ISCED levels, see the appendix. Educational expenditures are from public and private revenue sources. Within-country consumer price indices are used to adjust the PPP indices to account for inflation because the fiscal year has a different starting date in different countries. Includes all institutions, public and private.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*; OECD Education Database, unpublished data.

SOURCES OF PUBLIC FUNDING FOR EDUCATION

Key Findings: Canada, France, Germany, Italy, Japan, Russian Federation, United Kingdom, United States

Public funding for higher education is more centralized than funding for primary and secondary education in all of the G8 countries, but in some countries, including the United States, much of the funding for higher education comes from regional (including state) sources.

Public funds for education are typically obtained from a combination of central, regional, and local sources. The percentage of funds provided by each source varies across countries and by education level.

In Canada, Germany, the Russian Federation, and the United States, all with a federal form of government, the central government provides a small portion of the funds for primary and secondary education. In 2000, the central government provided 8 percent of the revenues at this education level in the United States and Germany, 4 percent in Canada, and 1 percent in the Russian Federation (figure 4a).

Regional governments in Canada (i.e., provinces), Germany (i.e., Länder), and the United States (i.e., states), play an important role in the financing of primary and secondary education, but local governments also contribute to school funding. In 2000, state governments in the United States provided 51 percent of the funding for primary and secondary education, and local governments provided 41 percent. In comparison to the United States, regional governments in Canada and Germany played a larger role, supplying 70 and 75 percent of the funds, respectively. In contrast, local governments in the Russian Federation (i.e., Republics) financed 84 percent of the funds for primary and secondary education.

In two of the four nonfederal countries, France and Italy, the central government plays a dominant role in financing primary and secondary education, with regional and local governments contributing a smaller share of total resources. In 2000, the central government provided 74 percent of the revenues for primary and secondary education in France, and 81 percent in Italy.

The central government plays a smaller role compared to regional and local governments in the financing of primary and secondary education in Japan and the United Kingdom. In 2000, the central government in Japan provided 25 percent of funds at this education level, while regional governments (i.e. prefectures) provided 57 percent. In the United Kingdom, the central government contributed 26 percent and the local governments provided 74 percent of the funding. However, in the United Kingdom, a substantial portion of local funding consists of a general-purpose grant from the central government, giving the central government a large, albeit indirect, role in the financing of primary and secondary education.

Funding for higher education tends to be more centralized than funding for primary and secondary education among the G8 countries (figure 4b).

In 2000, the U.S. federal government provided 39 percent of the funds for higher education; local government allocations made up 6 percent; and regional (state) governments funded the balance of 55 percent. Regional governments in Canada, Germany, and the Russian Federation provided 66 percent, 80 percent, and 17 percent of public funds for higher education, respectively. The central government was the largest source of funds at this education level in the Russian Federation (81 percent) and the second largest provider of funds in Canada (34 percent) and Germany (17 percent).

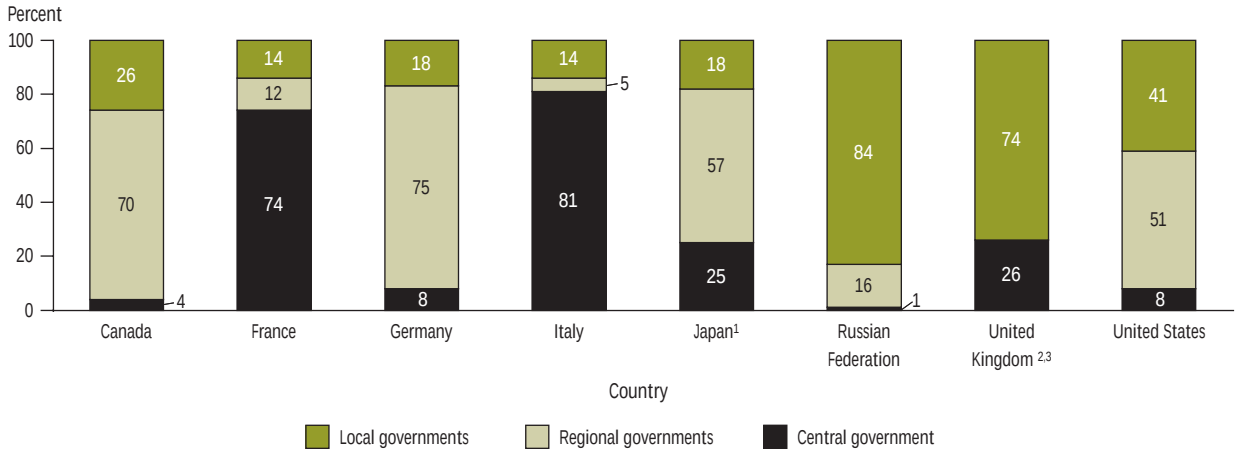
In the four other countries presented (i.e., the nonfederal countries), higher education funding is highly centralized. The share of public funds for higher education from the central governments in France, Italy, Japan, and the United Kingdom ranged from 84 percent (Japan) to 100 percent (United Kingdom).

Definitions and Methodology

Educational levels are defined according to the International Standard Classification of Education (ISCED). Primary education refers to ISCED level 1 and secondary education includes ISCED levels 2 and 3. Higher education refers to ISCED level 5A (academic higher education-first stage) (see ISCED descriptions in the appendix), except in Canada, the United States, and Japan, where ISCED level 4 (postsecondary nontertiary education) is included in higher education. For a complete description of the ISCED levels, see the appendix.

The educational expenditures of each level of government are the total educational expenditures of all public authorities at the level in question before transfers between levels of government. The proportion of expenditures made by a particular level of government is calculated as a percentage of the total consolidated expenditures of all three levels. Only expenditures specifically designated for education are taken into account in determining the proportion of expenditures borne by a particular level.

Figure 4a. Percentage distribution of public funds for primary and secondary education, by level of government and country: 2000



[1]Data on secondary level include International Standard Classification of Education (ISCED) level 5B (vocational and technical higher education) for Japan.

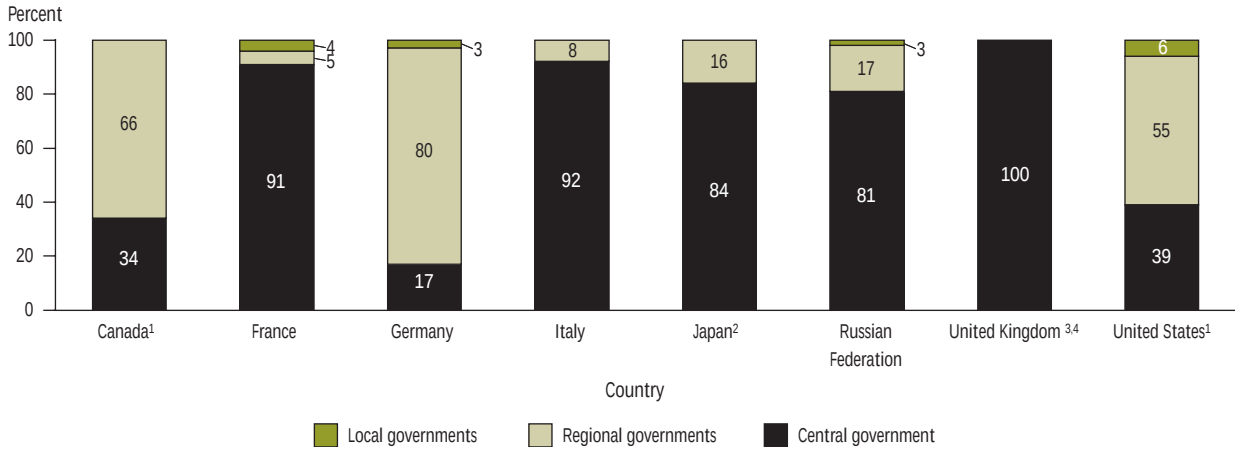
[2]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

[3]Category for regional funding does not apply for the United Kingdom.

NOTE: Education levels are defined according to the International Standard Classification of Education (ISCED). Primary education refers to ISCED level 1 and secondary education includes ISCED levels 2 and 3. For more information on ISCED levels, see the appendix. Detail may not sum to totals because of rounding.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*, Table B4.2a.

Figure 4b. Percentage distribution of public funds for higher education, by level of government and country: 2000



[1]Postsecondary nontertiary data included in higher education for Canada and the United States.

[2]Postsecondary nontertiary data included in both upper secondary and tertiary education for Japan.

[3]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

[4]Category for regional funding does not apply to the United Kingdom.

NOTE: Education levels are defined according to the International Standard Classification of Education (ISCED). Higher education refers to ISCED level 5A (academic higher education-first stage). Postsecondary nontertiary education refers to ISCED level 4. For more information on ISCED levels, see the appendix. Estimates for local funds round to zero for Canada, Italy, Japan, and the United Kingdom. Detail may not sum to totals because of rounding.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*, Table B4.2b.

LABOR FORCE PARTICIPATION RATES

Key Findings: Canada, France, Germany, Italy, Japan, United Kingdom, United States

Labor force participation rates in the United States, and the six other G8 countries shown, increased with educational attainment. Women participated in the labor force at a lower rate than men in all these countries.

In the United States and the six other G8 countries examined, labor force participation rates increased with educational attainment in 2001. Of adults ages 25 to 64 in the United States who completed upper secondary education (high school or its equivalent), 79 percent participated in the labor force in 2001 (figure 5a). This was 15 percentage points higher than the labor force participation rate of adults who did not complete upper secondary education.

Among the three G8 countries that include only academic general programs in upper secondary education (Canada, Japan, and the United States), the gap in labor force participation between completers of upper secondary education relative to those who did not complete upper secondary education was lower in the United States than in Canada (18 percentage points), but higher than the corresponding gap in Japan (6 percentage points). For the four G8 countries where upper secondary education includes academic programs as well as programs that lead to higher vocational-technical education or directly to the labor market, the gap in labor force participation between completers of upper secondary education relative to those with less education ranged from 16 percentage points in Germany to 24 percentage points in the United Kingdom.

In 2001, adults ages 25 to 64 in the United States and Canada who completed academic higher education participated in the labor force at a rate of 86 percent. This was 7 percentage points higher than the labor force participation rate of completers of upper secondary education in both countries. For countries that include only academic general programs in upper secondary education, the gap in labor force participation rates of completers of academic higher education relative to those with upper secondary education was lower in the United States and Canada than in Japan (12 percentage points). For countries where upper secondary education includes academic programs as well as programs that lead to higher vocational-technical education, or directly to the labor market, the gap in labor force participation between completers of upper secondary education relative to those with academic higher education ranged from 5 percentage points in France to 12 percentage points in Germany.

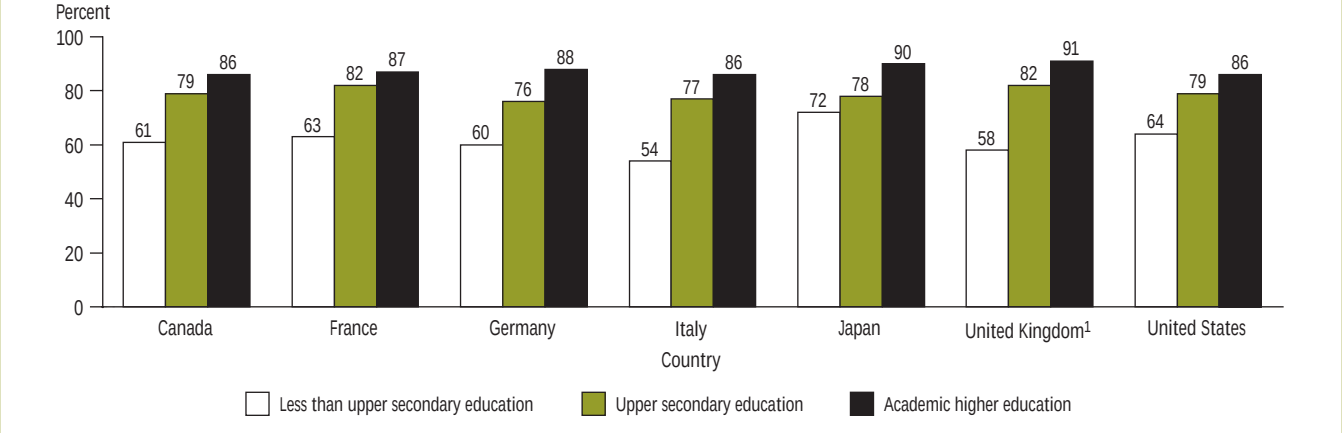
In all the countries presented, females who completed upper secondary education or academic higher education had lower labor force participation rates than their male counterparts in 2001 (figure 5b). However, the difference between the labor force participation rates of males and females was smaller among those who had completed academic higher education than among those who had completed upper secondary education. Females who completed academic higher education participated in the labor force at a rate of at least 81 percent in all countries except Japan, where 68 percent of women who completed academic higher education participated in the labor force. In the United States, the difference in labor force participation rates of males and females who completed upper secondary education was 13 percentage points; the difference for completers of academic higher education was lower at 11 percentage points.

Definitions and Methodology

The labor force participation rate of adults ages 25 to 64 for a particular level of educational attainment is calculated as the number of individuals ages 25 to 64 with the particular level of educational attainment who are participating in the labor force divided by the number of individuals ages 25 to 64 with the same particular level of educational attainment, regardless of employment status.

Educational levels are defined according to the International Standard Classification of Education (ISCED). Less than upper secondary education is defined as preprimary, primary, and lower secondary education for all countries. Upper secondary programs in Canada, Japan, and the United States are classified as 3A and are designed to provide access to tertiary academic education. Upper secondary programs in France include academic programs (3A), programs that lead to higher vocational-technical education (3B), and those that directly lead to the labor market (3C). In Germany upper secondary includes 3A programs as well as 3B. Italy and the United Kingdom include both 3A and 3C programs in upper secondary education. Academic higher education refers to ISCED level 5A (academic higher education-first stage) and ISCED level 6 (academic higher education-second stage/ doctoral studies) for all countries. For a complete description of the ISCED levels, see the appendix.

Figure 5a. Labor force participation rates of adults ages 25 to 64, by highest level of education and country: 2001

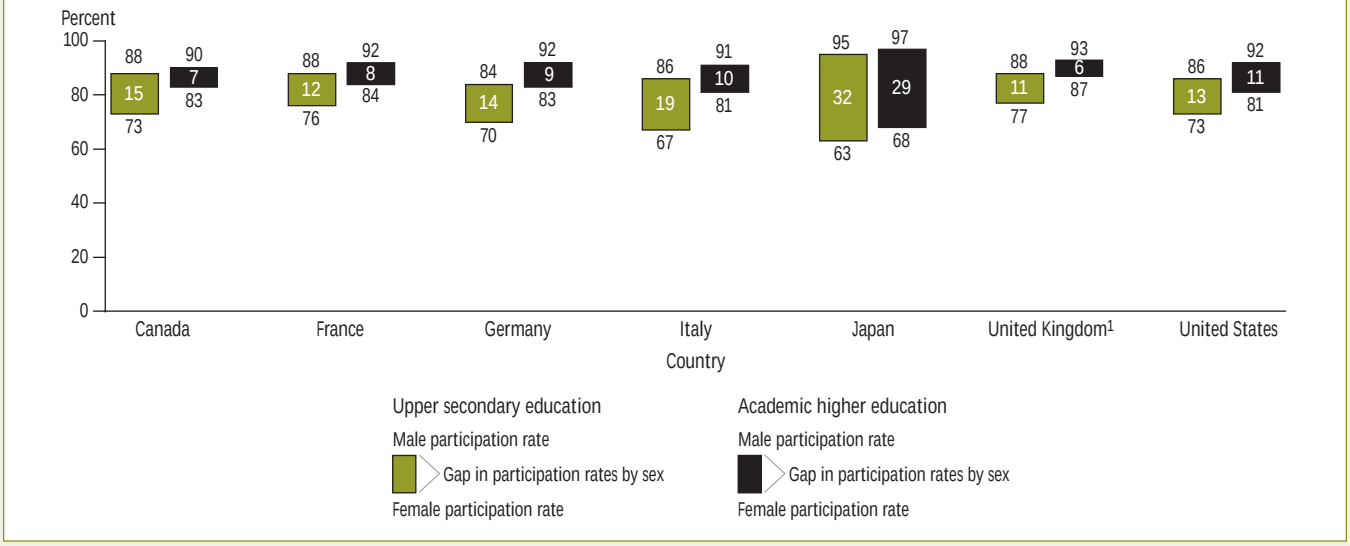


[1]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Education levels are defined according to the International Standard Classification of Education (ISCED). Less than upper secondary education is defined as preprimary, primary, and lower secondary education for all countries. Upper secondary programs in Canada, Japan, and the United States are classified as 3A and are designed to provide access to tertiary academic education. Upper secondary programs in France include academic programs (3A), programs that lead to higher vocational-technical education (3B), and those that directly lead to the labor market (3C). In Germany, upper secondary includes 3A programs as well as 3B. Italy and the United Kingdom include both 3A and 3C programs in upper secondary education. Academic higher education refers to ISCED level 5A (academic higher education-first stage) and ISCED level 6 (academic higher education-second stage/ doctoral studies) for all countries. For more information on ISCED levels, see the appendix.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). Labor Market Statistics Database, 2002.

Figure 5b. Labor force participation rates of adults ages 25 to 64, by sex, highest levels of education, and country: 2001



[1]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Education levels are defined according to the International Standard Classification of Education (ISCED). Upper secondary programs in Canada, Japan, and the United States are classified as 3A, and lead to a higher level general education. Upper secondary programs in Canada, Japan, and the United States are classified as 3A and are designed to provide access to tertiary academic education. Upper secondary programs in France include academic programs (3A), programs that lead to higher vocational-technical education (3B), and those that directly lead to the labor market (3C). In Germany, upper secondary includes 3A programs as well as 3B. Italy and the United Kingdom include both 3A and 3C programs in upper secondary education. Academic higher education refers to ISCED level 5A (academic higher education-first stage) and ISCED level 6 (academic higher education-second stage/ doctoral studies) for all countries. For more information on ISCED levels, see the appendix.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*, Table A.12.1.

EDUCATION AND EARNINGS

Key Findings: Canada, France, Germany, Italy, United Kingdom, United States

The earnings premium associated with higher education compared to upper secondary education for adults ages 25 to 64 is higher in the United States than in the other five G8 countries presented.

Examining earnings differentials by educational attainment gives a measure of the potential financial incentive for an individual to invest in further education. The earnings advantage or the premium of attaining higher education can be measured by the ratio of the average annual earnings of those who graduated from higher education with the average annual earnings of upper secondary graduates. In a similar way, the earnings disadvantage of not completing upper secondary education is apparent by comparison with the annual earnings of upper secondary graduates.

In 2001, adults ages 25 to 64 in the United States who completed less than upper secondary education earned, on average, 70 percent of the earnings of adults who completed upper secondary education (figure 6 and table 4). This earning disadvantage was observed in all of the other G8 countries, but was greater in the United States than in Canada, France, and Germany, while in Italy and the United Kingdom, the earnings disadvantage was larger than in the United States.

In 2001, U.S. females and males who completed less than upper secondary education earned 67 and 69 percent, respectively, of the wages of their same sex counterparts with an upper secondary degree (table 4). This was true for all the G8 countries, with the exception of Italy, where the earnings gap was smaller for females than for males.

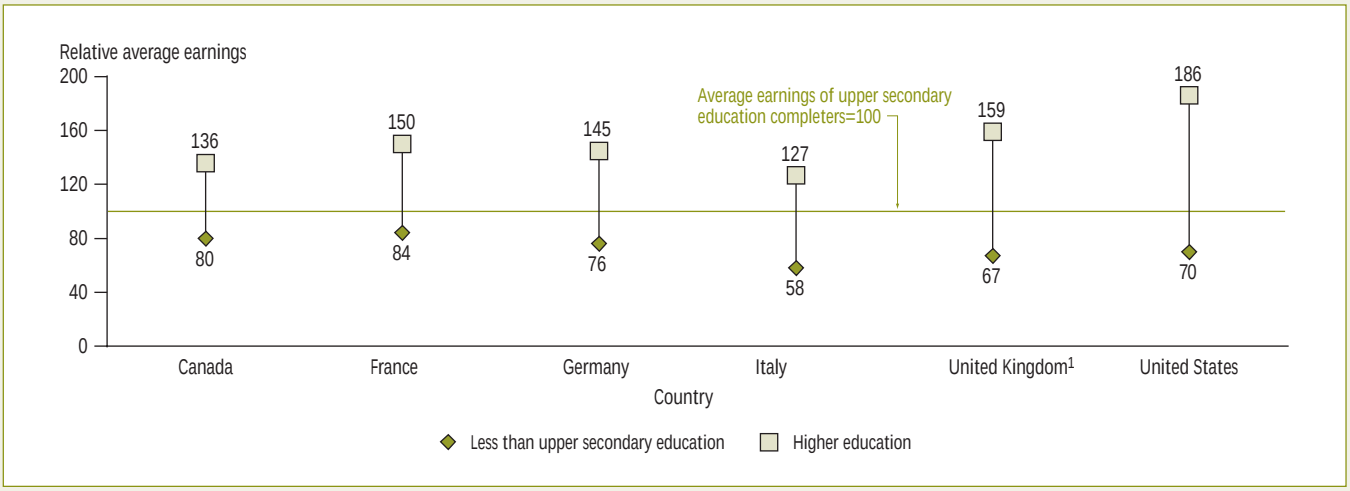
In 2001, completers of higher education ages 25 to 64 in the United States earned, on average, 186 percent of the earnings of upper secondary graduates (figure 6 and table 4). The relative advantage of U.S. adults who completed higher education was greater than that observed for the five other countries reporting data, although in every country, on average, those who completed higher education earned more than those with only an upper secondary education.

In the United States, the average earnings advantage associated with completing higher education was more pronounced, on average, for males than for females (table 4). In 2001, U.S. females earned 176 percent, and males earned 193 percent of the average earnings of their same sex counterparts with an upper secondary degree. This gap in earnings premium by sex was observed for three of the other five countries. But in Canada and the United Kingdom, the earnings premium for completing higher education was higher for females compared to males.

Definitions and Methodology

Educational levels are defined according to the International Standard Classification of Education (ISCED). Higher education refers to ISCED level 5A (academic higher education-first stage). Upper secondary refers to ISCED level 3. For a complete description of the ISCED levels, see the appendix. Data reported in 1999 for Canada and France, 2000 for Germany, 1998 for Italy, and 2001 for the United Kingdom, and the United States. Relative earnings from employment are defined as the average earnings (income from work before taxes) of persons at a given level of educational attainment divided by the average earnings of persons with an upper secondary education multiplied by 100. These estimates are restricted to individuals with income from employment during the reference period. Earnings are annual for the six countries reporting with the exception of France, which used monthly figures.

Figure 6. Relative average earnings of adults ages 25 to 64 who completed less than upper secondary education or higher education, compared with those with an upper secondary education, by country: Various years, 1998–2001



[1] The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Education levels are defined according to the International Standard Classification of Education (ISCED). Upper secondary refers to ISCED level 3. Higher education refers to ISCED level 5A (academic higher education-first stage). For more information on ISCED levels, see the appendix. Data reported in 1999 for Canada and France, 2000 for Germany, 1998 for Italy, and 2001 for the United Kingdom and the United States. Relative earnings percentages are derived from the indexed relative earnings values reported by the Organization for Economic Cooperation and Development.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*, Table A.14.1.

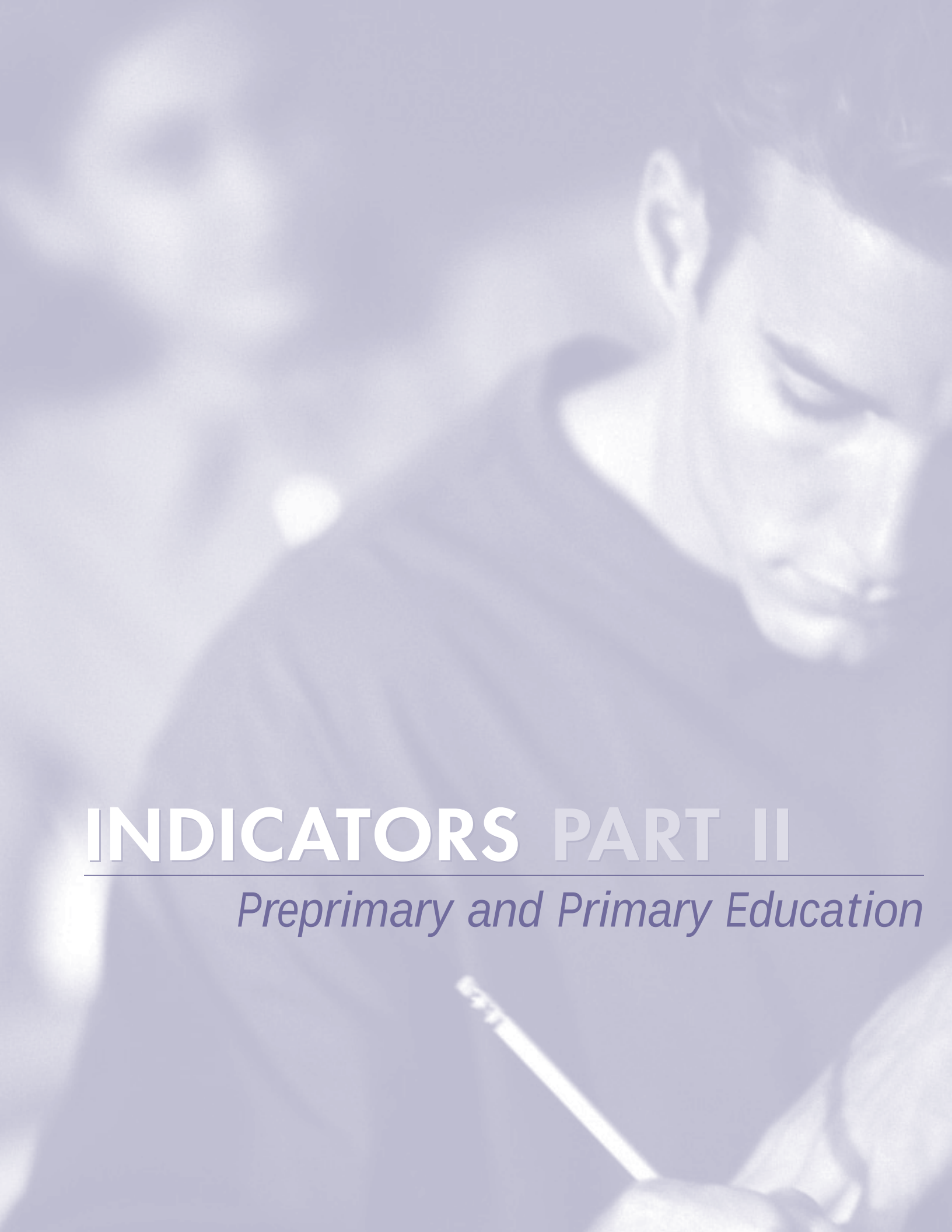
Table 4. Relative average earnings of adults ages 25 to 64 who completed less than upper secondary education or completed higher education, compared to those with an upper secondary education by country and sex: Various years, 1998–2001

	Country					
Level of education completed	Canada	France	Germany	Italy	United Kingdom[1]	United States
Less than upper secondary education						
Total	80	84	76	58	67	70
Males	80	88	81	54	72	69
Females	70	80	74	61	70	67
Higher education						
Total	136	150	145	127	159	186
Males	138	159	143	138	147	193
Females	139	145	141	115	183	176

[1] The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Those who completed upper secondary education have earnings set at an index value of 100. Education levels are defined according to the International Standard Classification of Education (ISCED). Upper secondary refers to ISCED level 3. Higher education refers to ISCED level 5A (academic higher education-first stage). For more information on ISCED levels, see the appendix. Data reported in 1999 for Canada and France, 2000 for Germany, 1998 for Italy, and 2001 for the United Kingdom and the United States. Relative earnings percentages are derived from the indexed relative earnings values reported by the Organization for Economic Cooperation and Development. The total is not the average for the male and female figures, but a ratio based on the relative earnings of the total population. It is affected by the distribution of males and females in the labor force at each educational attainment level.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*, Table A.14.1.



INDICATORS PART II

Preprimary and Primary Education

EARLY CHILDHOOD ENROLLMENT

Key Findings: Canada, France, Germany, Italy, Japan, United Kingdom, United States

The enrollment rate of 3- to 5-year-olds in the United States was lower than in five of the seven G8 countries presented.

In the United States, 64 percent of 3- to 5-year-olds were enrolled in center-based preprimary and primary education in 2001 (figure 7a). This enrollment rate was higher than the rate in Canada (44 percent), but lower than the enrollment rates of the five other G8 countries reporting data. In France and Italy, enrollment of 3- to 5-year-olds in preprimary and primary education was over 90 percent in 2001.

Universal enrollment, defined as an enrollment rate of over 90 percent for any age group, begins at age 5 in the United States (figure 7b). At this age, 89 percent of U.S. students are enrolled in preprimary programs, while 7 percent are enrolled in primary schooling (data not shown).

The age at which universal enrollment begins varies across the G8 countries. Universal enrollment begins later in the United States than it does in four G8 countries. At age 3, France and Italy have 100 and 95 percent of children enrolled in preprimary programs, respectively. At age 4, Japan and the United Kingdom have 92 and 99 percent enrolled in preprimary programs, respectively. In Canada and Germany, universal enrollment is not reached between the ages of 3 and 5, although the 5-year-old enrollment rates are 87 and 90 percent, respectively.

Universal primary enrollment begins at the earliest age, 5, for the United Kingdom. While 99 percent of 5-year-olds in the United Kingdom are enrolled in primary programs, 7 percent of their U.S. peers are enrolled at this education level, corresponding to first grade according to the international classification schemes (data not shown).

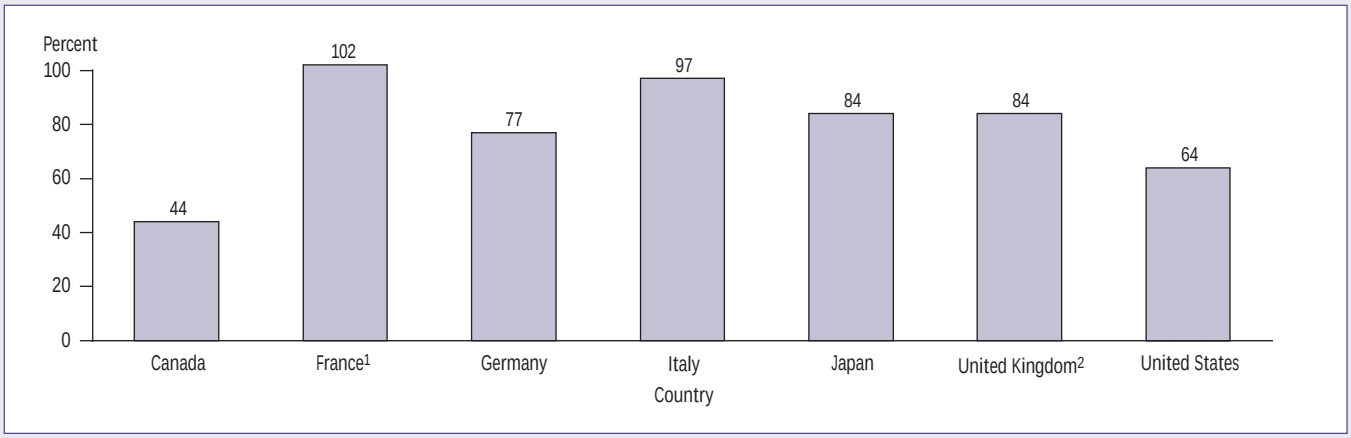
Definitions and Methodology

To conform to the international standard, U.S. enrollment in kindergarten and prekindergarten classes in elementary schools was considered part of preprimary education. This classification of the levels of education is based on the revised International Standard Classification of Education (ISCED). Preprimary education refers to ISCED level 0 and primary education refers to ISCED level 1. For a complete description of the ISCED levels, see the appendix.

The percent of the population at a given age enrolled in education is called an "enrollment rate." In this indicator, the term "enrollment rate" refers to "net enrollment rate," and is defined as the number of students in a particular age group divided by the population of that same age group. Enrollments include all full-time and part-time students ages 3, 4, and 5 in public and private schools in 2001. Enrollment rates may exceed 100 percent for some countries and some age categories due to different reference dates for school enrollment and population data. Reference year is 2001 for population and enrollment data in all countries; however, reference dates may differ within 2001. Enrollment figures only include children who attended center-based institutions. They exclude children in home-based early childhood education.

Unlike Indicator 2, which focuses on universal enrollment and aggregate enrollment rates, this indicator presents the enrollment rate by school level (preprimary and primary programs) and by single year of age for children ages 3 to 5. For further information about the typical age at which universal enrollment and aggregate enrollment rates begin across the G8 countries, please refer to Indicator 2.

Figure 7a. Percentage of children ages 3 to 5 enrolled in center-based preprimary and primary education, by country: 2001



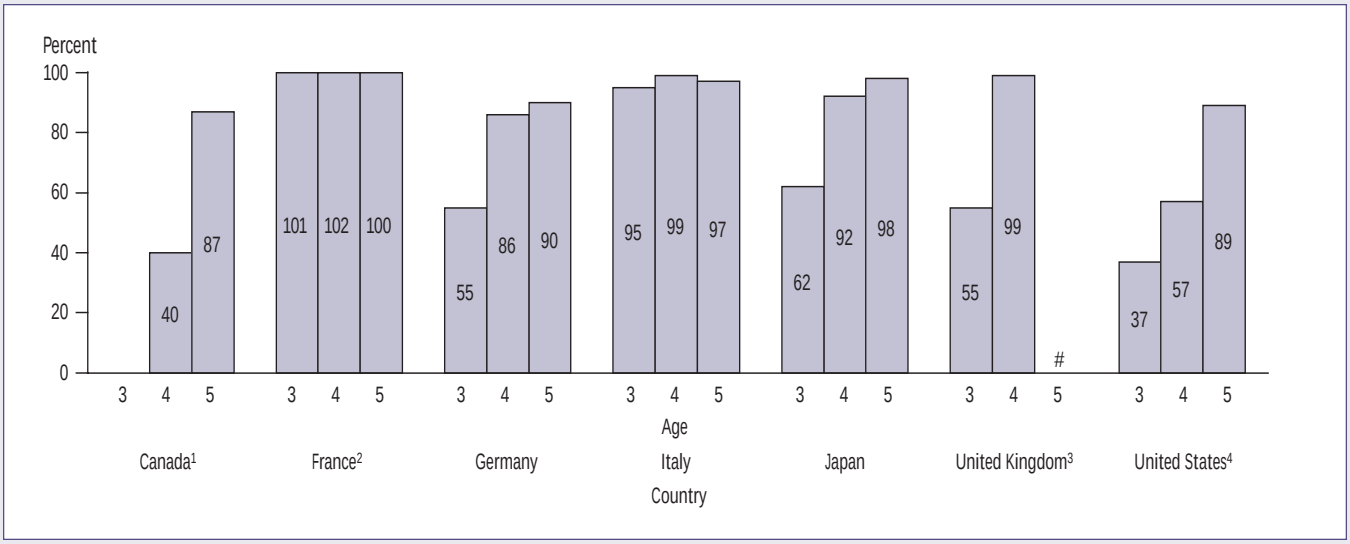
[1]Enrollment rates for France exceed 100 percent due to different reference dates for school enrollment and population data.

[2]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Reference year is 2001 for population and enrollment data in all countries; however, reference dates may differ within 2001. Education levels are defined according to the International Standard Classification of Education (ISCED). Preprimary education refers to ISCED level 0 and primary education refers to ISCED level 1. For more information on ISCED levels, see the appendix.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). Education Database, 2002.

Figure 7b. Percentage of children ages 3 to 5 enrolled in center-based preprimary education, by age and country: 2001



#Rounds to zero. The enrollment estimate rounds to zero for preprimary programs for 5-year-olds in the United Kingdom. See text for discussion.

[1]Not applicable. The enrollment estimate does not apply to 3-year-olds in preprimary programs in Canada.

[2]Enrollment rates for France exceed 100 percent due to different reference dates for school enrollment and population data.

[3]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

[4]Based on the International Standard Classification for Education (ISCED) levels, U.S. enrollment in kindergarten and prekindergarten classes in elementary school was considered part of preprimary education.

NOTE: Reference year is 2001 for population and enrollment data in all countries; however, reference dates may differ within 2001. Education levels are defined according to the International Standard Classification of Education (ISCED). Preprimary education refers to ISCED level 0. For more information on ISCED levels, see the appendix.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). Education Database, 2002.

FOURTH-GRADE READING LITERACY

Key Findings: Canada, England, France, Germany, Italy, Russian Federation, Scotland, United States

Only fourth-graders from England scored higher than their U.S. counterparts among all the reporting countries on the combined reading literacy scale.

The Progress in International Reading Literacy Study (PIRLS) was an assessment of the reading literacy of fourth-graders in 35 countries. This indicator, based on data from PIRLS 2001, compares U.S. fourth-graders' reading literacy scores with scores of their counterparts in the seven other reporting countries.

In 2001, the average score for U.S. fourth-graders was 542 on the combined reading literacy scale (table 5). This score was lower than the average score of their counterparts in England (553), but higher than the average scores of fourth-graders in France (525), the Russian Federation (528), and Scotland (528).

On the literary subscale of PIRLS 2001, U.S. fourth-graders had an average score of 550. This score was higher than the scores of France (518), Germany (537), the Russian Federation (523), and Scotland (529), but not detectably different from the scores of Canada (545), England (559), or Italy (543). On the informational subscale of PIRLS 2001, U.S. fourth-graders had an average score of 533. They were surpassed by fourth-graders from England, whose average score was 546. The scores of U.S. fourth-graders, however, were not detectably different from the scores of their peers in other reporting countries.

The average scores for reading literacy describe how a country performs overall compared to other nations, but they provide no information about the way scores are distributed within each country. One way to measure the spread of scores is to measure the standard deviation, which gives an indication of how scores are distributed around the average. Canada (72), France (70), Germany (67), Italy (71), and the Russian Federation (66) each had lower standard deviations than the United States (83), which indicates less variation around the mean.

Another way to understand the distribution of scores within and between countries is to look at percentiles of performance. Scores falling between the 25th and 75th percentiles of the full range of scores represent the middle half of the score distribution. On average, there was a 108-point gap between the cut point scores of the 25th and the 75th percentiles in the United States. In the other reporting countries, the gap ranged from 85 (the Russian Federation) to 112 points (England) (figure 8).

Definitions and Methodology

PIRLS 2001 scores are reported on a scale of 0 to 1000, and are scaled to have an international average of 500 and an international standard deviation of 100 (for the 35 participating countries). The two subscales of PIRLS, the literary and informational scales, make up the combined reading literacy score. Items from the literary subscale require students to understand language use and to comprehend the plot of a fictional story. Questions in the informational subscale measure students' ability to understand the information presented in a factual text.

Table 5. Fourth-graders' average scores for the combined reading literacy scale, literary subscale, and informational subscale, by country: 2001

Country	Average combined reading literacy scale score	Standard deviation	Average literary subscale score	Average informational subscale score
England[1,2]	553	87	559	546
Canada (O, Q)[3,4]	544	72	545	541
United States[1]	542	83	550	533
Italy	541	71	543	536
Germany	539	67	537	538
Scotland[1]	528	84	529	527
Russian Federation[2]	528	66	523	531
France	525	70	518	533

Average is significantly higher than the U.S. average
Average is not significantly different from the U.S. average
Average is significantly lower than the U.S. average

[1]Met guidelines for sample participation rates after replacement schools were included.

[2]National Defined Population (weighted sample size) covers less than 95 percent of National Desired Population (all 9-year-olds).

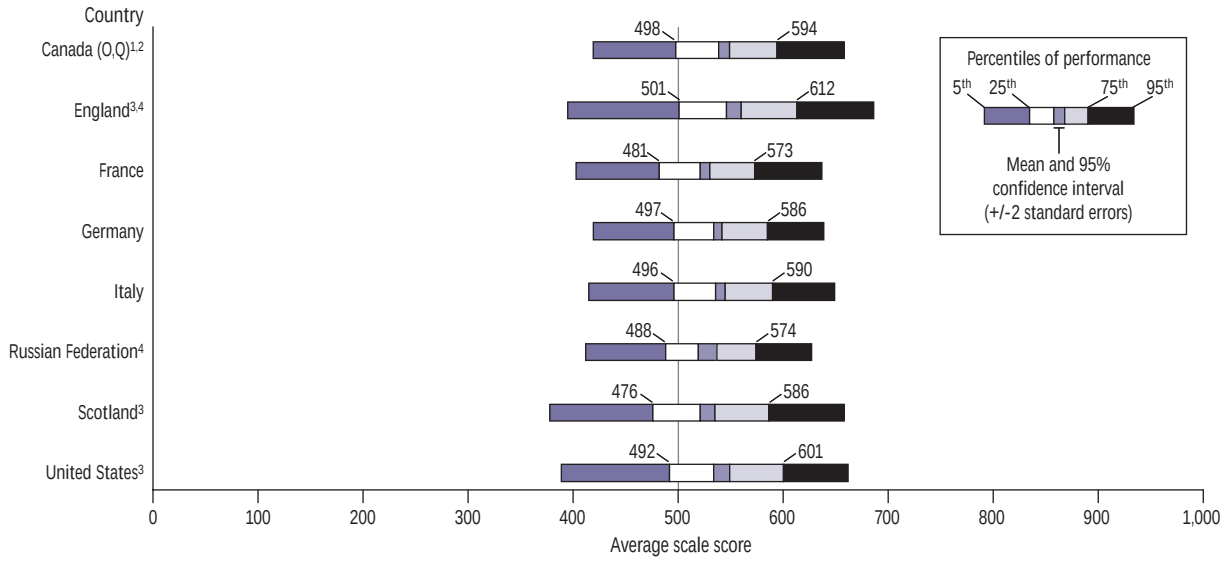
[3]National Desired Population (all 9-year-olds with some national exclusions) does not cover all of International Desired Population (all 9-year-olds) because coverage falls below 65 percent.

[4]Canada is represented by the provinces of Ontario and Quebec (O, Q) only.

NOTE: PIRLS 2001 assessed students in the upper of the two grades with the most 9-year-olds. In the United States and most other countries, this age group corresponds with the fourth grade. However, in England and Scotland, this age group refers to students who have received 5 years of formal schooling. PIRLS 2001 scores are reported on a scale of 0 to 1,000, and are scaled to have an international average of 500 and an international standard deviation of 100 (for the 35 participating countries). PIRLS 2001 consisted of 3 scales: a literary subscale, an informational subscale, and a combined reading literacy scale. The combined literacy scale is based on the distribution of scores on all the test items, while the subscales are based on only the items that belong to each subscale. Hence, the combined reading literacy score is not the statistical average of the scores of the two subscales.

SOURCE: International Association for the Evaluation of Educational Achievement, Progress in International Reading Literacy Study (PIRLS) 2001.

Figure 8. Distribution of average combined reading literacy scale scores of fourth-graders, by percentiles and country: 2001



[1]National Desired Population (all 9-year-olds with some national exclusions) does not cover all of International Desired Population (all 9-year-olds) because coverage falls below 65 percent.

[2]Canada is represented by the provinces of Ontario and Quebec (O,Q) only.

[3]Met guidelines for sample participation rates after replacement schools were included.

[4]National Defined Population (actual sample) covers less than 95 percent of National Desired Population (all 9-year-olds).

NOTE: PIRLS 2001 assessed students in the upper of the two grades with the most 9-year-olds. In the United States and most other countries, this corresponds with the fourth grade. However, in England and Scotland, this refers to students who have received 5 years of formal schooling. PIRLS 2001 scores are reported on a scale of 0 to 1,000, and are scaled to have an international average of 500 and an international standard deviation of 100 (for the 35 participating countries). PIRLS 2001 consisted of 3 scales: a literary subscale, an informational subscale, and a combined reading literacy scale. The combined literacy scale is based on the distribution of scores on all the test items, while the subscales are based on only the items that belong to each subscale. Hence, the combined reading literacy score is not the statistical average of the scores of the two subscales.

SOURCE: Mullis, I.V.S., Martin, M.O., Gonzalez, E.J., and Kennedy, A.M. (2003). *PIRLS 2001 International Report: IEA's Study of Reading Literacy Achievement in Primary Schools*, Exhibit 3.1. Chestnut Hill, MA: Boston College.

STUDENTS' ATTITUDES TOWARDS READING

Key Findings: Canada, England, France, Germany, Italy, Russian Federation, Scotland, United States

All of the countries presented, with the exception of England, had greater percentages of fourth-graders with high index scores on the attitudes toward reading index than the United States.

The Progress in International Reading Literacy Study (PIRLS) was an assessment of the reading literacy of fourth-graders in 35 countries. To examine fourth-graders' views on reading for enjoyment and appreciating books, PIRLS 2001 created an index of Students' Attitudes Toward Reading (SATR). The index was based on students' agreement with a set of statements related to reading such as, "I enjoy reading" and "I would be happy if someone gave me a book as a present." Responses to each statement were averaged across each student and used to categorize the students into high, medium, or low categories for the index.

The percentage of fourth-graders with high index scores ranged from 42 in the United States to 58 in France (figure 9a). All of the countries reporting data had a greater percentage of fourth-graders in the high category than the United States with the exception of England, whose percentage of fourth-graders was not measurably different from the corresponding percentage in the United States.

In 2001, 13 percent of fourth-grade students in the United States had a low index score on the SATR. This was a higher percentage than the percent of students with a low index score in Canada, France, Germany, Italy, and the Russian Federation.

In the United States and all other participating countries, a higher percentage of girls than boys had high index scores on the SATR (figure 9b). Fifty-two percent of fourth-grade girls in the United States had high scores on the SATR index, compared to 33 percent of boys. Conversely, girls in the United States were less likely than boys to have low index scores for attitudes towards reading. Eight percent of girls and 19 percent of boys in the United States had low scores on the SATR index (data not shown in figures).

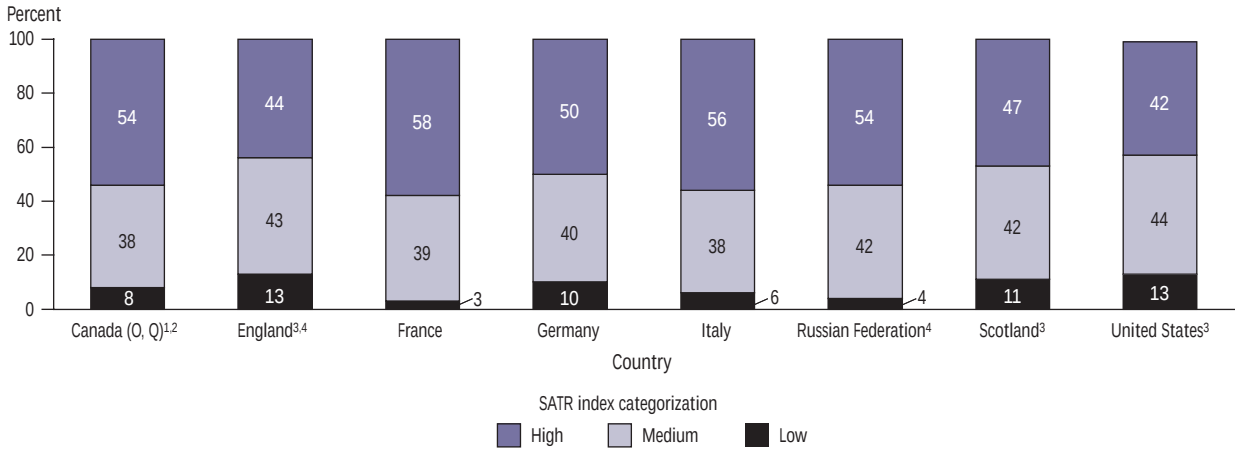
Within all reporting countries, including the United States, fourth-graders who were in the high category of attitudes toward reading had higher reading literacy achievement scores than fourth-graders in either the medium or low reading attitude categories (data not shown in figures). However, it is not possible to infer causality from these findings, since they do not explain whether attitudes cause achievement differences or vice versa or some other factor influences both. Regardless, these findings suggest an association between reading attitudes and achievement in reading within the eight countries presented.

Definitions and Methodology

The Students' Attitudes Toward Reading index was based on the following statements: I read only if I have to (reverse coded); I like talking about books with other people; I would be happy if someone gave me a book as a present; I think reading is boring (reverse coded); and I enjoy reading.

Responses were computed on a 4-point scale: Disagree a lot=1, Disagree a little=2, Agree a little=3, and Agree a lot=4. Responses were categorized as high, medium, or low and averaged for each student. Students in the high category had an average response of greater than 3; students in the medium category had an average response greater than or equal to 2 and less than or equal to 3; and students in the low category had an average below 2.

Figure 9a. Percentage distribution of fourth-grade students' attitudes toward reading based on the index of Students' Attitudes Toward Reading (SATR), by country: 2001



[1]National Desired Population (all 9-year-olds with some national exclusions) does not cover all of International Desired Population (all 9-year-olds) because coverage falls below 65 percent.

[2]Canada is represented by the provinces of Ontario and Quebec (O,Q) only.

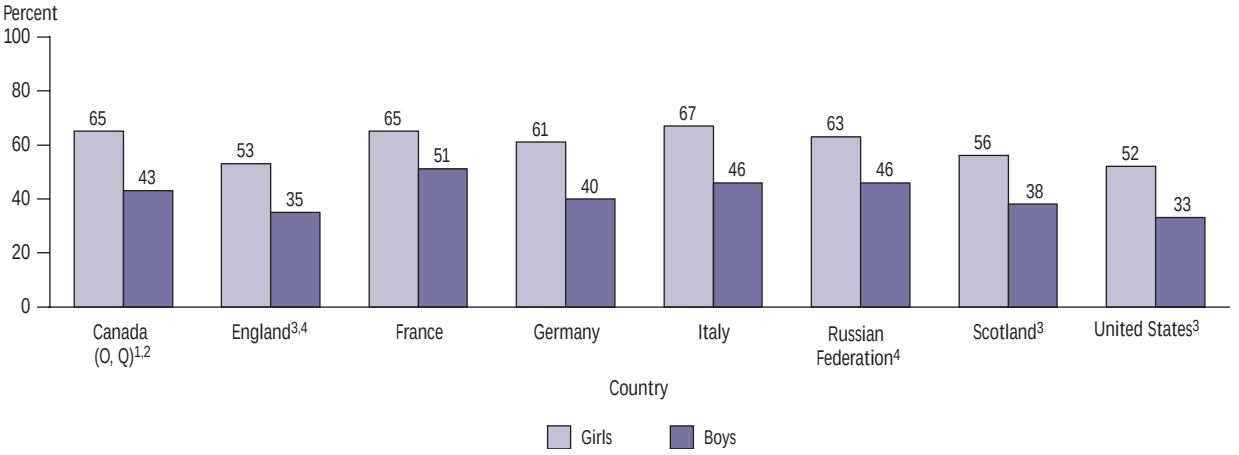
[3]Met guidelines for sample participation rates after replacement schools were included.

[4]National Defined Population (weighted sample size) covers less than 95 percent of National Desired Population (all 9-year-olds).

NOTE: PIRLS 2001 assessed students in the upper of the two grades with the most 9-year-olds. In the United States and most other countries, this age group corresponds with the fourth grade. However, in England and Scotland, this age group refers to students who have received 5 years of formal schooling. Responses were computed on a 4-point scale: Disagree a lot=1, Disagree a little=2, Agree a little=3, and Agree a lot=4. Responses were categorized as high, medium, or low and averaged for each student. Students in the high category had an average response of above 3; students in the medium category had an average response of 2 through 3; students in the low category had an average below 2. Detail may not sum to totals because of rounding.

SOURCE: Mullis, I.V.S., Martin, M.O., Gonzalez, E.J., and Kennedy, A.M. (2003). *PIRLS 2001 International Report: IEA's Study of Reading Literacy Achievement in Primary Schools in 35 Countries*, Exhibit 8.1. Chestnut Hill, MA: Boston College.

Figure 9b. Percentage of fourth-grade students with high scores on the index of Students' Attitudes Toward Reading (SATR), by sex and country: 2001



[1]National Desired Population (all 9-year-olds with some national exclusions) does not cover all of International Desired Population (all 9-year-olds) because coverage falls below 65 percent.

[2]Canada is represented by the provinces of Ontario and Quebec (O,Q) only.

[3]Met guidelines for sample participation rates after replacement schools were included.

[4]National Defined Population (weighted sample size) covers less than 95 percent of National Desired Population (all 9-year-olds).

NOTE: Responses were computed on a 4-point scale: Disagree a lot=1, Disagree a little=2, Agree a little=3, and Agree a lot=4. Responses were categorized as high, medium, or low and averaged for each student. Students in the high category had an average response of above 3; students in the medium category had an average response of 2 through 3; students in the low category had an average below 2. PIRLS 2001 assessed students in the upper of the two grades with the most 9-year-olds. In the United States and most other countries, this corresponds with the fourth grade. However, in England and Scotland, this refers to students who have received 5 years of formal schooling.

SOURCE: Mullis, I.V.S., Martin, M.O., Gonzalez, E.J., and Kennedy, A.M. (2003). *PIRLS 2001 International Report: IEA's Study of Reading Literacy Achievement in Primary Schools in 35 Countries*, Exhibit 8.2. Chestnut Hill, MA: Boston College.

STUDENTS' REPORTS OF BOOKS AT HOME

Key Findings: Canada, England, France, Germany, Italy, Russian Federation, Scotland, United States

In the United States and all the other countries presented, fourth-graders who reported having 0-10 books in the home had lower average reading achievement than did fourth-graders who reported having more books.

The Progress in International Reading Literacy Study (PIRLS) 2001 was an assessment of the reading literacy of fourth-graders in 35 countries. In addition to reading achievement data, PIRLS 2001 also collected information pertaining to background factors that are likely to be associated with students' reading performance. Linkages between socioeconomic status (SES) and student achievement have been well documented for the United States and other nations (e.g., Mullis et al. 2000[5]). However, it is not clear that fourth-graders are able to report family income accurately, or whether income adequately captures all resources available to a family. Hence, PIRLS 2001 did not ask students to report family income, but rather, asked students to indicate their possession of or access to a number of items that can be related to a family's economic circumstances, including cars, books, dictionaries, computers, calculators, and the like. This indicator presents information about students' access to books at home, which is often used as a proxy for SES (e.g, Williams et al. 2000[6]), and explores the extent to which reading achievement varies by number of books at home.

[5]Mullis, I.V.S., Martin, M.O., Gonzalez, E.J., Gregory, K.D., Garden, R.A., O'Connor, K.M., Chrostowski, S.J., and Smith, T.A. (2000). *TIMSS 1999 international mathematics report: Findings from IEA's repeat of the Third International Mathematics and Science Study at the eighth grade.* Chestnut Hill, MA: Boston College.

[6]Williams, T., Levine, D., Jocelyn, L., Butler, P., Heid, C. and Haynes, J. (2000). *Mathematics and science in the eighth grade: Findings from the Third International Mathematics and Science Study*, NCES 2000–014. Washington, DC: National Center for Education Statistics.

Twenty-one percent of U.S. fourth-graders reported having more than 200 books in their home, while 9 percent of U.S. fourth-graders reported 0–10 books (table 6). In comparison to the United States, a smaller percentage of fourth-graders reported having more than 200 books in their home in Germany (16 percent), Italy (13 percent) and the Russian Federation (17 percent). A larger percentage of fourth-graders in Italy (14 percent) reported having 0–10 books in their home compared to U.S. fourth-graders, while a smaller percentage did in Canada (6 percent).

On one hand, U.S. fourth-graders who reported having 0–10 books in their home had lower average reading achievement scores than did U.S. fourth-graders who reported having 11–25 books, 26–100 books, 101–200 books, or more than 200 books in their home (figure 10 and table 6). On the other hand, U.S. fourth-graders who reported having the most books (more than 200) did not have higher average reading achievement scores than did fourth-graders who reported having 101–200 or 26–100 books.

As in the United States, fourth-graders in all the other countries presented who reported having 0–10 books in the home had lower average reading achievement than did fourth-graders who reported having more books (i.e. in each of the other categories). Also, as in the United States, in all of the other participating countries fourth-graders who had more than 200 books did not have detectably different average achievement than did fourth-graders who reported having 101–200 books in their home. However, unlike in the United States, in Canada, England, France, Germany, and Scotland, the fourth-graders with the most books had higher average achievement than did the fourth-graders with 26–100 books.

Definitions and Methodology

Fourth-graders were asked to identify the number of books at their home, not including magazines, newspapers, and school books. Fourth-graders' reports of the number of books in the home were classified into one of the following categories: (1) 0–10 books, (2) 11–25 books, (3) 26–100 books, (4) 101–200 books, or (5) more than 200 books.

Table 6. Average reading literacy scores and the percentage distribution of fourth-grade students, by number of books reported at home and country: 2001

Country	Students with 0–10 books		Students with 11–25 books		Students with 26–100 books		Students with 101–200 books		Students with more than 200 books	
	Percentage	Average scale score	Percentage	Average scale score	Percentage	Average scale score	Percentage	Average scale score	Percentage	Average scale score
Canada (O, Q)[1,2]	6	492	15	519	35	546	22	565	22	562
England[3,4]	7	477	16	518	34	555	23	579	20	577
France	8	472	19	506	36	526	19	545	19	555
Germany	9	486	24	523	35	546	16	568	16	570
Italy	14	499	29	538	30	553	14	560	13	551
Russian Federation[4]	11	496	21	519	35	535	16	543	17	541
Scotland[3]	11	466	18	506	34	539	18	554	19	553
United States[3]	9	477	17	522	31	551	22	568	21	556

[1]National Desired Population (all 9-year-olds with some national exclusions) does not cover all of International Desired Population (all 9-year-olds) because coverage falls below 65 percent.

[2]Canada is represented by the provinces of Ontario and Quebec (O,Q) only.

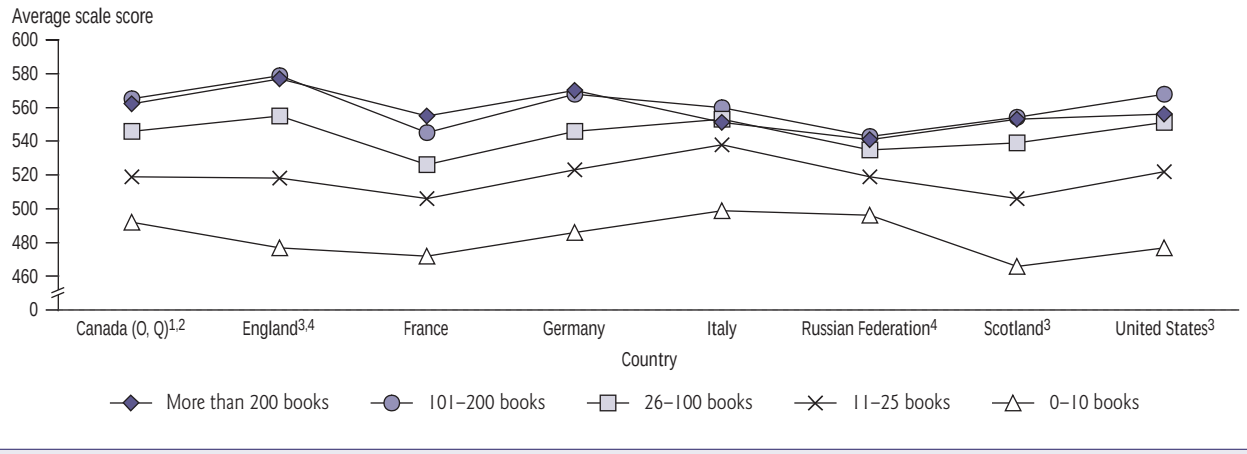
[3]Met guidelines for sample participation rates after replacement schools were included.

[4]National Defined Population (weighted sample size) covers less than 95 percent of National Desired Population (all 9-year-olds).

NOTE: PIRLS 2001 assessed students in the upper of the two grades with the most 9-year-olds. In the United States and most other countries, this corresponds with the fourth grade. However, in England and Scotland, this refers to students who have received 5 years of formal schooling. PIRLS 2001 scores are reported on a scale of 0 to 1,000, and are scaled to have an international average of 500 and a standard deviation of 100. PIRLS 2001 consisted of 3 scales: a literary subscale, an informational subscale, and a combined reading literacy scale. The combined literacy scale is based on the distribution of scores on all the test items, while the subscales are based on only the items that belong to each subscale. Hence, the combined reading literacy score is not the statistical average of the scores of the two subscales.

SOURCE: Mullis, I.V.S., Martin, M.O., Gonzalez, E.J., and Kennedy, A.M. (2003). *PIRLS 2001 International Report: IEA's Study of Reading Literacy Achievement in Primary Schools in 35 Countries*, Exhibit 4.8. Chestnut Hill, MA: Boston College.

Figure 10. Average reading literacy scores of fourth-grade students, by number of books reported at home and country: 2001



[1]National Desired Population (all 9-year-olds with some national exclusions) does not cover all of International Desired Population (all 9-year-olds) because coverage falls below 65 percent.

[2]Canada is represented by the provinces of Ontario and Quebec (O,Q) only.

[3]Met guidelines for sample participation rates after replacement schools were included.

[4]National Defined Population (weighted sample size) covers less than 95 percent of National Desired Population (all 9-year-olds).

NOTE: PIRLS 2001 assessed students in the upper of the two grades with the most 9-year-olds. In the United States and most other countries, this corresponds with the fourth grade. However, in England and Scotland, this refers to students who have received 5 years of formal schooling. PIRLS 2001 scores are reported on a scale of 0 to 1,000, and are scaled to have an international average of 500 and a standard deviation of 100. PIRLS 2001 consisted of 3 scales: a literary subscale, an informational subscale, and a combined reading literacy scale. The combined literacy scale is based on the distribution of scores on all the test items, while the subscales are based on only the items that belong to each subscale. Hence, the combined reading literacy score is not the statistical average of the scores of the two subscales.

SOURCE: Mullis, I.V.S., Martin, M.O., Gonzalez, E.J., and Kennedy, A.M. (2003). *PIRLS 2001 International Report: IEA's Study of Reading Literacy Achievement in Primary Schools in 35 Countries*, Exhibit 4.8. Chestnut Hill, MA: Boston College.

FOURTH-GRADE TEACHERS' STRATEGIES FOR DEALING WITH STUDENTS FALLING BEHIND IN READING

Key Findings: Canada, England, France, Germany, Italy, Russian Federation, Scotland, United States

The most common strategies for U.S. teachers to help fourth-graders who were falling behind in reading were to work individually with the student and have other students help the student.

The Progress in International Reading Literacy Study (PIRLS) 2001 was an assessment of the reading literacy of fourth-graders in 35 countries. In assessing fourth-graders learning experiences, PIRLS asked teachers about the strategies they use to help children who are having trouble with reading at the fourth-grade level.

In 2001, teachers in G8 countries reported using a combination of strategies to varying degrees. The most common strategy reported by teachers was to spend time working individually with students who are falling behind in reading (table 7). The second most common reported strategy in the majority of reporting countries was to have such students work with other students. In the U.S. no difference was detected between the use of these two strategies: 86 percent of fourth-graders were taught by teachers who reported using the first strategy, and 84 percent of fourth-graders were taught by teachers who reported using the second strategy.

In the United States, the third most common strategy was to have a remedial or reading specialist work with students falling behind (51 percent). Waiting to see if such students' performance improved with greater maturity and having a teacher aide help such students were the next two most commonly employed strategies in the United States.

PIRLS 2001 also asked fourth-grade teachers about their access to remedial or reading specialists and other professionals. In the United States, 26 percent of fourth-graders had teachers who reported having remedial or reading specialists always available, 39 percent had teachers who reported having such specialists sometimes available, and 35 percent had teachers who reported never having any available (figure 11). Teachers in the United States were more likely than teachers in other countries, with the exception of Scotland, to report that a remedial or reading specialist was always available.

Thirty-five percent of U.S. fourth-graders had teachers who reported never having any access to a remedial or reading specialist. The corresponding numbers in other reporting countries ranged from 23 percent in England to 94 percent in Italy.

Definitions and Methodology

Teachers reported whether or not they had employed the following strategies: waiting to see if student performance improved with maturation; working with students individually; having other students work with students; having students work with a teacher aide; and having students work with remedial or reading specialists. Teachers could endorse multiple strategies and there was no rank ordering of preference for one strategy over another.

Teachers were asked if they always, sometimes, or never had a remedial or reading specialist available. Furthermore, they were asked if other specialists were available always, sometimes, or never.

Table 7. Percentage of fourth-graders whose teachers reported employing specific strategies for assisting students falling behind in reading, by country: 2001

Country	Work with students individually	Have other students work with student	Wait to see if performance improves with maturation	Have students work with teacher aide	Have students work with remedial or reading specialist
Canada (O, Q)[1,2]	83	72	36	20	49
England[3,4]	87	55	28	71	59
France	80	53	43	20	21
Germany	82	65	20	6	21
Italy	93	83	47	23	10
Russian Federation[4]	95	74	47	27	18
Scotland[3]	95	40	26	44	54
United States[3]	86	84	34	31	51

[1]National Desired Population (all 9-year-olds with some national exclusions) does not cover all of International Desired Population (all 9-year-olds) because coverage falls below 65 percent.

[2]Canada is represented by the provinces of Ontario and Quebec (O,Q) only.

[3]Met guidelines for sample participation rates after replacement schools were included.

[4]National Defined Population (weighted sample size) covers less than 95 percent of National Desired Population (all 9-year-olds).

NOTE: PIRLS 2001 assessed students in the upper of the two grades with the most 9-year-olds. In the United States and most other countries, this corresponds with the fourth grade. However, in England and Scotland, this refers to students who have received 5 years of formal schooling.

SOURCE: Mullis, I.V.S., Martin, M.O., Gonzalez, E.J., and Kennedy, A.M. (2003). *PIRLS 2001 International Report: IEA's Study of Reading Literacy Achievement in Primary Schools in 35 Countries*, Exhibit 5.23. Chestnut Hill, MA: Boston College.

Figure 11. Percentage distribution of fourth-graders, by teacher reports of availability of remedial or reading specialists and country: 2001

[1]National Desired Population (all 9-year-olds with some national exclusions) does not cover all of International Desired Population (all 9-year-olds) because coverage falls below 65 percent.

[2]Canada is represented by the provinces of Ontario and Quebec (O,Q) only.

[3]Met guidelines for sample participation rates after replacement schools were included.

[4]National Defined Population (weighted sample size) covers less than 95 percent of National Desired Population (all 9-year-olds).

NOTE: The target population was the upper of the two adjacent grades with the most 9-year-olds. In most countries, this was the fourth grade. However, in England and Scotland, this refers to students who have received 5 years of formal schooling. Detail may not sum to totals because of rounding.

SOURCE: Mullis, I.V.S., Martin, M.O., Gonzalez, E.J., and Kennedy, A.M. (2003). *PIRLS 2001 International Report: IEA's Study of Reading Literacy Achievement in Primary Schools in 35 Countries*, Exhibit 5.22. Chestnut Hill, MA: Boston College.

PUBLIC SCHOOL TEACHERS' SALARIES IN PRIMARY EDUCATION

England, France, Germany, Italy, Japan, Scotland, United States

Among the countries reporting data, the United States in 2001 paid the second-highest average starting salary ($28,681) to public primary school teachers with the minimum qualifications required to be fully qualified. Only Germany reported a higher average starting salary ($38,412)

International comparisons of public primary school teachers' salaries can give policymakers an idea of how teacher compensation varies across countries. For this indicator, the average salaries for public primary school teachers with the minimum qualifications were compared to the salaries of those with the minimum qualifications *and* 15 years of experience. It also compares the ratio of these average salaries to the Gross Domestic Product (GDP) per capita for each of the reporting countries in 2001.

Of the countries reporting data, the United States paid the second-highest average starting salary ($28,681) to public primary school teachers with the minimum qualifications (figure 12a). Only Germany reported a higher average starting salary ($38,412) for such teachers.

Among the seven countries presented, the United States paid the third-highest average salary ($41,595) to public primary school teachers with the minimum qualifications and 15 years of experience. Both Germany and Japan reported higher average public primary salaries for teachers at this level of experience ($46,459 and $43,043, respectively) as compared to the United States. The average salary of teachers in the United States with the minimum qualifications plus 15 years experience was 46 percent higher than the salary of their counterparts in Italy ($28,483), the country reporting the lowest salary for teachers at this level.

The salary to GDP per capita ratio provides a proxy measure of teacher earnings relative to the earnings of the country's average salaried employee. In 2001, starting public primary teachers with the minimum qualifications in six of the reporting countries earned less than the average per capita GDP in their respective countries (figure 12b). In the United States, starting public primary teachers with the minimum qualifications earned, on average 82 percent of the U.S. GDP per capita. In Germany, however, public primary teachers with minimum qualifications earned 145 percent of the German GDP per capita. But in all the countries reporting data, public primary teachers with the minimum qualifications and 15 years' experience, earned higher than the GDP per capita in their respective countries.

Definitions and Methodology

School teachers refers to professional personnel directly involved in teaching students. This classification includes classroom teachers, special education teachers, and department chairpersons whose duties include some teaching, but excludes teachers' aides and teaching/research assistants.

Teachers' salaries in public primary schools are in equivalent U.S. dollars, converted using Purchasing Power Parities (PPPs) that equalize the purchasing power of different currencies. PPPs exchange rate data are from the OECD National Accounts 2001.

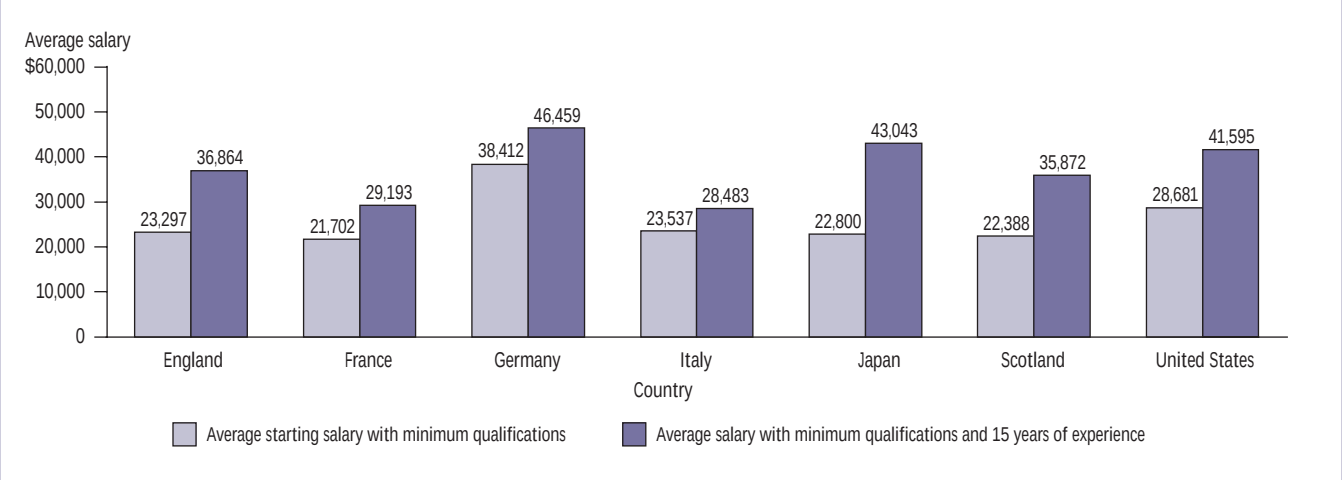
Statutory salaries refer to scheduled salaries according to official pay scales. The salaries provided are defined as gross salaries (total sum paid by the employer for the labor supplied) excluding the employer's contribution to social security and pension (according to existing salary scales), and are "before tax."

Salaries after 15 years' experience refer to the scheduled annual salary of a full-time classroom teacher with the minimum training necessary to be fully qualified and with 15 years' experience. Minimum qualifications vary by country. In the United States, teacher qualifications are decentralized and vary by state. In most states teachers must have a bachelor's degree, pass state licensure exams, and undergo a criminal background check in order to obtain a license. For more information on the teacher qualifications required in other G8 countries, please see http://www.oecd.org/document/9/0,2340,en_2649_201185_1839497_1_1_1_1,00.html.

In countries with centralized systems of education, there are typically national salary schedules. In countries like the United States, with decentralized educational systems, local or regional governments establish their own salary schedules. Estimates of national salary schedules in the United States were derived from the Schools and Staffing Survey for 1999–2000, with adjustments for inflation for 2000–01. GDP per capita in equivalent U.S. dollars, calendar year 2001.

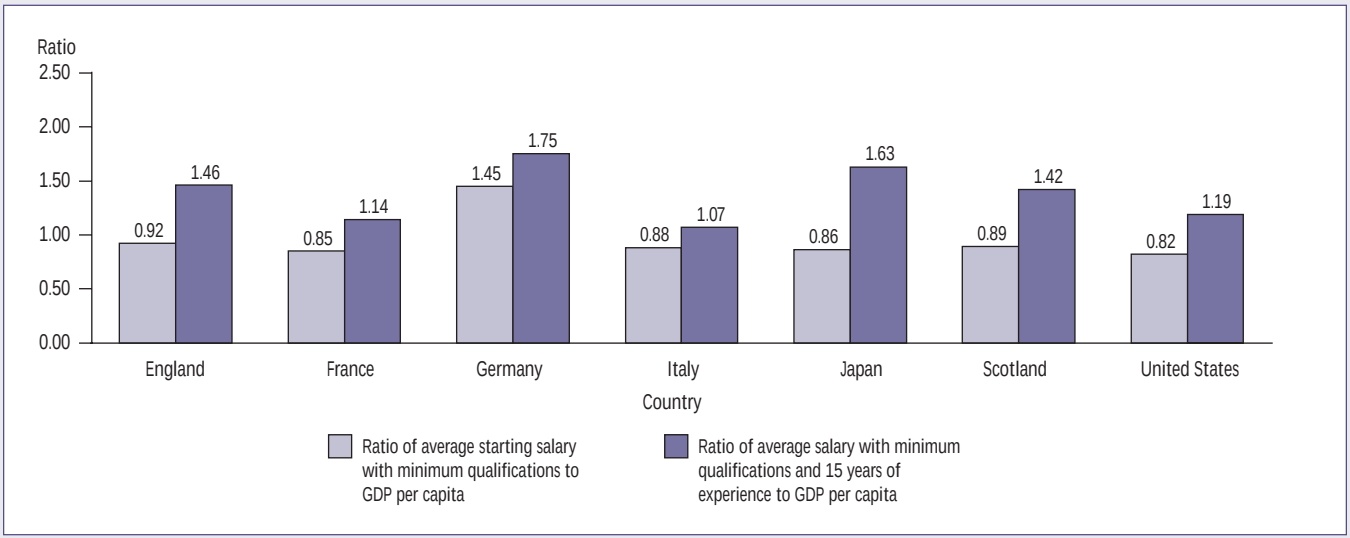
GDP per capita in national currencies (2001) are converted to US dollars using PPPs (2001), total population (2001), and total GDP current expenditure (2001).

Figure 12a. Public primary teachers' average annual salaries in U.S. dollars converted using Purchasing Power Parities (PPPs), by level of teacher qualifications and experience and country: 2001

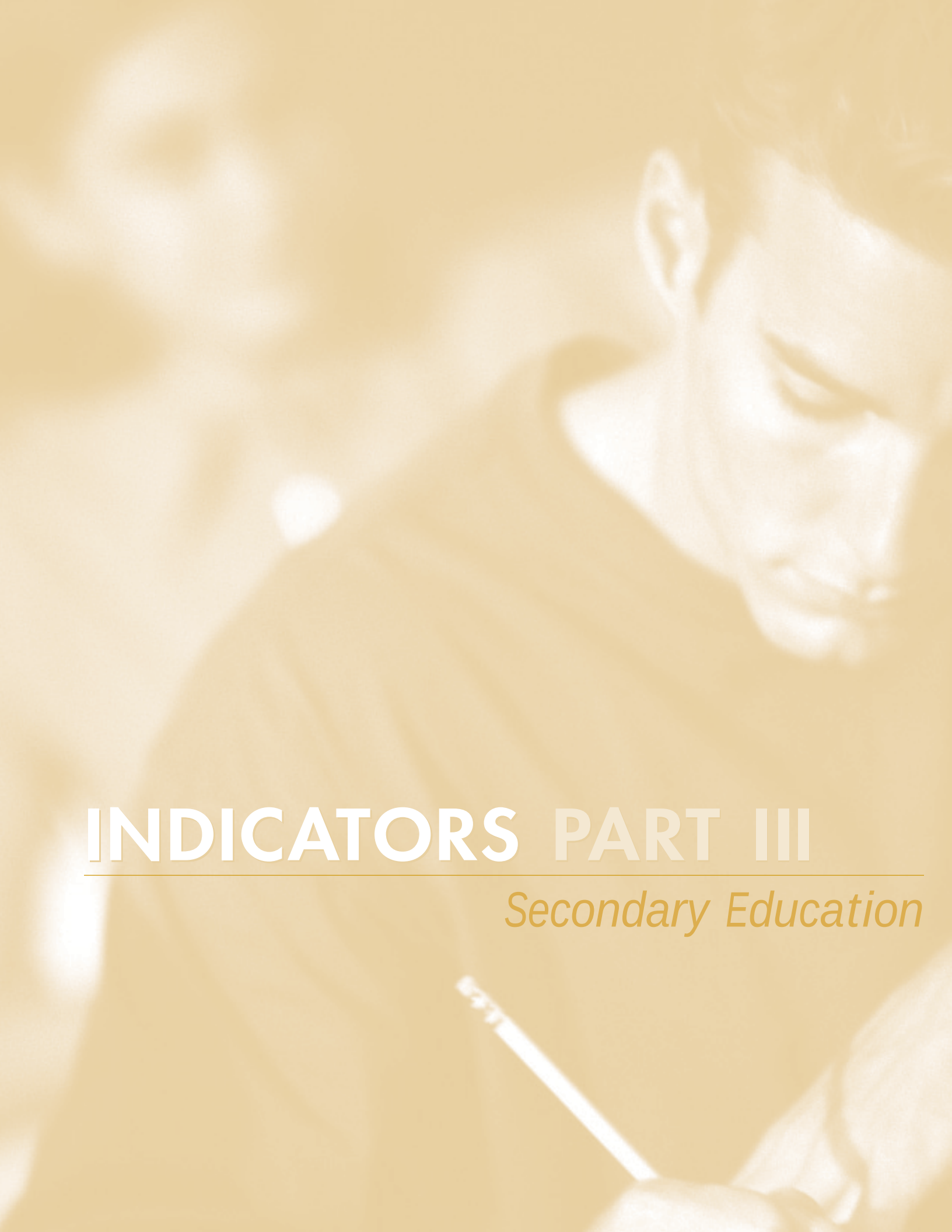


NOTE: Average salaries are gross salaries (i.e., before deductions for income taxes), and are converted to U.S. dollars using 2001 national Purchasing Power Parities (PPPs) exchange rate data.
SOURCE: Organization for Economic Cooperation and Development (OECD), 2003. *Education at a Glance: OECD Indicators 2003*, Table D5.1.

Figure 12b. Average annual salary to Gross Domestic Product (GDP) per capita ratio for public primary school teachers, by level of teacher qualifications and experience and country: 2001



NOTE: Gross Domestic product (GDP) per capita is in equivalent U.S. dollars, calendar year 2001. GDP per capita in national currencies (2001) are converted to U.S. dollars using PPPs (2001), total population (2001), and total GDP current expenditure (2001). A ratio of 1.0 indicates that the salary is equal to the GDP per capita for that country.
SOURCE: Organization for Economic Cooperation and Development (OECD), 2003. *Education at a Glance: OECD Indicators 2003*, Table D5.1.



INDICATORS PART III

Secondary Education

SCHOOL ENROLLMENT OF 16- TO 19-YEAR-OLDS

Key Findings: Canada, France, Germany, Italy, Japan, United Kingdom, United States

Whereas a large majority of 16- and 17-year-olds in G8 countries were enrolled in secondary education, more 19-year-olds were enrolled in higher education than in secondary education in all of the G8 countries shown except for Germany.

A large majority of 16- and 17-year-olds in the United States and the other six countries presented were enrolled in secondary education in 2001 (figure 13). For each country, at least 80 percent of its 16-year-old population was enrolled in secondary education, with the United States reporting a secondary enrollment rate of 88 percent. More than 90 percent of 16-year-olds in Canada, France, Germany, and Japan were enrolled in secondary education. Among 17-year-olds, the secondary enrollment rate in the United States was 75 percent, which was higher than only one other country shown, the United Kingdom (72 percent). The secondary enrollment rates of 17-year-olds were above 90 percent in Canada, Germany, and Japan. Only very small percentages of 17-year-olds were enrolled in higher education, with no country reporting more than 4 percent of this population enrolled in higher education.

In some G8 countries, the enrollment rate of 18-year-olds in secondary education was much higher than the 18-year-olds' enrollment rate in higher education. For example, Germany and Italy had 80 and 65 percent, respectively, of their 18-year-old population enrolled in secondary school, whereas 3 and 4 percent, respectively, of 18-year-olds were enrolled in higher education. In other countries, however, enrollment in secondary school drops off sharply beginning at age 18. Canada is an example of this: 95 percent of its 17-year-old population was enrolled in secondary education, whereas 1 percent of its 18-year-old population was enrolled in secondary education. In many of the G8 countries, enrollment in higher education becomes more pronounced at the age of 18. For example, the United Kingdom and the United States had 31 and 23 percent, respectively, of their 18-year-old population enrolled in secondary school, and 24 and 39 percent, respectively, of this population enrolled in higher education. The higher education enrollment rate of 18-year-olds in the United States was highest among the countries shown.

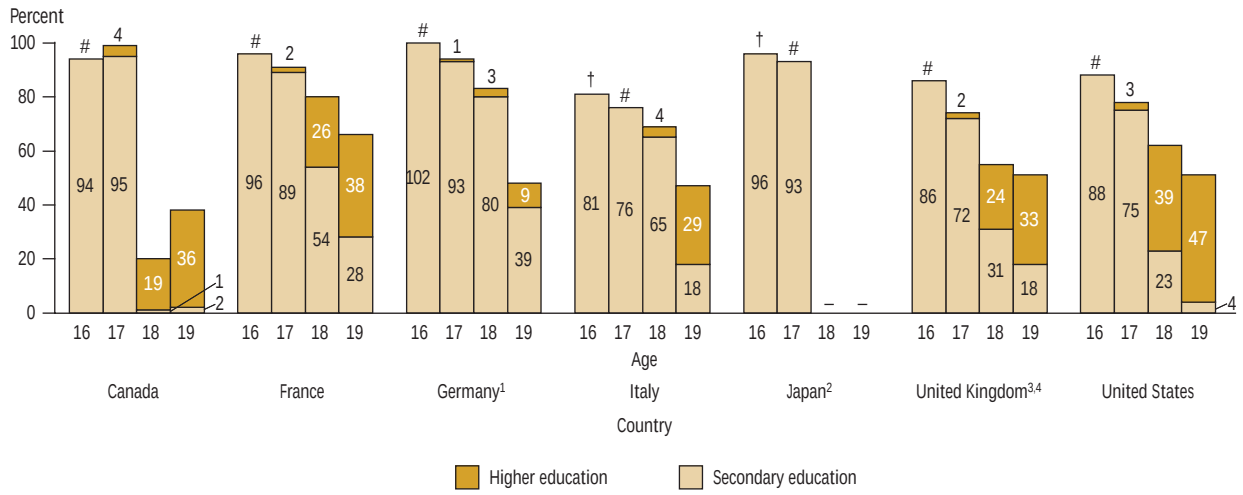
At the age of 19, more individuals were enrolled in higher education than in secondary education in all of the countries shown except for Germany. Students in Germany, however, graduate from academic secondary programs at age 19 (Graduation age is lower for students in nonacademic programs. See the appendix for more information on the education system in Germany.) Among 19-year-olds, secondary enrollment rates ranged from 2 percent in Canada to 39 percent in Germany, and higher education enrollment rates ranged from 9 percent in Germany to 47 percent in the United States.

Definitions and Methodology

Higher education includes postsecondary tertiary education (ISCED levels 5A, 5B, and 6). With the exception of the United Kingdom, higher education enrollment numbers exclude postsecondary nontertiary programs (ISCED level 4). For a complete description of the ISCED levels, see the appendix.

The percentage of the population at given ages enrolled in education is called an "enrollment rate." In this indicator, the term enrollment rate refers to "net enrollment rate" and is defined as the number of students in a particular age group enrolled in education divided by the population of that same age group. Enrollments include all full-time and part-time students in public and private institutions, ages 16, 17, 18, and 19 in 2001. Enrollment rates may exceed 100 percent for some countries and some age categories due to different reference dates for school enrollment and population data.

Figure 13. Percentage of the population ages 16 to 19 enrolled in public and private secondary and higher education, by age and country: 2001



—Not available. Data not available for 18- and 19-year-olds in Japan.

†Not applicable. The enrollment estimate does not apply to 16-year-olds in higher education in Italy and Japan.

#Rounds to zero. The enrollment estimate rounds to zero for 16-year-olds in higher education in Canada, France, Germany, the United Kingdom, and the United States, and for 17-year-olds in higher education in Italy and Japan.

[1]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

[2]Estimates are provided for enrollment by age in secondary and higher education on the assumption that all students at the same grade are of the same age. A part-time student equals one full-time-equivalent at this level.

[3]The secondary enrollment rate in Germany exceeds 100 percent for 16-year-olds due to different reference dates for school enrollment and population data.

[4]Secondary enrollment numbers for the United Kingdom include postsecondary nontertiary programs.

NOTE: Reference year is 2001 for all countries; however, reference dates may differ within 2001. Education levels are defined according to the International Standard Classification of Education (ISCED). Secondary refers to ISCED levels 2 and 3 (lower secondary and upper secondary). Postsecondary nontertiary education refers to ISCED level 4. Higher education refers to ISCED level 5A (academic higher education-first stage), 5B (technical and vocational higher education), and 6 (academic higher education-second stage/ doctoral studies) except where otherwise noted. For more information on ISCED levels, see the appendix.

SOURCE: Organization for Economic Cooperation and Development (OECD), 2003, unpublished data.

ACHIEVEMENT DIFFERENCES IN READING BY SEX

Key Findings: Canada, France, Germany, Italy, Japan, Russian Federation, United Kingdom, United States

Reading literacy scores for 15-year-olds were higher for females than for males in all of the G8 countries, including the United States.

This indicator, based on the Program for International Student Assessment (PISA) conducted in 2000, examines differences in reading literacy between males and females. Particular attention is given to achievement at low and high levels of performance.

For PISA 2000, 15-year-olds from 32 countries were tested and their scores were grouped into levels from 1–5, with level 1 or below being the lowest and level 5 being the highest.

On average, females outperformed males in every G8 country on the combined reading literacy scale (table 8). In the United States, females scored an average of 29 points higher than males on the combined reading literacy score of PISA 2000. In comparing the United States to the other countries reporting data, no differences were detected in the size of the performance gap by sex.

Males in the United States were overrepresented among 15-year-olds scoring at level 1 or below compared to their representation in the overall population: 62 percent of 15-year-olds scoring at level 1 or below were male, while males were 48 percent of the overall population of 15-year-olds (figure 14). Likewise, females were underrepresented at level 1 or below in the United States as compared to their representation in the overall population.

At level 5, males and females were not found to be significantly overrepresented or underrepresented in the United States compared to the overall population. However, at level 5 in the other G8 countries, females were overrepresented while males were underrepresented compared to the overall population.

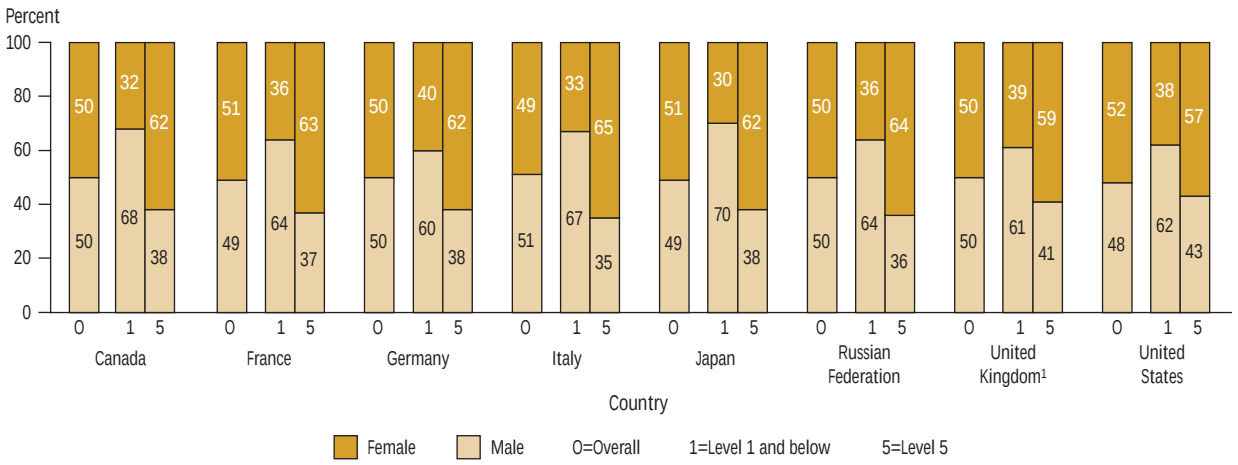
Definition and Methodology

In order to better describe performance in reading literacy, PISA 2000 examined the proportion of students who could accomplish tasks at particular levels. In order to reach a particular level, a student must have been able to answer correctly a majority of test items at that level. Students were classified into six reading levels according to their scores. Students scoring below 335 were classified as below level 1, students scoring 335 to 407 were at level 1, and students scoring 626 and above were classified at level 5. For the purpose of this report, students scoring at level 1 or below have been combined into a single proficiency level.

A population subgroup is overrepresented in a level if the percentage of the subgroup in that level is statistically higher than the percentage of the population overall in that level.

The combined reading literacy scale is made up of 3 subscales: retrieving information, interpreting texts, and reflecting on texts.

Figure 14. Percentage distribution of 15-year-olds, by sex, reading proficiency level, and country: 2000



[1]The United Kingdom includes England, Northern Ireland, and Scotland. Wales did not participate in the Program for International Student Assessment (PISA) 2000.

NOTE: Students were classified into reading levels according to their scores on the PISA 2000. In order to reach a particular level, a student must have been able to answer correctly a majority of items at that level. Students scoring below 335 were classified as below level 1, students scoring 335 to 407 were at level 1, and students scoring 626 and above were classified at level 5. The overall percentage refers to the percentage of the total 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA) 2000.

Table 8. Combined reading literacy average scores of 15-year-old students by sex and female-male score point difference, by country: 2000

Country	Average scores		Female-male score point difference
	Female	Male	
Canada	551	519	32
France	519	490	29
Germany	502	468	35
Italy	507	469	38
Japan	537	507	30
Russian Federation	481	443	38
United Kingdom[1]	537	512	26
United States	518	490	29

[1] The United Kingdom includes England, Northern Ireland, and Scotland. Wales did not participate in the Program for International Student Assessment (PISA) 2000.

NOTE: The female-male score point difference is calculated by subtracting average scores of males from average scores of females.

SOURCE: Organization for Economic Cooperation and Development (OECD), PISA Assessment Items and Student Questionnaire, 2000.

READING LITERACY AND HOME LANGUAGE IN SECONDARY EDUCATION

Key Findings: Canada, France, Germany, Italy, Japan, Russian Federation, United Kingdom, United States

In the United States, 15-year-olds whose home language differed from the language of assessment were overrepresented at the lowest levels of achievement.

The results of the Program for International Student Assessment (PISA) 2000 indicate that students whose home language differed from the language of the assessment did not perform as well, on average, as students who spoke the language of the assessment at home (Lemke et al., 2001)[7]. This indicator explores the performance gap between these two groups further by comparing the percentage of students in each group at high and low reading proficiency levels.

In 2000, 11 percent of 15-year-olds in the United States reported that most of the time they spoke a language other than English at home (figure 15). Compared to the United States, a lower percentage of 15-year-olds spoke a language that differed from the language of the assessment in Japan and the United Kingdom, while Italy had a higher percentage of students whose home language differed from the language of the assessment.

Fifteen-year-olds who spoke the language of the assessment at home scored higher than their peers who spoke a different language at home in all of the G8 countries, with the exception of Japan (table 9). In Japan, differences may not have been detected due to the small sample size of non-Japanese speakers. In the United States, 15-year-olds who spoke English at home had a combined reading literacy scale score that was 76 points higher, on average, than those who spoke a different home language. Compared to the United States, a smaller achievement gap was reported between these two groups in Canada and the Russian Federation (14 and 33 point differences, respectively).

For PISA 2000, 15-year-olds from 32 countries were assessed and their scores were grouped into levels from 1–5, with level 1 or below being the lowest and level 5 being the highest.

In the United States, non-English speakers were overrepresented at level 1 or below as compared to the overall 15-year old population: non-English speakers made up 11 percent of 15-year-olds overall while they were 24 percent of those scoring at level 1 or below. A similar pattern was found in all of the other G8 countries shown with the exception of the Russian Federation.[8]

In the United States, 3 percent of students at level 5 were non-English speakers. No further analysis was conducted with level 5 data in the United States due to the presence of high standard errors.

[7]U.S. Department of Education, National Center for Education Statistics. *Outcomes of Learning: Results From the 2000 Program for International Student Assessment of 15-year-olds in Reading, Mathematics, and Science Literacy*, NCES 2002–115, by Mariann Lemke, Christopher Calsyn, Laura Lippman, Leslie Jocelyn, David Kastberg, Yan Yun Liu, Stephen Roey, Trevor Williams, Thea Kruger, and Ghedam Bairu. Washington, DC: 2001.

[8]Reporting standards not met for non-Japanese speakers in Japan at level 1 or below and level 5.

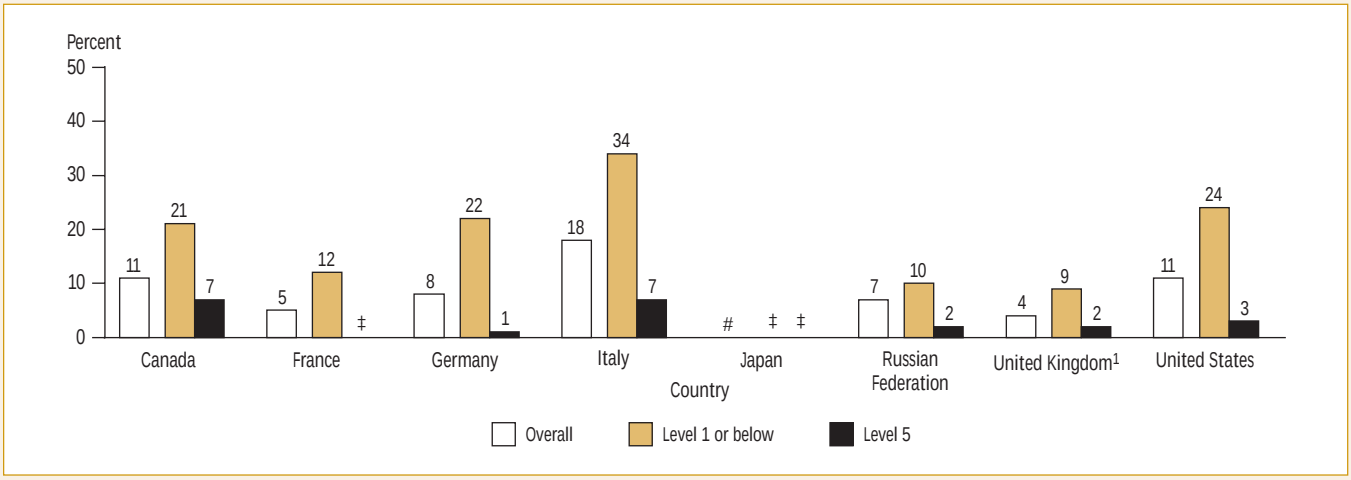
Definitions and Methodology

In order to better describe performance in reading literacy, PISA 2000 examined the proportion of students who could accomplish tasks at particular levels. In order to reach a particular level, a student must have been able to answer correctly a majority of test items at that level. Students were classified into six reading levels according to their scores. Students scoring below 335 were classified as below level 1, students scoring 335 to 407 were at level 1, and students scoring 626 and above were classified at level 5. For the purpose of this report, students scoring at level 1 or below have been combined into a single proficiency level.

A population subgroup is overrepresented in a level if the percentage of the subgroup in that level is statistically higher than the percentage of the population overall in that level.

The combined reading literacy scale is made up of 3 subscales: retrieving information, interpreting texts, and reflecting on texts.

Figure 15. Percentage of 15-year-olds whose home language differs from the language of the assessment, by reading proficiency level and country: 2000



#Rounds to zero.
‡Reporting standards not met.
[1]The United Kingdom includes England, Northern Ireland, and Scotland. Wales did not participate in the Program for International Student Assessment (PISA) 2000.

NOTE: In order to reach a particular proficiency level, a student must have been able to answer correctly a majority of items at that level. Students scoring below 335 were classified as below level 1, students scoring 335 to 407 were at level 1, and students scoring 626 and above were classified at level 5. The overall percentage refers to the percentage of the total 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), PISA 2000.

Table 9. Percentage of 15-year-olds and their average scale scores, by whether home language and language of the assessment differs and country: 2000

	Home language differs from assessment language		Home language same as assessment language	
Country	Percentage	Average scale score	Percentage	Average scale score
Canada	30.5	527	69.5	541
France	5.1	446	94.9	510
Germany	7.9	386	92.1	500
Italy	18.0	448	82.0	500
Japan	0.3	484	99.7	525
Russian Federation	7.3	432	92.7	465
United Kingdom[1]	4.1	470	95.9	528
United States	10.8	438	89.2	514

[1]The United Kingdom includes England, Northern Ireland, and Scotland. Wales did not participate in the Program for International Student Assessment (PISA) 2000.

NOTE: Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular level, a student must have been able to correctly answer a majority of items at that level. Students scoring below 335 were classified as below level 1, students scoring 335 to 407 were at level 1, and students scoring 626 and above were classified at level 5. The overall percentage refers to the percentage of the total 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), PISA 2000.

CIVIC CONCEPTIONS AND ATTITUDES

Key Findings: England, Germany, Italy, Russian Federation, United States

Compared to students in most other G8 countries, U.S. 14-year-olds placed more trust in national government and more importance on adult citizenship activities, though they were less affirming of government responsibilities pertaining to society and economy.

In 1999, as part of the International Association for the Evaluation of Educational Achievement (IEA) Civic Education Study, 14-year-olds were asked about the importance of two kinds of adult citizenship activities: conventional (e.g., importance of voting in every election or knowing about the country's history) and social movement-related (e.g., importance of taking part in activities promoting human rights or benefiting people in the community). Both of these citizenship activities were rated as more important among 14-year-olds in the United States (average scale score = 10.3 for both activities) than among 14-year-olds in all of the other G8 countries presented except for Italy (figure 16a). Among the countries shown, both citizenship activities were rated as lowest in importance in England (average scale score = 9.2 for both activities).

Fourteen-year-olds were further asked whether the government should be responsible for various society-related issues (e.g., to provide basic education and basic health care for all people) and various economy-related issues (e.g., to guarantee a job for everyone who wants one and to keep prices under control). Fourteen-year-olds in the United States were less affirming of the concept that government should have society-related responsibilities (average scale score = 10.0) than their counterparts in all of the other G8 countries presented except for Germany, which was least affirming of this concept (average scale score = 9.4). In addition, 14-year-olds in the United States were least affirming among their peers of the concept that government should have economy-related responsibilities (average scale score = 9.2). Among the countries presented, English 14-year-olds rated society-related government responsibilities the highest and Russian Federation 14-year-olds rated economy-related government responsibilities the highest (average scale scores = 10.8 and 10.6, respectively).

Fourteen-year-olds in the United States, followed by their counterparts in the Russian Federation, were the most confident in their expectations to participate in conventional political activities as an adult compared to 14-year-olds in other G8 countries (e.g., join a political party or write letters to a newspaper about social or political concerns) (average scale scores = 10.5 and 10.0, respectively). Fourteen-year-olds in the United States were also the most likely among the countries shown to express trust in the national government, with about two-thirds (65 percent) reporting that they always or most of the time trust the national government (figure 16b). Fourteen-year-olds in the Russian Federation were the least likely among the countries to express trust in the national government, with 29 percent reporting that they always or most of the time trust in the national government. However, 14-year-olds in the Russian Federation were the most likely to express interest in politics. More than half of 14-year-olds in the Russian Federation (54 percent) reported being interested in politics. In the United States, 39 percent of 14-year-olds reported being interested in politics. One-quarter of the 14-year-olds in England (25 percent) expressed interest in politics, which was the lowest level of reported interest among the countries presented.

Definitions and Methodology

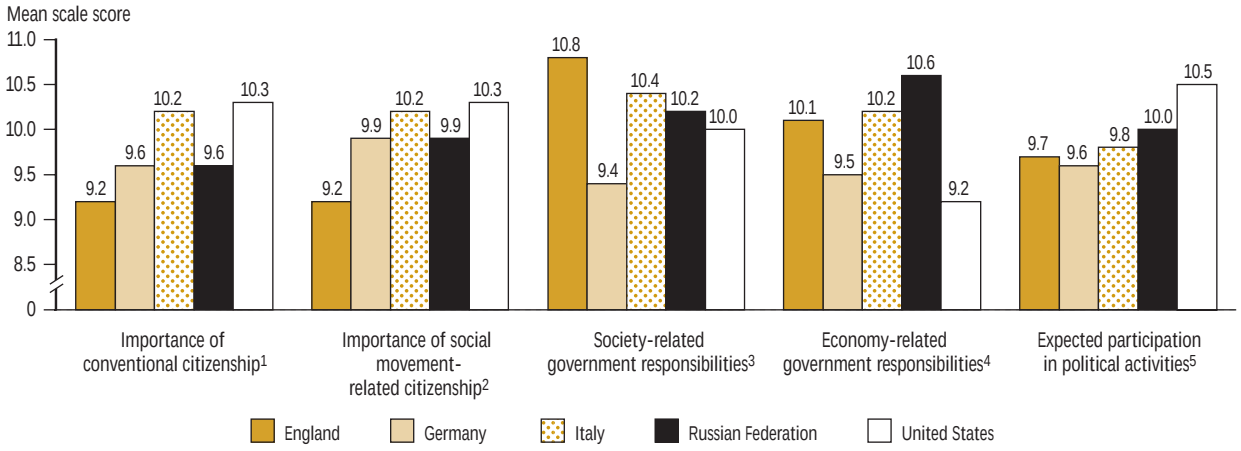
For the two scales on the importance of adult citizenship activities—conventional and social movement-related—students were asked to indicate the importance of several activities. Each activity was prefaced with, "An adult who is a good citizen . . ." For each activity (e.g., "votes in every election," "takes part in activities promoting human rights"), response choices ranged from 1 (not important) to 4 (very important).

For the two scales on the concepts of government responsibilities—society-related and economy-related—students were asked to indicate their level of agreement over whether the government should be responsible for various issues. The 14-year-olds were asked, "What responsibilities should the government have?" For each issue (e.g., "to provide free basic education for all," "to keep prices under control"), response choices ranged from 1 (should not be the government's responsibility) to 4 (definitely should be the government's responsibility).

For the scale on expected participation in political activities, students were asked, "When you are an adult, what do you expect that you will do?" For the three activities (e.g., "join a political party"), response choices ranged from 1 (I will certainly not do this) to 4 (I will certainly do this). See figure 16a for the complete list of items making up each scale.

Items were scaled using the Item Response Theory 'Partial Credit Model'. The resulting person parameters (logits) for the latent dimensions were converted to international scales with a mean of 10 and standard deviation of 2 (countries equally weighted). The scale scores are relative to the international mean, and do not reveal any substantial meaning regarding the item response categories.

Figure 16a. Average scores on selected scales assessing 14-year-olds' conceptions of citizenship and government responsibilities and their expected participation in political activities, by country: 1999



[1]The six activities (alpha = .67) included: "votes in every election," "joins a political party," "knows about the country's history," "follows political issues in the newspaper, radio or TV," "shows respect for government representatives," and "engages in political discussions."

[2]The four activities (alpha = .63) included: "would participate in a peaceful protest against a law believed to be unjust," "participates in activities to benefit people in the community," "takes part in activities promoting human rights," and "takes part in activities to protect the environment."

[3]The seven issues (alpha = .70) included: "to provide basic health care for everyone," "to provide an adequate standard of living for old people," "to provide free basic education for all," "to ensure equal political opportunities for men and women," "to control pollution of the environment," "to guarantee peace and order within the country," and "to promote honesty and moral behavior among people in the country."

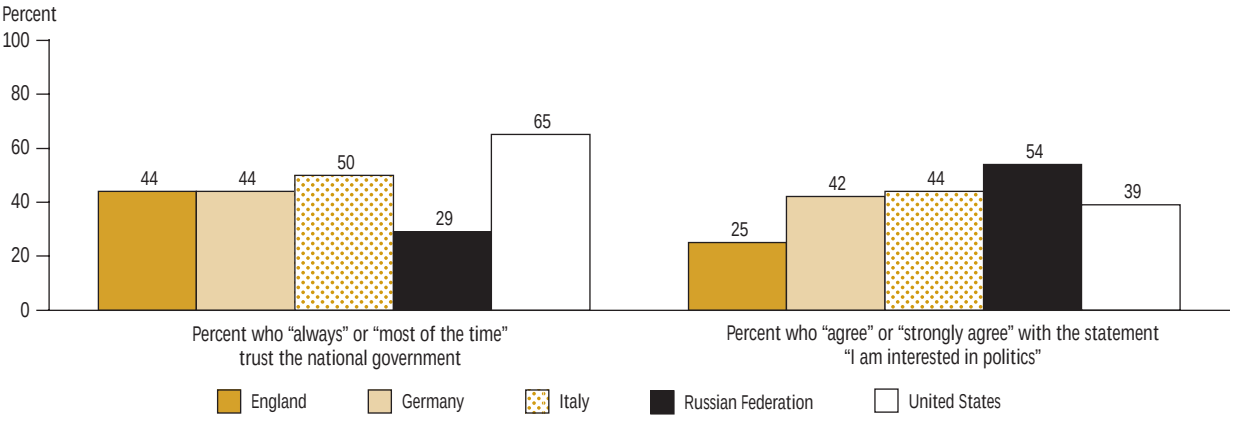
[4]The five issues (alpha = .55) included: "to guarantee a job for everyone who wants one," "to keep prices under control," "to provide industries with the support they need to grow," "to provide an adequate standard of living for the unemployed," and "to reduce differences in income and wealth among people."

[5]The three activities (alpha = .73) included: "join a political party," "write letters to a newspaper about social or political concerns," and "be a candidate for a local or city office."

NOTE: Countries were instructed to select the grade in which most 14-year-olds were enrolled at the time of the study. In the United States, this was 9th grade.

SOURCE: International Association for the Evaluation of Educational Achievement, Civic Education Study. (2001). *Citizenship and Education in Twenty-Eight Countries: Civic Knowledge and Engagement at Age Fourteen, 2001*, Figures 4.1, 4.2, 4.3, 4.4, and 6.1. Amsterdam: Author.

Figure 16b. Percentage of 14-year-olds who report trust in the national government and percent who report interest in politics, by country: 1999



NOTE: Countries were instructed to select the grade in which most 14-year-olds were enrolled at the time of the study. In the United States, this was 9th grade.

SOURCE: International Association for the Evaluation of Educational Achievement, Civic Education Study. (2001). *Citizenship and Education in Twenty-Eight Countries: Civic Knowledge and Engagement at Age Fourteen, 2001*, Tables 5.1 and 6.1. Amsterdam: Author.

STUDENTS' ENGAGEMENT IN READING

Key Findings: Canada, France, Germany, Italy, Japan, Russian Federation, United Kingdom, United States

In the United States, 15-year-olds achieving at the lowest level on the PISA proficiency scale reported lower levels of engagement in reading than their peers who achieved at the highest level, a pattern that was found in all other G8 countries.

In order to investigate engagement in reading and achievement, the Program for International Student Assessment (PISA) 2000 asked students whether or not they agreed with statements like: "Reading is one of my favorite hobbies," or "I enjoy going to a bookstore or a library." These questions were used to design an index of reading engagement. This index had an average of zero, based on the average of 27 of the countries that participated in PISA 2000, with higher index values implying higher levels of reading engagement.

In 2000, 15-year-olds in the United States reported a lower index value (-0.14) for engagement in reading compared to their peers in Japan (0.20), and the Russian Federation (0.17), though they reported higher engagement in reading compared to their peers in Germany (-0.26) (figure 17).

For PISA 2000, 15-year-olds from 32 countries were tested and their scores were grouped into levels from 1–5 with level 1 or below being the lowest and level 5 being the highest. Fifteen-year-olds achieving at level 1 or below in the United States reported lower engagement in reading (-0.57) than the national average (-0.14) as well as compared to their U.S. peers achieving at level 5 (0.52). This pattern is also found in all of the other G-8 countries.

The size of the gap between the engagement scores of U.S. 15-year-olds scoring at level 1 or below compared to their peers at level 5 is smaller than the corresponding gap across these two proficiency levels in Germany and larger than the gap in the Russian Federation. The U.S. gap is not measurably different from the gap in the other G8 countries.

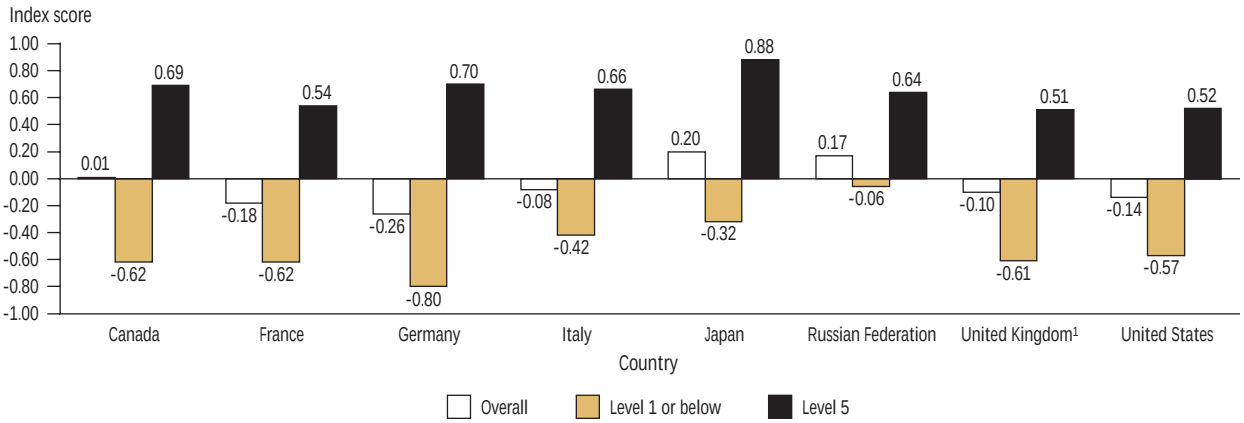
Definitions and Methodology

PISA 2000 measured students' engagement in reading by asking students for their level of agreement with several statements about their enjoyment of reading and reading-related activities, such as going to the library. See figure 17 for a complete list of items used to create the engagement in reading index.

The engagement in reading index was constructed in such a way that the average index score of the 27 Organization for Economic Cooperation and Development (OECD) countries that participated in PISA 2000 was set to zero. (Overall 31 countries participated in PISA, an assessment run by the OECD, in 2000. The scores of non-OECD countries were not included in the calculation of the average index score). The standard deviation of the index was set to one; therefore, approximately two-thirds of the OECD student population scored between –1 and 1.

In order to better describe performance in reading literacy, PISA 2000 examined the proportion of students who could accomplish tasks at particular levels. In order to reach a particular level, a student must have been able to answer correctly a majority of test items at that level. Students were classified into six reading levels according to their scores. Students scoring below 335 were classified as below level 1, students scoring 335 to 407 were at level 1, and students scoring 626 and above were classified at level 5. For the purpose of this report, students scoring at level 1 or below have been combined into a single proficiency level.

Figure 17. Average index scores of 15-year-old students' sense of engagement in reading, by reading proficiency level and country: 2000



[1]The United Kingdom includes England, Northern Ireland, and Scotland. Wales did not participate in the Program for International Student Assessment (PISA) 2000.

NOTE: The engagement in reading index was constructed in such a way that the mean index score of the 27 Organization for Economic Cooperation and Development (OECD) countries that participated in PISA 2000 was set to zero. A negative index value implies a lower than average engagement in reading, while a positive index value suggests a higher than average engagement in reading. PISA 2000 measured students' engagement in reading by asking for their level of agreement (strongly disagree, disagree, agree, strongly agree) with the following statements: I read only if I have to (reverse coded); reading is one of my favorite hobbies; I like talking about books with people; I find it hard to finish books (reverse coded); I feel happy if I receive a book as a present; for me, reading is a waste of time (reverse coding); I enjoy going to a bookstore or a library; I read only to get information that I need (reverse coded); and I cannot sit still and read for more than a few minutes (reverse coded). In order to reach a particular proficiency level, a student must have been able to answer correctly a majority of items at that level. Students scoring below 335 were classified as below level 1, students scoring 335 to 407 were at level 1, and students scoring 626 and above were classified at level 5. The overall percentage refers to the percentage of the total 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), PISA 2000.

REMEDIAL LANGUAGE COURSES IN SCHOOL

Key Findings: Canada, France, Germany, Italy, Japan, Russian Federation, United Kingdom, United States

The percentage of 15-year-olds taking remedial language courses was higher in the United States than in five of the other G8 countries.

The Program for International Student Assessment (PISA) in 2000 asked 15-year-old students whether or not they had enrolled in remedial language courses in school and outside school. This indicator examines students' remedial language class attendance in the 3 years preceding the assessment, which includes courses taken in school for the purpose of increasing proficiency in the language of the assessment.

In the United States, on average, 7 percent of 15-year-olds reported taking remedial language courses in school regularly in the three years preceding the assessment (figure 18a). The U.S. percentage was higher than the percentage in five of the other G8 countries. France (5 percent), reported a percentage not measurably different from the United States, and the Russian Federation (11 percent) had a higher rate.

On average, fewer 15-year-olds in the United States regularly attended remedial language courses in the 3 years preceding the assessment outside of school than in school (figure 18a and figure 18b). Whereas 7 percent of U.S. 15-year-olds reported regularly attending remedial language courses in school, 1 percent reported regularly attending remedial language courses outside of school. This percent is lower than the percent of 15-year-olds in France attending remedial language courses outside school (2 percent) but not detectably different from that in any of the other G8 countries reporting data.

For PISA 2000, 15-year-olds from 32 countries were tested and their scores on the combined reading literacy scale were grouped into levels from 1–5, with level 1 or below being the lowest and level 5 being the highest. In the United States, there were no measurable differences in the percentages of 15-year-olds who attended remedial language courses in school at level 1 or below compared to the corresponding percentages at level 5 as well as for the overall population (figure 18a). However, 3 percent of U.S. 15-year-olds at level 1 or below reported regularly attending remedial language classes outside of school, which was higher than the 1 percent of students overall reporting the same; level 1 or below 15-year-olds in the United States, therefore, were overrepresented in this category.

Definitions and Methodology

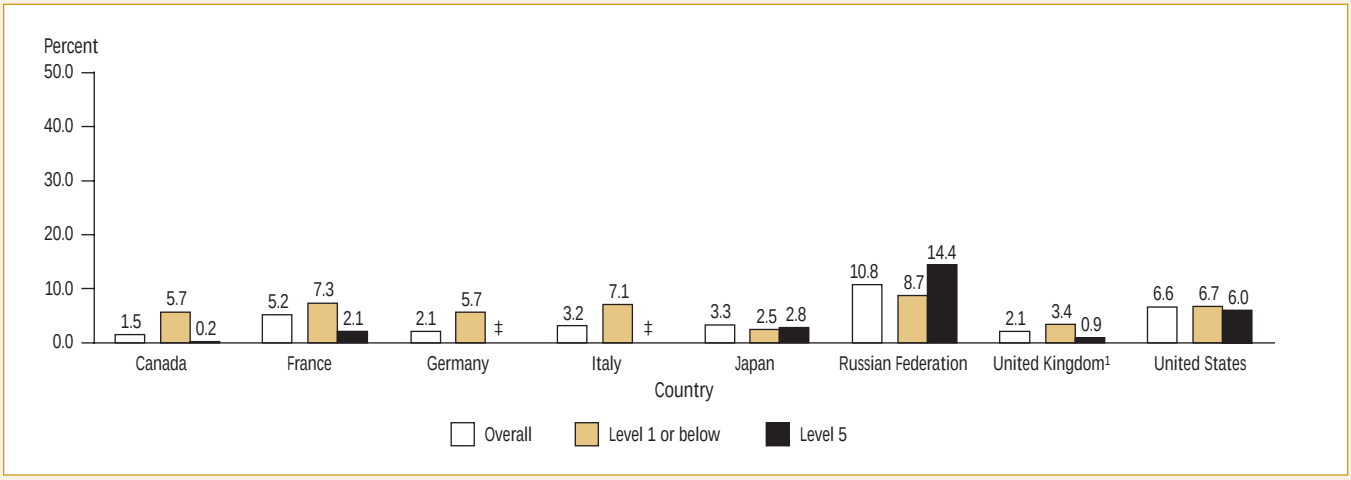
PISA 2000 measures students' enrollment in remedial courses in the test language in school and outside of school by asking the students two questions: Over the past 3 years, have you taken remedial courses in school in the test language? Over the past 3 years, have you taken remedial courses out of school in the test language? Students were also asked to report how frequently they attended these remedial courses (regularly, sometimes, or never).

In order to better describe performance in reading literacy, PISA 2000 examined the proportion of students who could accomplish tasks at particular levels. In order to reach a particular level, a student must have been able to answer correctly a majority of test items at that level. Students were classified into six reading levels according to their scores. Students scoring below 335 were classified as below level 1, students scoring 335 to 407 were at level 1, and students scoring 626 and above were classified at level 5. For the purpose of this report, students scoring at level 1 or below have been combined into a single proficiency level.

A population subgroup is overrepresented in a level if the percentage of the subgroup in that level is statistically higher than the percentage of the population overall in that level.

The combined reading literacy scale is made up of 3 subscales: retrieving information, interpreting texts, and reflecting on texts.

Figure 18a. Percentage of 15-year-olds who reported regularly attending remedial language courses in school in the 3 years preceding the assessment, by reading proficiency level and country: 2000



#Rounds to zero

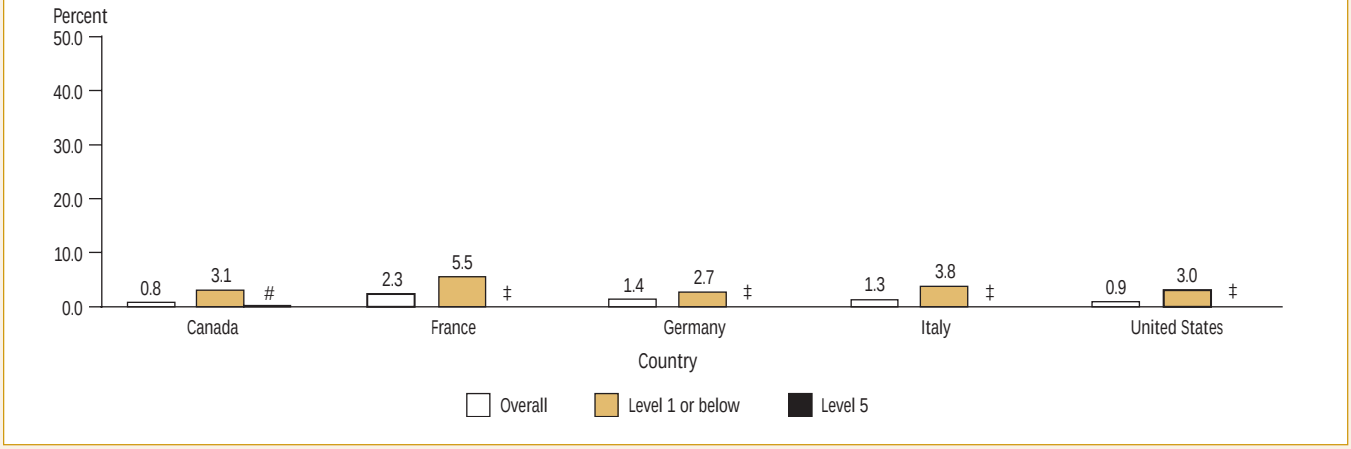
‡Reporting standards not met.

[2]The United Kingdom includes England, Northern Ireland, and Scotland. Wales did not participate in the Program for International Student Assessment (PISA) 2000.

NOTE: Remedial language courses are those taken in the student's test language. Students were classified into reading levels according to their combined reading literacy scores on PISA 2000. In order to reach a particular proficiency level, a student must have been able to answer correctly a majority of items at that level. Students scoring below 335 were classified as below level 1, students scoring 335 to 407 were at level 1, and students scoring 626 and above were classified at level 5. The overall percentage refers to the percentage of the total 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), PISA 2000.

Figure 18b. Percentage of 15-year-olds who reported regularly attending remedial language courses outside of school in the 3 years preceding the assessment, by reading proficiency level and country: 2000



#Rounds to zero

‡Reporting standards not met.

NOTE: Remedial language courses are those taken in the student's test language. Students were classified into reading proficiency levels according to their combined reading literacy scores on the Program for International Student Assessment (PISA) 2000. In order to reach a particular level, a student must have been able to answer correctly a majority of items at that level. Students scoring below 335 were classified as below level 1, students scoring 335 to 407 were at level 1, and students scoring 626 and above were classified at level 5. The overall percentage refers to the percentage of the total 15-year-old student population.

SOURCE: Organization for Economic Cooperation and Development (OECD), PISA 2000.

PUBLIC SCHOOL TEACHERS' SALARIES IN UPPER SECONDARY EDUCATION

Key Findings: England, France, Germany, Italy, Japan, Scotland, United States

Among the G8 countries reporting data, the United States in 2001 paid the second-highest starting salary ($28,806) to public upper secondary teachers with the minimum qualifications required. Only Germany reported a higher average starting salary ($43,100).

International comparisons of public secondary school teachers' salaries can give policymakers an idea of how teacher compensation varies across countries. This indicator compares average salaries for both public upper secondary school teachers with the minimum qualifications required *and* those with the minimum qualification and 15 years of experience in these seven countries in 2001. It also compares the ratio of these average salaries to the Gross Domestic Product (GDP) per capita for each of these countries in 2001.

Among the nations reporting data for 2001, the United States paid the second-highest average starting salary ($28,806) to public upper secondary school teachers with the minimum qualifications required (figure 19a). Only Germany reported a higher average starting salary ($43,100) for public upper secondary school teachers with the minimum qualifications.

Among the seven countries reporting, the United States paid the third-highest average salary ($41,708) to public upper secondary school teachers with the minimum qualifications and 15 years of experience in 2001. Germany and Japan reported higher average public upper secondary salaries for teachers at this level of experience ($52,839 and $43,069, respectively). The average salary for such teachers in the United States was 32 percent higher than the salary for public upper secondary teachers at this level in France ($31,507), the G8 country reporting the lowest average salary for teachers at this level.

Comparing teacher salaries to GDP per capita is a way to assess the relative value of teachers' salaries among countries. In 2001, starting public upper secondary teachers with the minimum qualifications in six of the countries presented earned less than the average per capita GDP in their respective countries (figure 19b). For example, in the United States, starting public upper secondary teachers with the minimum qualifications earned, on average, 82 percent of the U.S. GDP per capita. In Germany, however, public upper secondary teachers with minimum qualifications earned 162 percent of the German GDP. But in all the countries reporting data, public upper secondary school teachers with minimum qualifications and 15 years' experience earned, on average, higher than the GDP per capita in their respective countries.

Definitions and Methodology

School teachers refers to professional personnel directly involved in teaching students. This classification includes classroom teachers, special education teachers, and department chairpersons whose duties include some teaching, but excludes teachers' aides and teaching/research assistants.

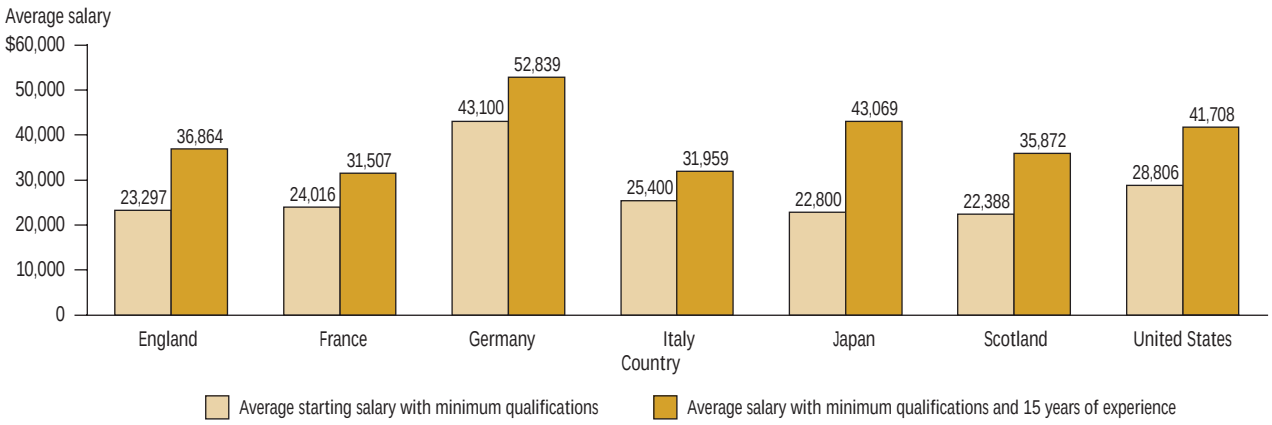
Annual statutory teachers' salaries in public upper secondary schools are in equivalent U.S. dollars, converted using Purchasing Power Parity indices (PPPs) that equalize the purchasing power of different currencies. PPPs exchange rate data are from the OECD National Accounts 2001. Statutory salaries refer to scheduled salaries according to official pay scales. The salaries reported are defined as gross salaries (total sum paid by the employer for the labor supplied) excluding the employer's contribution to social security and pension (according to existing salary scales), and are "before tax."

Salaries after 15 years' experience refer to the scheduled annual salary of a full-time classroom teacher with the minimum training necessary to be fully qualified and with 15 years' experience. Minimum qualifications vary by country. In the United States, teacher qualifications are decentralized and vary by state. In most states teachers must have a bachelor's degree, pass state licensure exams, and undergo a criminal background check in order to obtain a license. For more information on the teacher qualifications required in other G8 countries, please see http://www.oecd.org/document/9/0,2340,en_2649_201185_1839497_1_1_1_1,00.html.

In countries with centralized systems of education, there are typically national salary schedules. In countries like the United States, with decentralized educational systems, local or regional governments establish their own salary schedules. Estimates of national salary schedules in the United States were derived from the Schools and Staffing Survey for 1999–2000, with adjustments for inflation for 2000–01.

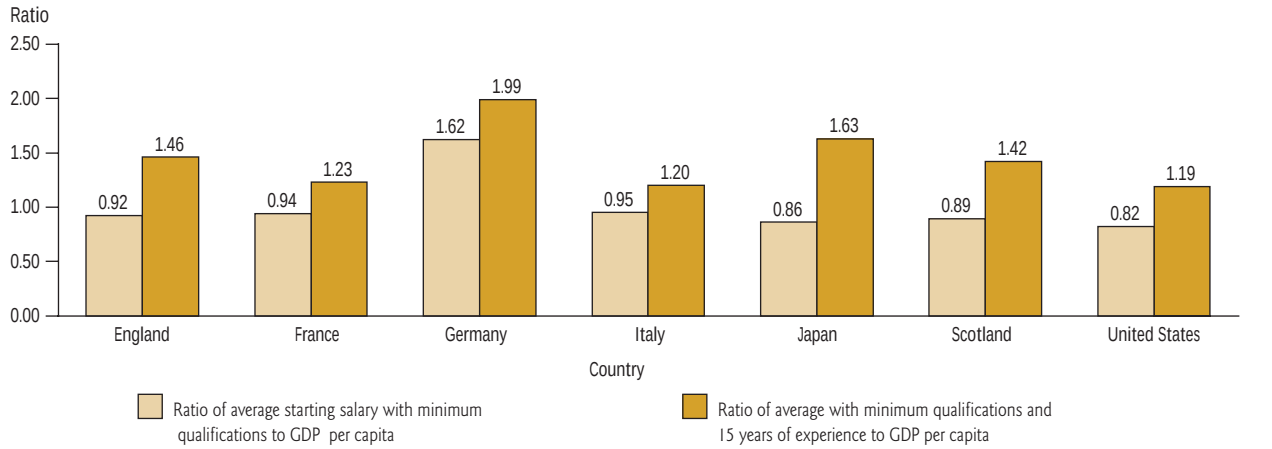
GDP per capita is in equivalent U.S. dollars, calendar year 2001. GDP per capita in national currencies (2001) are converted to U.S. dollars using PPPs (2001), total population (2001), and total GDP current expenditure (2001).

Figure 19a. Public upper secondary teachers' average salaries in U.S. dollars converted using Purchasing Power Parities (PPPs), by teacher qualifications and experience and country: 2001



NOTE: Average salaries are gross salaries (i.e., before deductions for income taxes), and are converted to U.S. dollars using 2001 national Purchasing Power Parities (PPPs) exchange rate data.
SOURCE: Organization for Economic Cooperation and Development (OECD). 2003. *Education at a Glance: OECD Indicators 2003*, Table D5.1.

Figure 19b. Ratio of average salary for public upper secondary teachers to Gross Domestic Product (GDP) per capita, by level of teacher qualifications and experience and country: 2001



NOTE: Gross Domestic Product (GDP) per capita is in equivalent U.S. dollars, calendar year 2001. GDP per capita in national currencies (2001) are converted to U.S. dollars using PPPs (2001), total population (2001), and total GDP current expenditure (2001). A ratio of 1.0 indicates that the salary is equal to the GDP per capita for that country.
SOURCE: Organization for Economic Cooperation and Development (OECD). 2003. *Education at a Glance: OECD Indicators 2003*, Table D5.1.

TEACHERS' WORKING TIME

Key Findings: England, France, Germany, Italy, Japan, Scotland, Russian Federation, United States

Primary and secondary school teachers in the United States taught more hours per year than teachers in the other G8 countries.

The amount of time teachers spend teaching in a country reflects the working environment of teachers in that country. Teaching hours and the extent of nonteaching duties are also elements of teachers' working conditions.

The average number of net teaching hours, the time directly associated with teaching, varies widely across countries. Teachers at both primary and secondary education levels in the United States reported spending more time teaching in 2001 than teachers in the other six countries with data present (figure 20). On average, net teaching hours for primary education ranged from 635 hours in Japan to 1139 hours in the United States.

Average teaching hours for lower secondary school teachers followed a similar pattern to that of primary school teachers, ranging from 557 hours in Japan to 1127 hours in the United States. Lower secondary as well as upper secondary school teachers in the United States had higher net teaching hours than in the other reporting countries.

In all seven countries with data, primary school teachers taught for more hours than lower and upper secondary teachers, but the degree varied widely between countries. The smallest differential was in the United States, where primary school teachers reported teaching 12 more hours per year than lower secondary school teachers. France had the greatest differential, where primary school teachers had 296 more hours with students on average than upper secondary school teachers.

The regulations governing teachers' working time vary across the countries. (Data not shown. Please see *OECD* (2003), Table D6.1 for more information.[9]) In England, Scotland, and the United States, the total working time for which teachers are required to be available at school is specified, although in the United States it is typically specified by state and local authorities. Total working time is defined as net teaching hours plus nonteaching time associated directly with teaching, although net teaching hours sometimes includes nonteaching time associated with other activities such as counseling students. Scotland and the United States specify the proportion between net teaching hours and those for nonteaching duties, while England specifies the total number of working hours required at school. Scotland also specifies the total statutory working hours for teachers. For Germany and Japan, only the total statutory working time (net teaching hours plus nonteaching hours devoted to activities like lesson preparation and grading) is specified with no restrictions on working time within school. In Japan, teachers' working time is specified only in the general regulations on civil servants' working time.

[9]Organization for Economic Cooperation and Development. (2003). *Education at a Glance: OECD Indicators 2003.* Paris, France: Author.

Definitions and Methodology

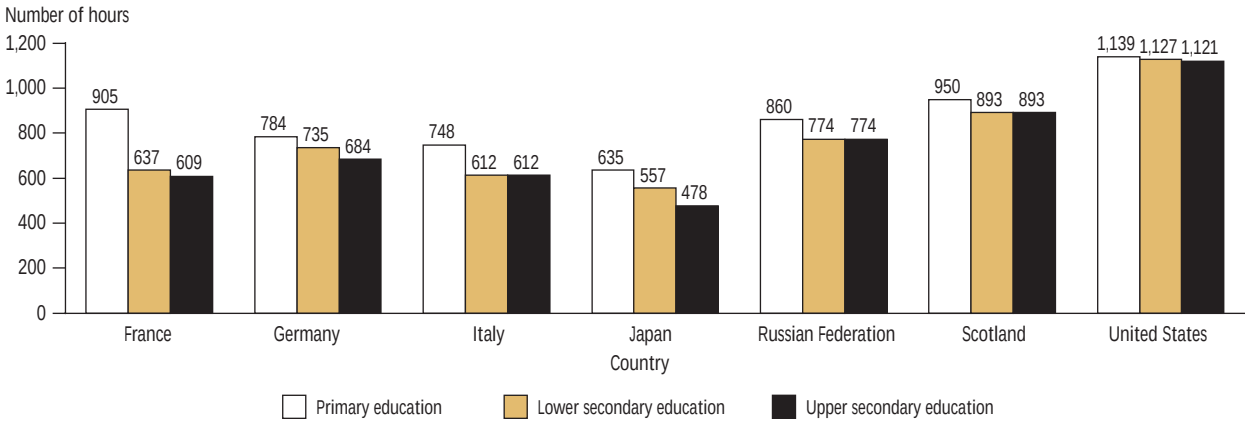
Teaching staff refers to professional personnel directly involved in teaching students. This classification includes classroom teachers, special education teachers and department chairpersons whose duties include some teaching, but excludes teachers' aides and teaching/research assistants.

Net teaching hours refers to the number of teaching hours per year. This excludes break periods between lessons and days when schools are closed for public holidays and festivities. In primary education, however, short breaks that teachers spend with the class are typically included.

Working time in school refers to the working time teachers are supposed to be at school, including teaching time and nonteaching time. It differs from net teaching hours in that it includes nonteaching hours.

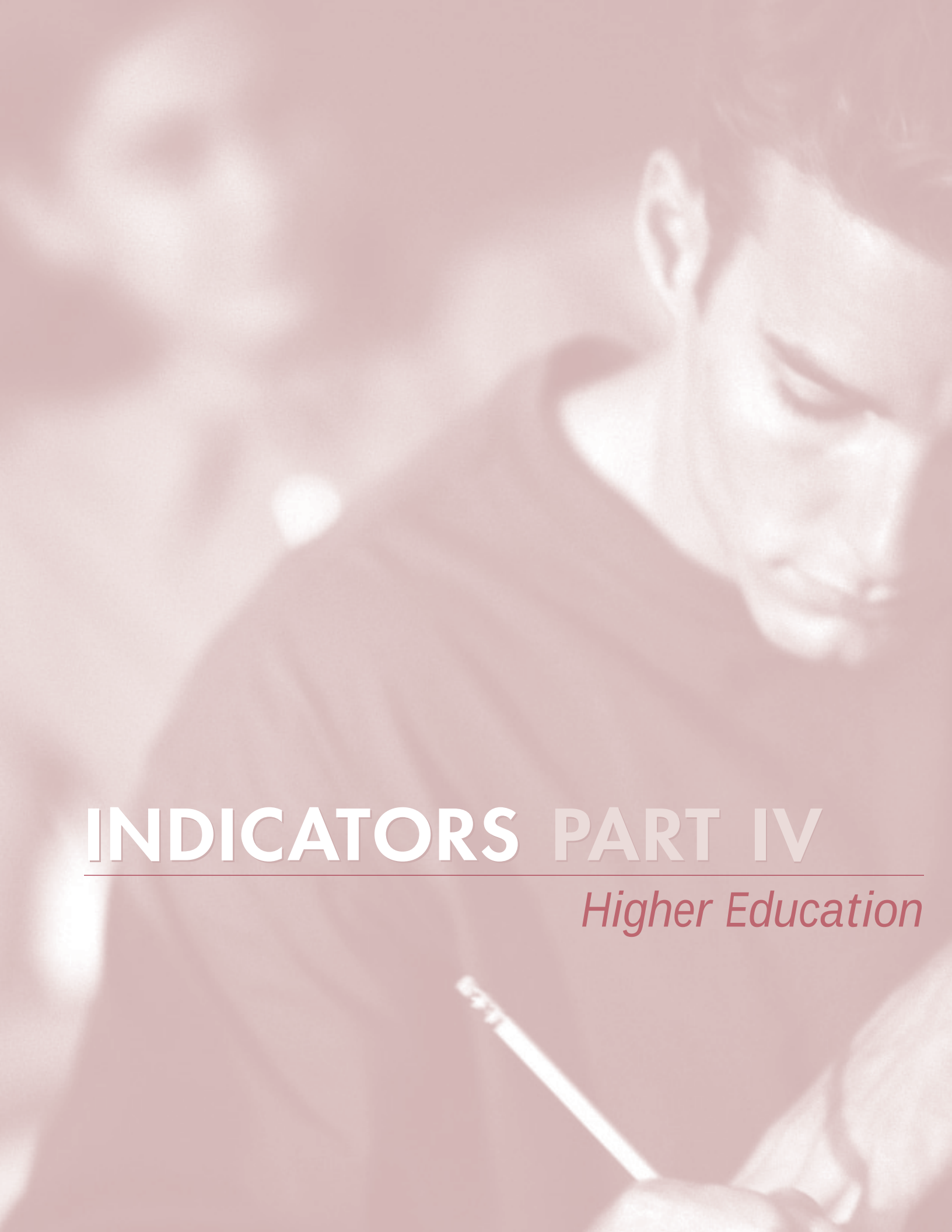
Statutory working time refers to the normal working hours of a full-time teacher. According to the formal policy in a given country, working time can refer only to the time directly associated with teaching (and other curricular activities for students such as assignments and tests, but excluding annual examinations); or to time directly associated with teaching and to hours devoted to other activities related to teaching, such as lesson preparation, counseling students, correcting assignments and tests, professional development, meetings with parents, staff meetings and general school tasks. Working time does not include paid overtime.

Figure 20. Average number of net teaching hours over the school year in public institutions, by level of education and country: 2001



NOTE: Net teaching hours refers to the number of teaching hours per year. This excludes break periods between lessons and days when schools are closed for public holidays and festivities. In primary education, however, short breaks that teachers spend with the class are typically included. England does not specify net teaching hours over the school year, and hence this category is not applicable for the country. Education levels are defined according to the International Standard Classification of Education (ISCED). Primary education refers to ISCED level 1, lower secondary to ISCED level 2, and upper secondary to ISCED level 3. For more information on ISCED levels, see the appendix.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*, Table D6.1.



INDICATORS PART IV

Higher Education

HIGHER EDUCATION ENROLLMENT

Key Findings: Canada, France, Germany, Italy, United Kingdom, United States

Almost one-quarter of U.S. 18- to 29-year-olds were enrolled in higher education, the highest enrollment rate among the G8 countries presented. Females had a higher enrollment rate than males in all countries except Germany.

In 2001, 24 percent of 18- to 29-year-olds in the United States were enrolled in higher education (figure 21a). This enrollment rate was higher than that of all other countries presented.

The enrollment rate in higher education of females exceeded that of males in all of the countries presented except Germany. This difference ranged from 2 percentage points in the United Kingdom to 5 percentage points in Italy, with Canada, France, and the United States having a difference of 4 percentage points between male and female enrollment. Whereas females had higher education enrollment rates of at least 20 percent in three of the countries shown, only in the United States did males have a higher education enrollment rate that was at least 20 percent.

Figure 21a shows the higher education enrollment rates of 18- to 29-year-olds broken down into two separate age groups, 18- to 24-year-olds and 25- to 29-year-olds. With the exception of Germany, the enrollment rate of each country's 18- to 24-year-old population is at least two times higher than that of its 25- to 29-year-old population. In 2001, about one-third (34 percent) of 18- to 24-year-olds in the United States were enrolled in higher education, compared to 10 percent of its 25- to 29-year-old population who were enrolled at this level. Besides the United States, France also had at least 30 percent of its 18- to 24-year-old population enrolled in higher education. Enrollment rates of 25- to 29-year-olds in higher education ranged from 5 percent in France to 12 percent in Germany.

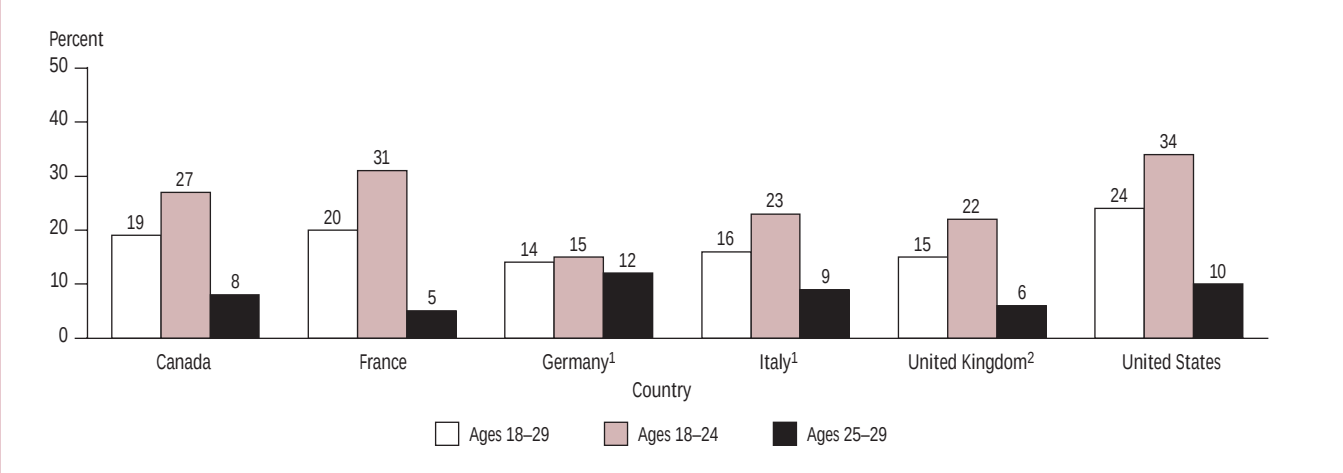
Definitions and Methodology

Educational levels are defined according to the International Standard Classification of Education (ISCED). Higher education refers to ISCED level 5A (academic higher education-first stage), 5B (technical and vocational higher education), and 6 (academic higher education-second stage/ doctoral studies). For a complete description of the ISCED levels, see the appendix.

The percentage of the population at given ages enrolled in education is called an "enrollment rate." In this indicator, the term "enrollment rate" refers to "net enrollment rate," and is defined as the number of students in a particular age group enrolled in education divided by the population of that same group. Enrollments include full-time and part-time students in public and private institutions of higher education, ages 18 to 29 in 2001.

In Germany and Italy, enrollment data for students enrolled in doctoral studies were not available.

Figure 21a. Percentage of the population ages 18 to 24 and 25 to 29 enrolled full time and part time in public and private institutions of higher education, by age and country: 2001



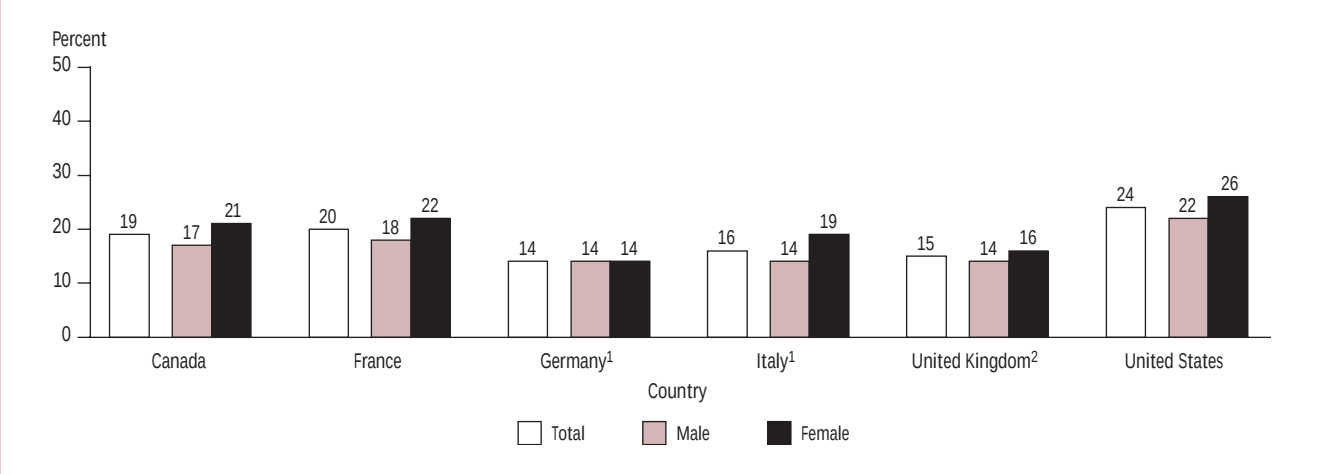
[1]Enrollment data for students enrolled in doctoral studies are not available.

[2]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Higher education refers to ISCED level 5A (academic higher education-first stage), 5B (technical and vocational higher education), and 6 (academic higher education-second stage/ doctoral studies). Figure includes both full-time and part-time enrollment. For more information on ISCED levels, see the appendix.

SOURCE: Organization for Economic Cooperation and Development OECD, 2003, unpublished data.

Figure 21b. Percentage of the population ages 18 to 29 enrolled in public and private institutions of higher education, by sex and country: 2001



[1]Enrollment data for students enrolled in doctoral studies are not available.

[2]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Higher education refers to ISCED level 5A (academic higher education-first stage), 5B (technical and vocational higher education), and 6 (academic higher education-second stage/ doctoral studies). Figure includes both full-time and part-time enrollment. For more information on ISCED levels, see the appendix.

SOURCE: Organization for Economic Cooperation and Development (OECD), 2003, unpublished data.

FIRST UNIVERSITY DEGREES BY FIELD OF STUDY

Key Findings: Canada, France, Germany, Italy, Japan, United Kingdom, United States

In all of the countries presented, more first university degrees were awarded in social sciences, business, and law than that of any of the other fields shown—humanities and arts; science; engineering, manufacturing, and construction; and education.

In 2001, 44 percent of first university degrees awarded in the United States were in the general field of social sciences, business, and law (figure 22). This percentage is not measurably different from the 43 percent of first university degrees awarded in the United States in the following fields combined—humanities and arts; science; engineering, manufacturing, and construction; and education. In Germany and the United Kingdom, the percentage of first university degrees awarded in social sciences, business, and law was lowest among the countries shown (27 percent), although even in these countries this represents a higher percentage of first university degrees awarded than that of any of the other fields shown.

In the United States, the field with the next largest percentage of first university degrees awarded among the fields shown was humanities and arts, at 17 percent. Among the other countries shown, the percentage of first university degrees awarded in humanities and arts ranged from 13 percent in Italy to 23 percent in France.

Eleven percent of first university degrees awarded in the United States were in the science field. Among the seven other countries presented, only in the United Kingdom were at least 20 percent of first university degrees awarded in science; Japan had the lowest percentage of its degrees awarded in this field, at 3 percent.

In the United States, 7 percent of first university degrees were awarded in the general field of engineering, manufacturing, and construction. Except for Canada (8 percent) and the United States, all other countries presented had between 11 and 20 percent of their first university degrees awarded in this field.

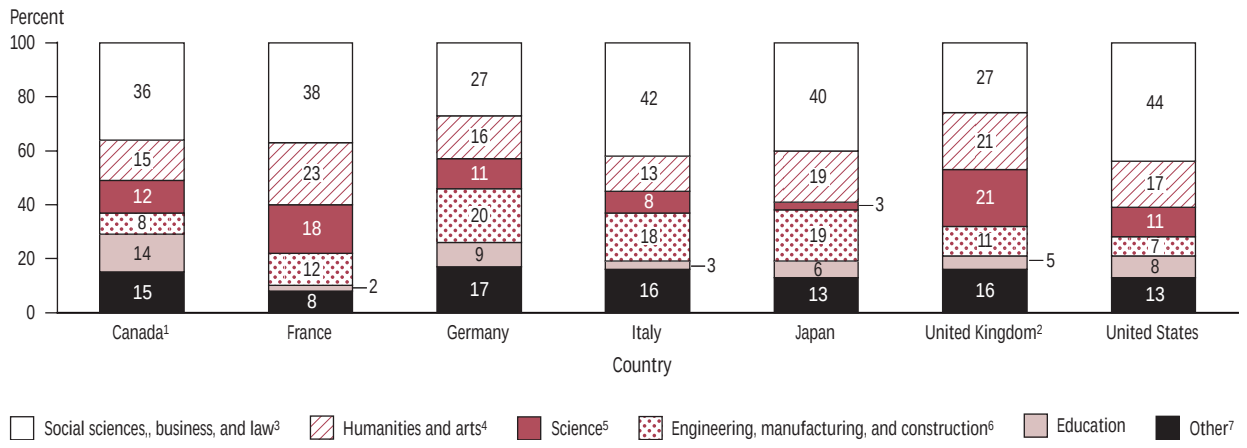
Eight percent of first university degrees awarded in the United States were in education. All other countries presented had between 2 and 14 percent of their first university degrees awarded in education. In France, Germany, Italy, and the United Kingdom, the lowest percentage of their degrees were awarded in education, at 2, 9, 3, and 5 percent respectively.

Definitions and Methodology

Programs that prepare students for advanced research and highly qualified professions are classified as first university degree programs, which corresponds to ISCED level 5A. First university degrees vary in duration in different countries in different programs of study. In the United States, the first university degree corresponds to a bachelor's degree; it excludes associate's degrees. For a complete description of the ISCED levels, see the appendix.

The percentage of first university degrees awarded in each of the four fields shown is the share of these degrees awarded in each field relative to all first university degrees awarded in all fields for a given year.

Figure 22. Percentage distribution of first university degrees awarded, by field of study and country: 2001



[1]Data for Canada are from 2000.

[2]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

[3]Includes social and behavioral sciences (ISC 31), journalism and information (ISC 32), business and administration (ISC 34), and law (ISC 38).

[4]Includes arts (ISC 21) and humanities (ISC 22).

[5]Includes life sciences (ISC 42), physical sciences (ISC 44), mathematics and statistics (ISC 46), and computing (ISC 48).

[6]Includes engineering and engineering trades (ISC 52), manufacturing and processing (ISC 54), and architecture and building (ISC 58).

[7]Includes agriculture, forestry, and fishery (ISC 62); veterinary (ISC 64); health and welfare (ISC 72); and services and degrees not known or unspecified.

NOTE: Detail may not sum to totals because of rounding. The fields of education shown follow the 1997 revision of the International Standard Classification of Education Major Field of Study (ISCED MFS) (UNESCO 1997). Programs that prepare students for advanced research and highly qualified professions are classified as first university degree programs, which corresponds to ISCED level 5A. First university degrees vary in duration in different countries in different programs of study. In the United States, the first university degree corresponds to a bachelor's degree; it excludes associate's degrees. For more information on ISCED levels, see the appendix.

SOURCE: Organization for Economic Cooperation and Development, Education Database, September 30, 2003.

FOREIGN STUDENTS IN HIGHER EDUCATION

Key Findings: France, Germany, Italy, Japan, Russian Federation, United Kingdom, United States

The number of foreign students in the United States is high, but the proportion is low. In fact, the proportion of foreign students in the United States is less than half that of three G8 countries (France, Germany and the United Kingdom)

The increasing interconnectedness of the worlds' economies places an increased premium on individuals' knowledge of other cultures, languages, and business methods. Higher education plays a major role in expanding students' knowledge in these areas, especially when this education takes place outside of their native country. Studying in a foreign country may also serve to provide students with a broader array of educational opportunities than what is offered within their own country. This indicator examines the number and percentage of foreign students enrolled in programs of higher education in the G8 countries in 2001.

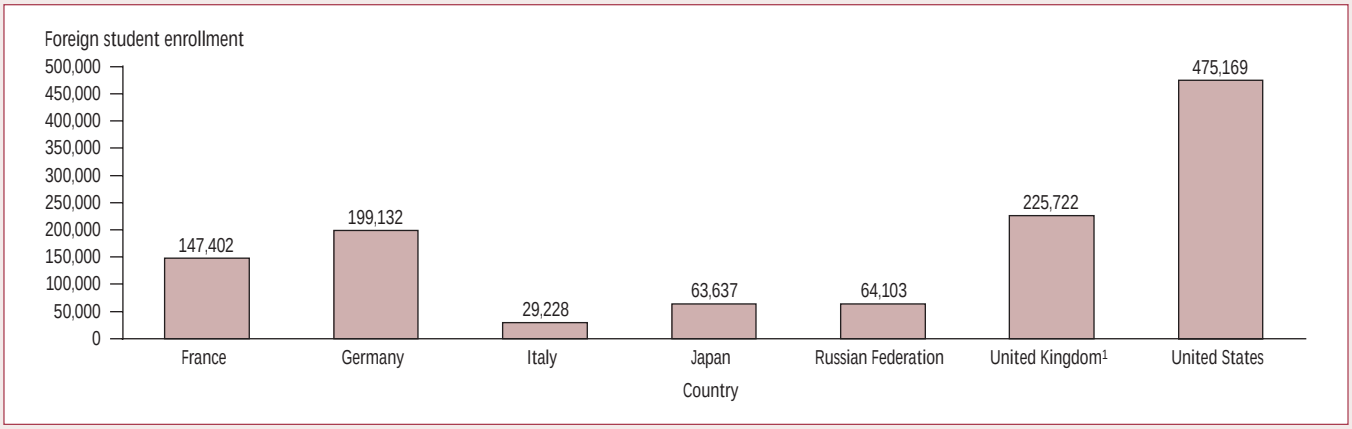
There were 475,169 foreign students enrolled in higher education in the United States in 2001 (figure 23a). This number was higher than the numbers in any of the other G8 countries, although as a percentage of all students in the country it is not among the highest (figure 23b). Foreign students comprised 4 percent of the total higher education enrollment in the United States. Among the G8 countries presented, the United Kingdom had the largest proportion of foreign students in postsecondary education programs in 2001 (11 percent), followed by Germany (10 percent), and France (7 percent). Countries with the smallest proportions of foreign students included Italy, Japan, and the Russian Federation (all 2 percent or less).

Definitions and Methodology

Education levels are defined according to the International Standard Classification of Education (ISCED). Higher education in this indicator refers to ISCED levels 5A, 5B, and 6. For a complete description of the ISCED levels, see the appendix.

Foreign student enrollment is reported as a proportion of the total enrollment in higher education programs in the host country. Total enrollment, used as the denominator, includes all foreign and domestic students in the country and excludes all students from the host country who are studying abroad.

Figure 23a. Total foreign students enrolled in higher education programs from all reporting destinations, by country: 2001

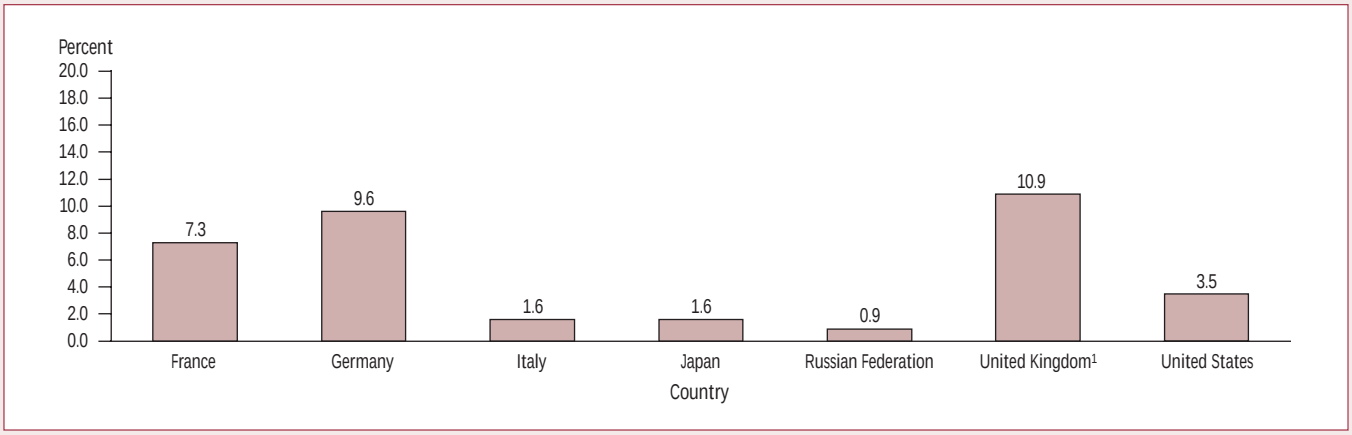


[1]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Reporting destinations include 30 OECD countries and 166 non-OECD countries. Education levels are defined according to the International Standard Classification of Education (ISCED). Higher education refers to ISCED level 5A (academic higher education-first stage), 5B (technical and vocational higher education), and 6 (academic higher education-second stage/ doctoral studies) except where otherwise noted. For more information on ISCED levels, see the appendix.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*, Table C3.5 (additional web table).

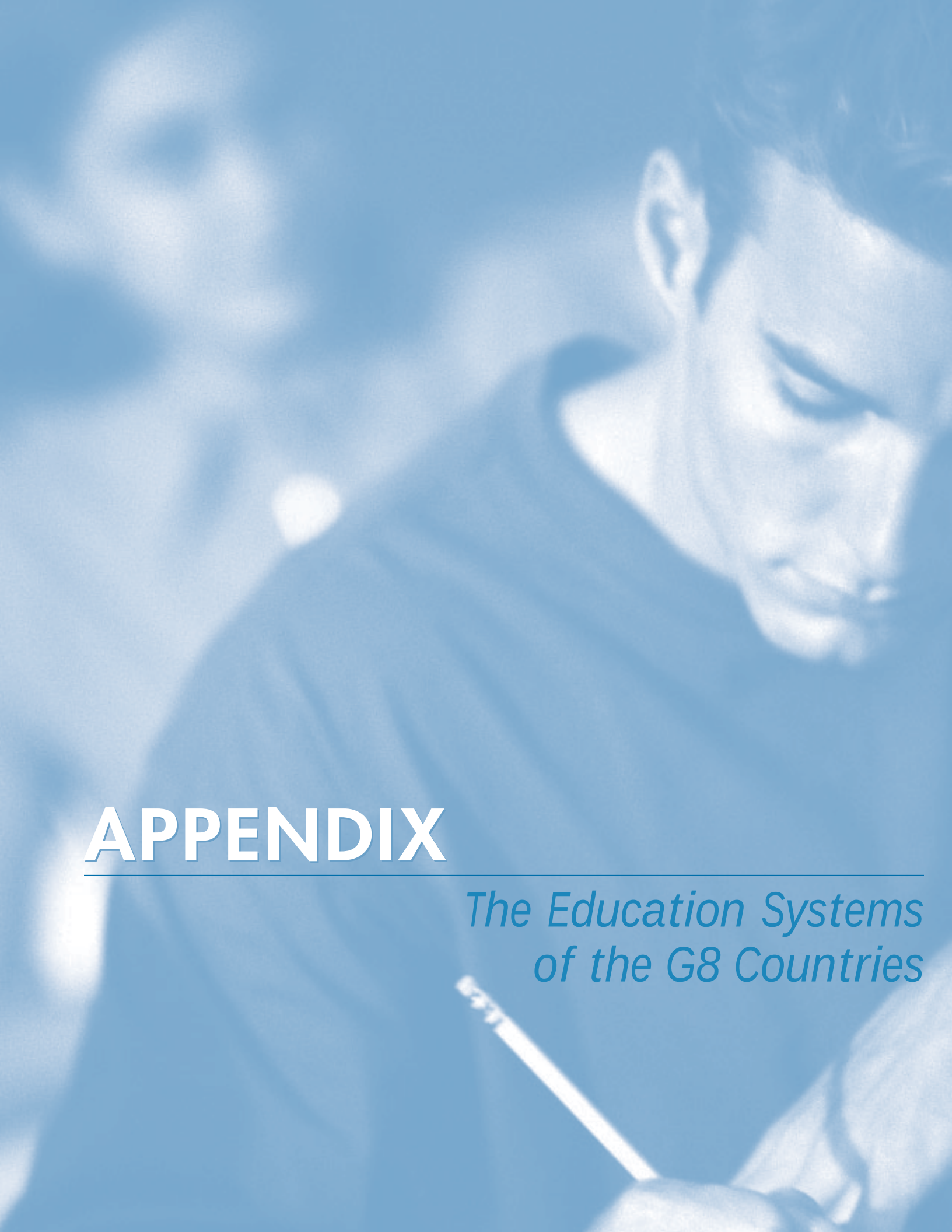
Figure 23b. Foreign students as a percentage of all students enrolled in higher education programs, by country: 2001



[1]The United Kingdom includes England, Northern Ireland, Scotland, and Wales.

NOTE: Reporting destinations include 30 OECD countries and 166 non-OECD countries. Education levels are defined according to the International Standard Classification of Education (ISCED). Higher education includes academic higher education first-stage, ISCED level 5A, vocational/technical higher education, ISCED level 5B, and academic higher education second-stage (doctoral studies), ISCED level 6. For more information on ISCED levels, see the appendix.

SOURCE: Organization for Economic Cooperation and Development (OECD). (2003). *Education at a Glance: OECD Indicators 2003*, Table C3.1.



APPENDIX

The Education Systems of the G8 Countries

READER'S GUIDE: EDUCATION SYSTEM CHARTS

Differences in the structure of countries' education systems often make international comparisons difficult. To improve the comparability of education indicators, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) worked with countries to create an internationally comparable method for describing levels of education across nations called the International Standard Classification of Education (ISCED).[10] Using the ISCED classifications as a starting point, NCES worked with education professionals in the G8 countries to create an overview of each country's education system. These charts and their accompanying text are intended to give the reader a general overview of the education systems of each of the G8 countries, from the preprimary level to the doctoral level. The reader is encouraged to seek out additional resources to gain a fuller and deeper understanding of each country's education system. A list of additional Internet resources is provided below.

How to read the charts

Each of the charts on the following pages is a broad representation of the education system of a G8 country. The charts are not intended to show all of the possible pathways that a student can take or the many configurations of grades that may be found within the same building. Rather, it is intended to provide a general description that is useful for comparison across the G8 countries.

The colors on each chart correspond to ISCED levels (see below). The ISCED term for each level of education is written within each block. The terms in italics in each block are a country's designation for that particular level (e.g., high school for upper secondary school). The left side of each chart is labeled with the typical ages corresponding to each level of education. The age labels represent the typical age at which a student begins the corresponding year of schooling; often students are 1 year older at the end of the school year. Ages in bold text are the ages at which enrollment is universal, defined as an enrollment rate of over 90 percent. The rectangular box encasing some ages represents the range of ages at which enrollment is compulsory, or required by law. The expected duration of first university degrees, a bachelor's degree in the United States, is listed in the notes section for each country. On the right side of each chart are the years of study ("grade," in the United States) corresponding to each level of education. The first year of schooling corresponds to the first year of compulsory education. The ages and years listed assume normal progress through the education system.

ISCED levels

ISCED is a classification framework that allows for the alignment of the educational content of programs using multiple classification criteria. The ISCED standards address the intent (e.g., to study basic subjects or prepare students for university) of each year of a particular education system, but do not indicate the depth or rigor of study in that year. That is, ISCED is useful when comparing the age range of students in upper secondary schools across nations, for example, but it does not indicate whether the curriculum and standards are equivalent within the same year of schooling across nations. ISCED allows researchers to compile statistics on education internationally. There are six ISCED levels.

ISCED level 0 is classified as preprimary education. This is defined as the initial stage of organized instruction, designed primarily to introduce very young children to a school-type environment. ISCED level 0 programs can be either center- or school-based. Preschool and kindergarten programs in the United States fall into the level 0 category, although kindergarten is typically considered an elementary grade in the United States.

ISCED level 1 consists of primary education, which usually lasts 4 to 6 years. ISCED level 1 typically begins between ages 5 and 7, and is the stage where students begin to study basic subjects such as reading, writing, and mathematics. In the United States, elementary school is classified as ISCED level 1.

At ISCED level 2, or lower secondary school, students continue to learn the basic subjects taught in level 1, but this level is typically more subject-focused and may be taught by specialized teachers. ISCED level 2 usually lasts between 2 and 6 years, and begins around the age of 11. Middle school and junior high in the United States are classified as level 2.

[10]United Nations Educational, Scientific and Cultural Organization. (1997). *International Standard Classification of Education, ISCED 1997.* Montreal, Canada: Author.

At ISCED level 3, or upper secondary education, student coursework is more subject specific and taught by more specialized teachers. Students often enter upper secondary education at the age of 15 or 16 and attend anywhere from 2 to 5 years. ISCED level 3 can prepare students for university, further schooling, or the labor force. Senior high school is considered ISCED level 3 in the United States.

ISCED level 4 programs consist of postsecondary nontertiary programs. Postsecondary nontertiary programs are primarily vocational and are taken after the completion of secondary school, though the content is not more advanced than the content of secondary school courses. Although not included in the charts, postsecondary nontertiary programs are described in the text. This level of education is included as part of secondary education in all G8 countries except the United States in enrollment and expenditures indicators. In the United States, postsecondary nontertiary education is not included in the enrollment indicators; expenditures for this education level are included in expenditures for higher education. ISCED level 4 programs in the United States are often in the form of 1-year certificate programs offered at community colleges.

Tertiary programs are divided into ISCED levels 5A, 5B, and 6. ISCED level 5A refers to the first stage of academic higher education. Level 5A programs are intended to provide sufficient qualifications for gaining entry into advanced research programs and professions with high skill requirements. The international classification includes programs of medium length that are less than 5 years in duration and long programs that are 5 to 7 years in duration. U.S. bachelor's and master's degree programs are ISCED level 5A. ISCED level 5B refers to technical and vocational higher education. These programs provide a higher level of technical and vocational education and are designed to prepare students for the labor market. In the international classification, these programs are between 2 and 4 years in duration. ISCED level 6 refers to the second, or doctoral, stage of academic higher education. These programs usually require the completion of a research thesis or dissertation.

Text format

The text accompanying each chart is meant to give the reader more detail on each country's education system. The bulleted format is designed to make quick comparison more convenient, and is divided into sections corresponding to the ISCED levels. The "NOTE" heading in each section presents information that is important but may not have been included in either the chart or bulleted text. This may include within-country variations or features of an education system that are unique to that particular country.

Websites to refer to for more information

Canada:
http://www.cesc.ca/pceip/PCEIP2003en.pdf (see appendix 1, p.165)

France:
http://www.eurydice.org/Eurybase/frameset_eurybase.html
(see France)

Germany:
http://www.eurydice.org/Eurybase/frameset_eurybase.html
(see "Deutschland")

Italy:
http://www.eurydice.org/Eurybase/frameset_eurybase.html
(see "Italia")

Japan:
http://www.educationjapan.org (see "Study in Japan");
www.cheme.kyoto-u.ac.jp/jp-education-E.html

Scotland:
http://www.eurydice.org (see United Kingdom: Scotland)

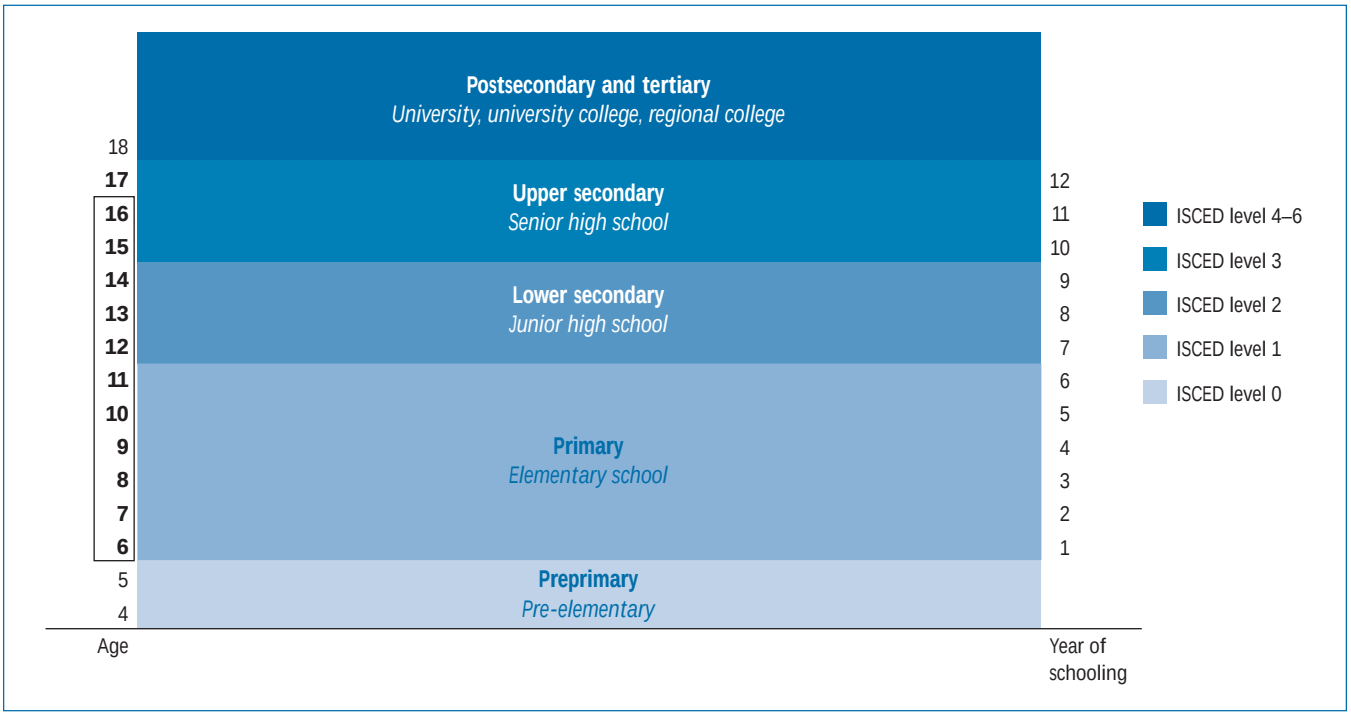
Russian Federation:
http://www.euroeducation.net/prof/russco.htm

United Kingdom:
http://www.eurydice.org/Eurybase/frameset_eurybase.html
(see United Kingdom: England, Wales, and Northern Ireland)

United States:
www.ed.gov/international/edus

THE EDUCATION SYSTEM IN CANADA

Figure A-1. Levels of education in Canada, by age and year of schooling: 2004



NOTE: Ages represent the typical age at the beginning of the school year. Numbers in bold print indicate ages of universal enrollment. Box encloses the age at which compulsory enrollment begins through the age at which compulsory enrollment ends. In some countries, enrollment rates may fall below universal before the ending age of compulsory education. No meaning should be inferred from width of subdivisions. Theoretical duration of first university degree is 4 years in Canada.

SOURCE: U.S. Department of Education, NCES. (2002). *Comparative Indicators of Education in the United States and Other G8 Countries: 2002* (NCES 2003–026).

Preprimary:

- Common name: *Pre-elementary, Preschool, Kindergarten*
- Ages of attendance: As early as age 4 to age 5
- Number of years: 1 to 2
- Start of universal enrollment: Does not begin in preprimary, see below
- Compulsory? Generally no, but yes in some provinces

NOTE: One year pre-elementary programs are available to Canadian children in all provinces. In some provinces an additional 1 to 2 years of pre-elementary programs are offered.

Primary:

- Common name: *Elementary school*
- Ages of attendance: 6 to 11
- Number of years: 6
- Start of universal enrollment: Age 6 (see Indicator 2)
- Universal enrollment? Yes
- Compulsory? Yes

NOTE: Elementary school can begin at age 6 or 7 in Canada, depending on the jurisdiction. Based on the ISCED, the first 6 years of formal schooling are considered primary school, although in some jurisdictions primary school can last for up to 8 years.

Lower secondary:

- Common name: *Junior high school, Middle school, Intermediate school, Secondary school*
- Ages of attendance: 12 to 14
- Number of years: 2 to 3
- Universal enrollment? Yes
- Compulsory? Yes
- Entrance/exit criteria? No

NOTE: Based on the ISCED, the 3 years of schooling following primary school are classified as lower secondary school in Canada. Students may attend 2- or 3-year junior high schools or middle schools or they may go directly to a secondary school, which includes both lower and upper secondary school.

Upper secondary:

- Common name: *High school, Senior high school, Secondary school*
- Ages of attendance: 15 to 17 (graduation generally at age 18)
- Number of years: 3
- Universal enrollment? Through age 17 (see Indicator 2)
- Compulsory? Until age 16 in most jurisdictions; until 18 or graduation in New Brunswick
- Entrance/exit criteria? Some provinces have what could be considered an exit exam (e.g., Ontario administers a grade 10 literacy test, and Quebec requires that students take core subject exams, which are a significant part of the graduation requirements).

NOTE: Based on ISCED, the last 3 years of schooling prior to receiving a high school diploma are classified as upper secondary school in Canada. Senior high schools may be up to 4 years in length and many students attend secondary schools, which include both lower and upper secondary school programs.

Postsecondary and Tertiary:

- Common name: *University, College, University college, Regional college*
- Ages of attendance: Varies
- Number of years: Varies according to degree
- Universal enrollment? No (see Indicator 21)
- Entrance criteria: Graduation from a secondary school academic or university preparatory program or, in the case of Quebec, completion of a 2-year pre-university program, is typically the minimum requirement to be eligible for admission to undergraduate degree programs. However, most institutions and/or departments set their own admissions standards, often with more rigorous requirements.

Common degree programs:

- Pre-university program: 2 year programs that students in Quebec are generally required to complete before students are eligible to attend university.
- Certificate: 1 year programs offered at colleges, regional colleges, community colleges, institutes, and colleges of applied arts and technology (the name depends on the jurisdiction). These programs are vocational, and are oriented towards preparing students for the labor force in semiprofessional and technical fields.
- Diploma: 2- to 3-year programs offered at community colleges, regional colleges, etc. These programs are vocational, and are oriented towards preparing students for the labor force in semiprofessional and technical fields.
- Bachelor's degree: 3- to 4-year academic programs at a university college or university. (University bachelor's degrees are usually 4-year programs, while university college programs can be 3 or 4 years.)
- Master's degree: Graduate programs at a university requiring 1 to 2 years beyond the bachelor's degree. This degree is designed to prepare students for professional careers.
- Doctorate: Academic graduate programs at a university requiring 3 to 5 years after the bachelor's degree. Doctoral programs prepare students for careers in research.

Sources:

Canadian Education Statistics Council. (2003). *Report of the Pan-Canadian Education Indicators Program, appendix 1*. Ontario, Canada: Statistics Canada. Available: http://www.cesc.ca/pceip/PCEIP2003en.pdf

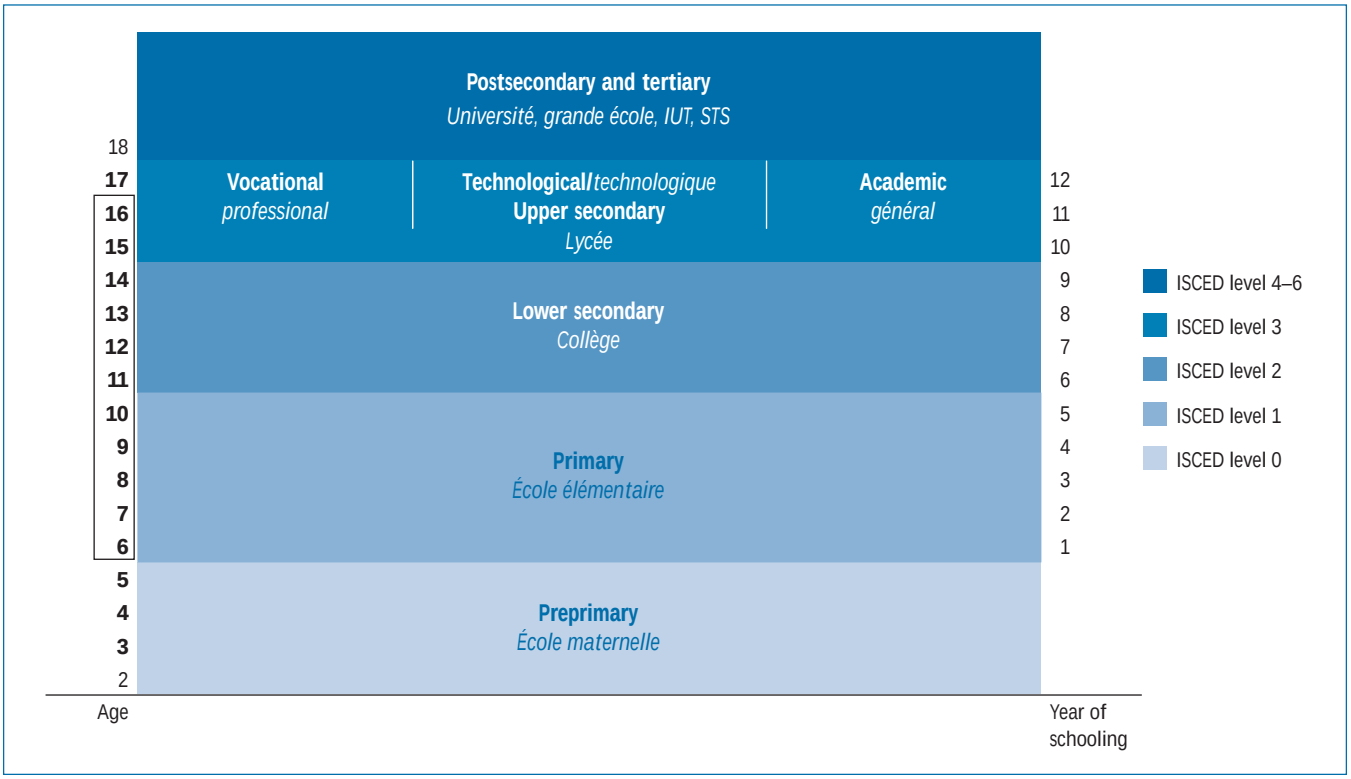
Marlow-Ferguson, R. (Ed.) (2002). *World Education Encyclopedia: A Survey of Educational Systems Worldwide, Vol. 1* (2nd ed.). Farmington Hills, MI: Gale Group.

Organization for Economic Cooperation and Development. (1996). *Education at a Glance: OECD Indicators*: Author.

Robitaille, D. F. (1997). *National Contexts for Mathematics and Science Education: An Encyclopedia of the Education Systems Participating in TIMSS*. Vancouver, Canada: Pacific Educational Press.

THE EDUCATION SYSTEM IN FRANCE

Figure A-2. Levels of education in France, by age and year of schooling: 2004



NOTE: Ages represent the typical age at the beginning of the school year. Numbers in bold print indicate ages of universal enrollment. Box encloses the age at which compulsory enrollment begins through the age at which compulsory enrollment ends. In some countries, enrollment rates may fall below universal before the ending age of compulsory education. No meaning should be inferred from width of subdivisions. Theoretical duration of first university degree is 4 years in France.

SOURCE: U.S. Department of Education, NCES. (2002). *Comparative Indicators of Education in the United States and Other G8 Countries: 2002* (NCES 2003–026).

Preprimary:

- Common name: *École maternelle*
- Ages of attendance: As early as age 2 to age 5
- Number of years: 1 to 4
- Start of universal enrollment: Age 3 (see Indicator 2)
- Compulsory? No

Primary:

- Common name: *École élémentaire*
- Ages of attendance: 6 to 10
- Number of years: 5
- Universal enrollment? Yes
- Compulsory? Yes

Lower secondary:

- Common name: *Collège*
- Ages of attendance: 11 to 14
- Number of years: 4
- Universal enrollment? Yes
- Compulsory? Yes
- Entrance/exit criteria? Yes, *Brevet des collèges* is the exit exam for lower secondary. It is a national examination, which determines whether or not students will be able to attend *lycée*.

Upper secondary:

- Common name: *Lycée*
  - *Enseignement technologique*—Technological upper secondary school
  - *Enseignement professional*—Vocational upper secondary school
  - *Enseignement general*—Academic upper secondary school
- Ages: 15 to 17 (graduation generally at age 18)
- Number of years: 3
- Universal enrollment? Yes, through age 17 (most students turn 18 during the last year of upper secondary school) (see Indicator 2)

- Compulsory? Until age 16
- Entrance/exit criteria? In order to enter upper secondary education, students must pass the *Brevet des collèges*. Students take a national examination, the *Baccalauréat*, during the last year of secondary school, which determines entrance to university.

NOTE: All three types of upper secondary school (*enseignement technologique*, *professional*, and *general*) qualify a student to enter university, although certain tracks are more likely to lead to university: the academic branch (*enseignement general*) typically leads to university and other forms of higher education; the technological branch (*enseignement technologique*) may also lead to specialized technological or professional forms of higher education; and the vocational (*enseignement professional*) branch more often leads to the labor force and/or job training.

Postsecondary and Tertiary:

- Common name: *Université, Grande École, IUT, STS*
- Ages of attendance: Varies
- Number of years: Varies according to degree or program
- Universal enrollment? No (see Indicator 21)
- Entrance criteria: In order to enter into higher education programs in France, students are required to have passed the *Baccalauréat* or an equivalent. Entrance to the university is nonselective, meaning that students who hold a high school diploma (*Baccalauréat*) are entitled to entrance. There are, however, competitive entrance exams for the *Grandes Écoles*.

Common non-degree 2-year tertiary programs:

- *DUT* (University diploma of technology): Taken at the University Institute of Technology (IUT). Two-year program in mostly vocational subjects. Student may choose to continue on toward a *License*.
- *BTS* (Higher technical diploma): Two-year program taken in higher education departments of *lycées* (*STS*, Institute for Higher Technical Studies); more specialized than degrees from IUT, but also in mostly vocational subjects.
- *DEUG* (Diploma of General University Studies): Academic degree received after completion of 2 years of university.

Common degree programs:

- *License*: DEUG (see above) plus 1 additional year at university.
- *Diplôme Grande École*: Competitive degree programs (students must pass a selective entrance exam) in academic subjects, science, commerce, management, engineering, business, and architecture. These are typically 5-year programs and are taken at the *Grandes Écoles*.
- *Maîtrise*: Degree following the *License*. Requires 1 additional year at university.
- *DEA* (Diploma of Advanced Studies): Follows the *Maîtrise*; 1-year program designed to prepare students for doctoral research. Involves the preparation of a research project.
- *DESS* (Diploma of Specialized Higher Studies): Follows the *Maîtrise*; 1-year professional course involving a required internship.
- Medical doctor/dental/pharmacy: Degree programs taken at the university. Length of program varies and can lead to degrees such as the *Doctorat de médecine specializé*, *Doctorat de médecine generale*, and *Doctorat pharmacie*.
- *Doctorat*: Research-based graduate degree program at a university, leading to a Doctorate. Usually requires 5 years of study beyond the *Maîtrise*.

Sources:

Eurybase. (2001). The Information Database on Education Systems in Europe. Available: http://www.eurydice.org/Eurybase/Application/frameset.asp?country=FR&language=EN

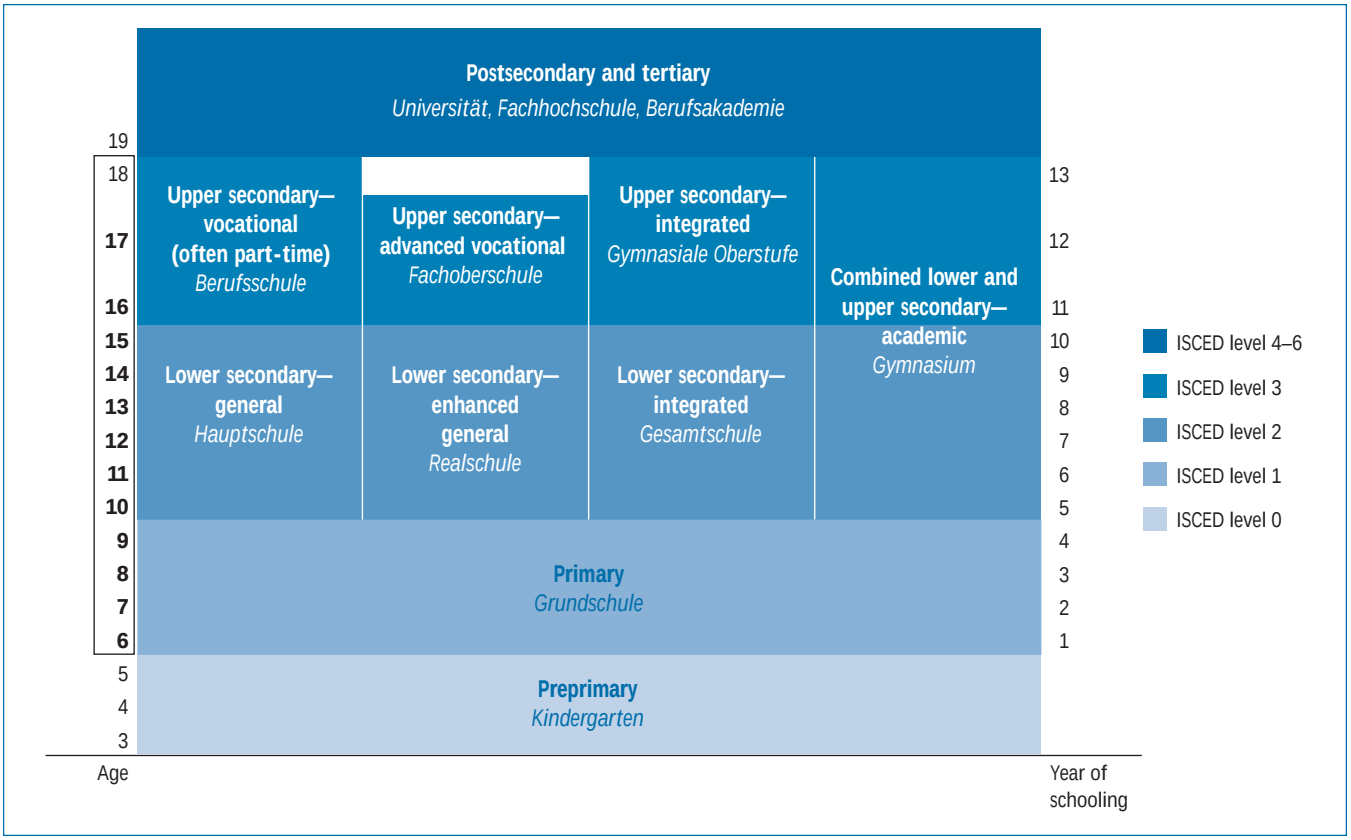
Marlow-Ferguson, R. (Ed.) (2002). *World Education Encyclopedia: A Survey of Educational Systems Worldwide, Vol. 1* (2nd ed.). Farmington Hills, MI: Gale Group.

Organization for Economic Cooperation and Development. (1996). *Education at a Glance: OECD Indicators*: Author.

Robitaille, D. F. (1997). *National Contexts for Mathematics and Science Education: An Encyclopedia of the Education Systems Participating in TIMSS*. Vancouver, Canada: Pacific Educational Press.

THE EDUCATION SYSTEM IN GERMANY

Figure A-3. Levels of education in Germany, by age and year of schooling: 2004



NOTE: Ages represent the typical age at the beginning of the school year. Numbers in bold print indicate ages of universal enrollment. Box encloses the age at which compulsory enrollment begins through the age at which compulsory enrollment ends. In some countries enrollment rates may fall below universal before the ending age of compulsory education. No meaning should be inferred from width of subdivisions. Theoretical duration of first university degree is 4 years in Germany.

SOURCE: U.S. Department of Education, NCES. (2002). *Comparative Indicators of Education in the United States and Other G8 Countries: 2002* (NCES 2003–026).

Preprimary:

- Common name: *Kindergarten*
- Ages of attendance: As early as age 3 to age 5
- Number of years: 1 to 3
- Start of universal enrollment: Does not begin in preprimary, see below
- Compulsory: No

NOTE: Students may attend preprimary programs in a few schools at age 2.

Primary:

- Common name: *Grundschule*
- Ages of attendance: 6 to 9
- Number of years: 4
- Start of universal enrollment: Age 6 (see Indicator 2)
- Compulsory? Yes

NOTE: In some *Länder* (the German equivalent of states), *Grundschule* lasts 6 years.

Lower secondary:

- Common name:
  - *Hauptschule:* General secondary school
  - *Realschule:* Enhanced general education secondary school
  - *Gesamtschule:* Integrated secondary school, meaning that students are not split into separate general education and academic tracks
  - *Gymnasium:* Academic secondary school
- Ages of attendance: 10 to 15
- Number of years: 5 to 6
- Universal enrollment? Yes

- Compulsory? Yes
- Entrance/exit criteria? In some *Länder*, admissions tests determine if a student can take the education tracks of *Gymnasium* or *Realschule*.

NOTE: There are different types of secondary school, some combining *Haupschule* and *Realschule*. The secondary school a student in Germany attends is determined by a combination of factors, depending on the *Länder*: admissions tests, previous grade point average, teacher recommendations, and parents' wishes. The degree of flexibility that a parent has in choosing which educational track their child enters also varies between regions.

However, the type of school a student attends is sometimes less important than the chosen track: at the end of lower secondary all students who meet the requirements receive a leaving certificate. At the *Hauptschule* it is generally the *Hauptschulabschluss*, but students who excel may receive a *Realschulabschluss* (called the *Mittleren Schulabschluss* in some *Länder*). At the *Realschule* students typically receive the *Realschulabschluss*, and at the *Gesamtschule*, both types of degrees are offered. All students attending *Gymnasium* who advance to the upper secondary level automatically receive the *Realschulabschluss*.

Some *Länder* also have an orientation phase during the first 2 years of lower secondary school, which gives parents and teachers 2 more years to decide a child's educational path. In *Länder* with a 6-year primary school, lower secondary school is 2 years shorter.

Upper secondary:

- Common name:
  - *Berufsschule:* 3- to 4-year vocational school, which often includes an apprenticeship; many students at this school attend part-time while also doing an apprenticeship.
  - *Fachoberschule:* 1- to 2-year advanced vocational school
  - *Gymnasiale Oberstufe:* Integrated upper secondary school, that follows the same curriculum as the *Gymnasium*
  - *Gymnasium:* Academic upper secondary school
- Ages: 16 to 18 (graduation generally at 19 for academic programs; 18 or 19 for others)
- Number of years: 1 to 4
- Universal enrollment? Through age 17 (see Indicator 2)
- Compulsory? Until age 18 (most students in long programs turn 19 during the last year of upper secondary school)
- Entrance/exit criteria? Students must pass the *Abitur* in order to enter university and other forms of higher education.

NOTE: *Gesamtschule* and *Gymnasium* are generally combined upper- and lower-secondary schools, although students concentrate their studies on fewer subjects during the last years of *Gymnasium*. Some *Länder* offer fast tracks, where students can graduate from *Gymnasium* a year early.

Postsecondary and Tertiary:

- Common name: *Universität*, *Fachhochschule*, *Berufsakademie*
- Ages of attendance: Varies
- Number of years: Varies according to degree
- Universal enrollment? No (see Indicator 21)
- Entrance criteria: Students must pass the *Abitur* in order to enter university. Students must have a minimum of a *Fachhochschulreife* (vocational upper secondary diploma), in order to enter the tertiary sector.

Common degree programs:

- *Diplom Fachhochschule—FH*: 4 year degree program in applied fields such as engineering, administration, social services, and design. Admissions to a *Fachhochschule* is competitive due to restricted numbers of available spaces.
- *Diplom Berufsakademie—BA*: 3 year program of academic training combined with work experience. Offered at a *Berufsakademie*.
- *Diplom*: Master's degree equivalent usually requiring minimum of 4 years of study. *Universität* offers this degree in academic fields as well as scientific, technical, and engineering fields.
- *Magister*: Usually requires 2 years beyond the *Diplom*, taken at *Universität*.
- *Doktorgrad*: Doctoral degree program, focused on research and taken at *Universität*. Normally requires at least 2 years beyond the *Magister*, but some students attend after receiving a *Diplom*.

Sources:

Deutscher Bildungs Server (2004). Glossary on the Education System in the Federal Republic of Germany. Available: http://www.eduserver.de/glossare.html?sp=1

Eurybase. (2001). The Information Database on Education Systems in Europe. Available: http://www.eurydice.org/Eurybase/Application/frameset.asp?country=DE&language=EN

Marlow-Ferguson, R. (Ed.) (2002). *World Education Encyclopedia: A Survey of Educational Systems Worldwide, Vol. 1* (2nd ed.). Farmington Hills, MI: Gale Group.

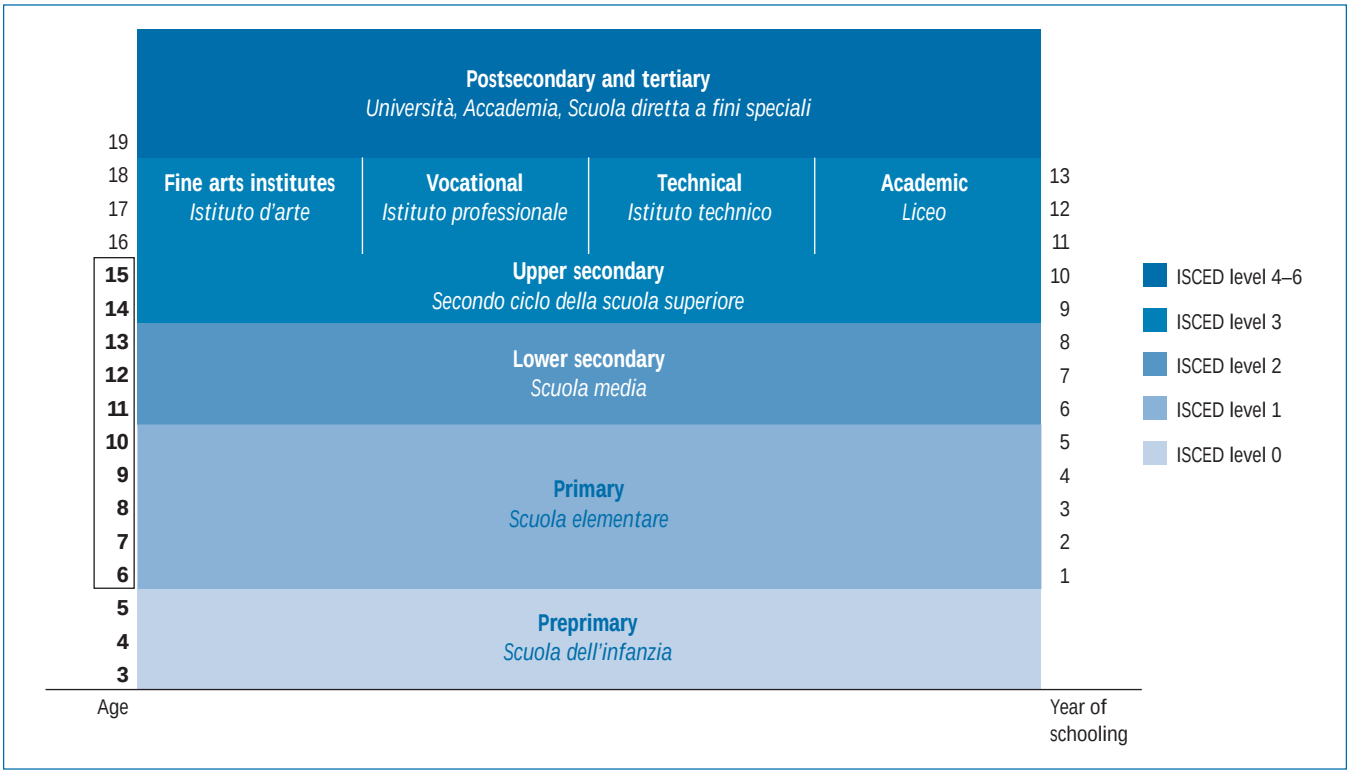
Organization for Economic Cooperation and Development. (1996). *Education at a Glance: OECD Indicators*. Author.

Organization for Economic Cooperation and Development. (1999). *INES Network A Newsletter, Issue 10*. Author.

Robitaille, D. F. (1997). *National Contexts for Mathematics and Science Education: An Encyclopedia of the Education Systems Participating in TIMSS*. Vancouver, Canada: Pacific Educational Press.

THE EDUCATION SYSTEM IN ITALY

Figure A-4. Levels of education in Italy, by age and year of schooling: 2004



NOTE: Ages represent the typical age at the beginning of the school year. Numbers in bold print indicate ages of universal enrollment. Box encloses the age at which compulsory enrollment begins through the age at which compulsory enrollment ends. In some countries, enrollment rates may fall below universal before the ending age of compulsory education. No meaning should be inferred from width of subdivisions. Theoretical duration of first university degree is 5 years in Italy.

SOURCE: U.S. Department of Education, NCES. (2002). *Comparative Indicators of Education in the United States and Other G8 Countries: 2002* (NCES 2003–026).

NOTE: The information below refers to the current Italian school system, but the structure is in transition and some changes that will be made in the near future are noted.

Preprimary:

- Common name: *Scuola dell'infanzia*
- Ages of attendance: As early as age 3 to age 5
- Number of years: 1 to 3
- Start of universal enrollment: Age 3 (see Indicator 2)
- Compulsory? No

NOTE: Beginning in the 2004-05 school year, students will be able to attend preprimary school beginning at age 2 ½.

Primary:

- Common name: *Scuola elementare*
- Ages of attendance: 6 to 10
- Number of years: 5
- Universal enrollment? Yes
- Compulsory? Yes

NOTE: Beginning in the 2004–05 school year, children will be able to enter primary school at the age of 5 ½.

Lower secondary:

- Common name: *Scuola media*
- Ages of attendance: 11 to 13
- Number of years: 3
- Universal enrollment? Yes
- Compulsory? Yes
- Entrance/exit criteria? Yes, there is an exit examination, which students must pass to obtain the *Diploma di licenza media* and to enter into upper secondary school.

Upper secondary:

- Common name: *Secondo ciclo della scuola superiore*
  - *Istituto d'arte, Liceo artistico:* Fine arts schools and institutes
  - *Istituto professionale:* Vocational school
  - *Istituto tecnico:* Specialized technical school

- *Liceo classico, scientifico, linguistico:* Academic upper secondary school

- Ages of attendance: 14 to 18 (graduation generally at age 19)
- Number of years: 5
- Universal enrollment? Through age 15 (see Indicator 2)
- Compulsory? Currently, enrollment is compulsory until age 15. Beginning in the 2004–05 school year, upper secondary education will be classified as a "right and a duty." This terminology is used to indicate that completing upper secondary education will be expected, although not required by law.
- Entrance/exit criteria? Students must possess the *Diploma di licenza media* from lower secondary school to enter upper secondary school. At the end of 5 years of instruction, students must pass a national examination in order to obtain a *Diploma di superamento dell'esame*.

NOTE: Students in Italy may attend specialized art schools, such as the *Istituto d'arte* and the *Liceo artistico* at the upper secondary level. The *Liceo classico* and *scientifico* prepare students for university studies. *Liceo classico* focuses on literature, philosophy, and Latin and Greek languages. *Liceo scientifico* focuses on mathematics and science. *Liceo linguistico* focuses on modern foreign languages and cultures. Students attending vocational schools may attend 3- or 5-year training or apprenticeship programs in applied fields, after which they often enter the labor force. Reforms currently being considered propose that *Istituto tecnico* be included in the *Liceo* system, which would give graduates access to university. However, every student who has completed 5 years of upper secondary school may attend university and other forms of higher education. Students are tracked in academic as well as technical and vocational schools in Italy.

Postsecondary and Tertiary:

- Common name: *Università, Accademia, Scuola diretta a fini speciali*
- Ages of attendance: Varies
- Number of years: Varies according to degree program
- Universal enrollment? No (see Indicator 21)
- Entrance criteria: In order to enter university, students must possess a *Diploma di superamento dell'esame*, a secondary school diploma obtained after passing a national exam. Some students may also enter university with a regional certificate, which is issued on the basis of professional experience in a vocational field.

NOTE: The higher education system in Italy is currently in transition. The lengths of some degree programs are being changed in order to make them more compatible with the higher education systems of other European countries. These changes are being made to increase educational exchange between Italy and other European Union countries.

Common degree programs:

- *Accademia* degree: Fine arts, restoration, and music degrees. *Accademia* degrees are first-level degrees (similar to bachelor's degrees) granted after 5 years of study.
- *Diploma Universitario* from *Scuola diretta a fini speciali*: *Scuola diretta a fini speciali* are training schools for specialized fields like medicine, engineering, and economics. Degree programs require 3 years of study and are roughly equivalent to bachelor's degrees. Some programs may offer 5-year *Diploma di Laurea* programs.
- *Diploma Universitario* from *Università*: First-level university degree taking 3 years to complete. Will soon be renamed the *Laurea di primo livello*.
- *Diploma di Laurea*: Second-level university degree taking 4 to 6 years. Will soon be renamed the *Laurea specialistica*. Similar to a master's degree in the United States.
- *Laurea specialistica*: Graduate specialized degree requiring 2 years of university study after a first-level degree, similar to a master's degree in the United States. Also called *Laurea di primo livello*.
- *Master universitario*: A professional graduate program requiring 1 year of study. Soon to be divided into *Master di primo livello* and *Master di secondo livello*, the former to be obtained after the *Diploma Universitario* and the latter to be obtained after the *Laurea specialistica*.
- *Dottorato Ricerca*: Doctoral degree program focusing on research and taken at a university. Typically requires 3 years of instruction after the *Laurea specialistica*.

Sources:

Eurybase. (2001). The Information Database on Education Systems in Europe. Available: http://www.eurydice.org/Eurybase/Application/frameset.asp?country=IT&language=EN

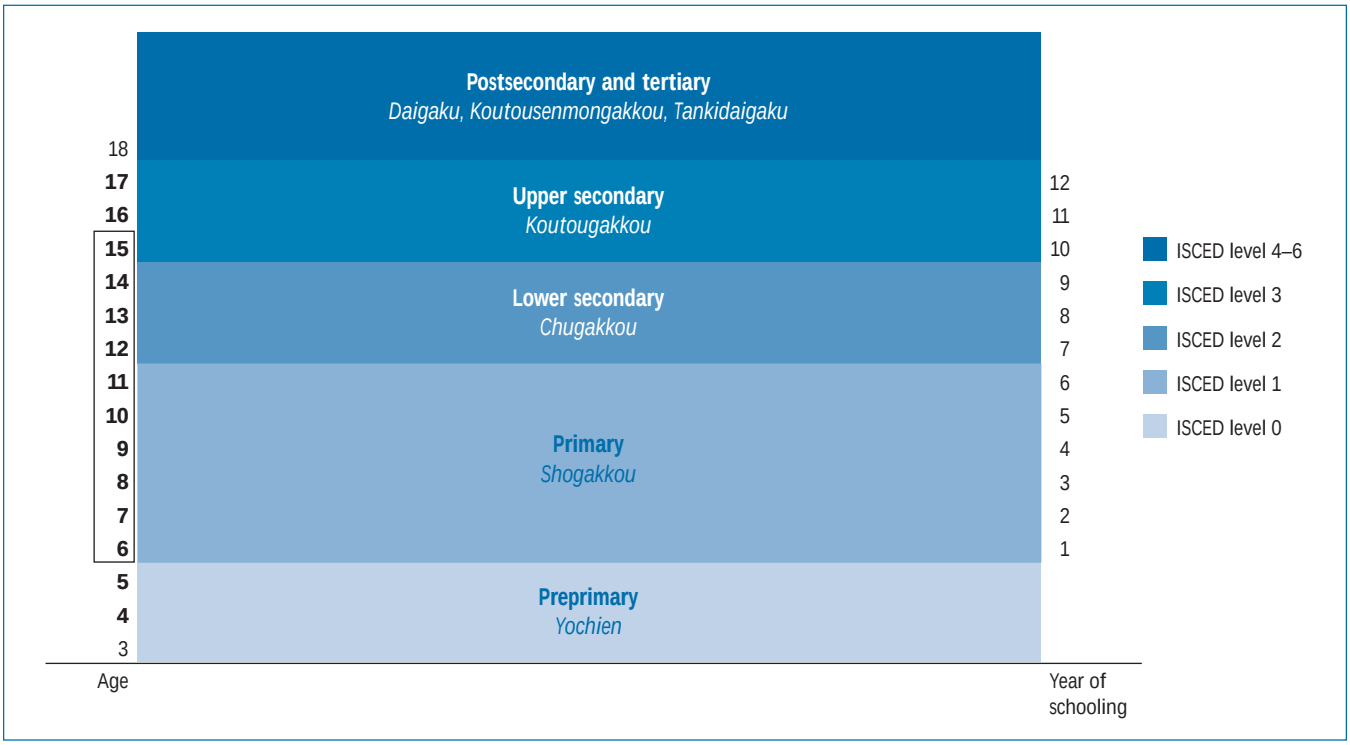
Marlow-Ferguson, R. (Ed.) (2002). *World Education Encyclopedia: A Survey of Educational Systems Worldwide, Vol. 1* (2nd ed.). Farmington Hills, MI: Gale Group.

Organization for Economic Cooperation and Development. (1996). *Education at a Glance: OECD Indicators*: Author.

Robitaille, D. F. (1997). *National Contexts for Mathematics and Science Education: An Encyclopedia of the Education Systems Participating in TIMSS*. Vancouver, Canada: Pacific Educational Press.

THE EDUCATION SYSTEM IN JAPAN

Figure A-5. Levels of education in Japan, by age and year of schooling: 2004



NOTE: Ages represent the typical age at the beginning of the school year. Numbers in bold print indicate ages of universal enrollment. Box encloses the age at which compulsory enrollment begins through the age at which compulsory enrollment ends. In some countries, enrollment rates may fall below universal before the ending age of compulsory education. No meaning should be inferred from width of subdivisions. Theoretical duration of first university degree is 4 years in Japan.

SOURCE: U.S. Department of Education, NCES. (2002). *Comparative Indicators of Education in the United States and Other G8 Countries: 2002* (NCES 2003–026).

Preprimary:

- Common name: *Yochien*
- Ages of attendance: As early as age 3 to age 5
- Number of years: 1 to 3
- Start of universal enrollment: Age 4 (see Indicator 2)
- Compulsory? No

NOTE: Preschool education in Japan is provided through day care centers (which are geared more towards child care) and kindergartens (which are considered academic institutions).

Primary:

- Common name: *Shogakkou*
- Ages of attendance: 6 to 11
- Number of years: 6
- Universal enrollment? Yes
- Compulsory? Yes

Lower secondary:

- Common name: *Chugakkou*
- Ages of attendance: 12 to 14
- Number of years: 3
- Universal enrollment? Yes
- Compulsory? Yes, until age 15 (most students turn 15 during their 3rd year of lower secondary school) (see Indicator 2)
- Entrance/exit criteria? No

NOTE: Recently, unified lower and upper secondary schools (*Chutoukyoikugakkou*) have been introduced in Japan.

Upper secondary:

- Common name: *Koutougakkou*
- Ages of attendance: 15 to 17 (graduation generally at age 18)
- Number of years: 3
- Universal enrollment? Through age 17 (see Indicator 2)
- Compulsory? Generally no. Enrollment not compulsory after

students reach the age of 15, and most students have reached this age before entering upper secondary.

- Entrance/exit criteria? Yes, students in Japan are placed into upper secondary schools based on test scores. Scoring well influences a student's chances of attending the most prestigious upper secondary schools in their area (previous grades also have an influence). In order to study for these exams, students often attend *Juku* (see below) in the evenings.

NOTE: *Juku* refers to cram school or night school, which is attended by about one-half of students in year 8 (preparing for upper secondary school entrance exams). Students may also choose to attend vocational/technical institutes (*Koutousenmongakkou*), which combine upper secondary school with vocational higher education leading to the associate's degree. See below for details on *Koutousenmongakkow.*

Postsecondary and Tertiary:

- Common name: *Daigaku, Koutousenmongakkou, Tankidaigaku*
- Ages of attendance: Varies
- Number of years: Varies according to degree
- Universal enrollment? No (see Indicator 21)
- Entrance criteria: Entrance examinations are taken for the specific institution a student wants to attend, making the process very competitive.

Common degree programs:

- *Jun-gakushi* (at vocational and technical institutes): 5-year programs for students to combine upper secondary school with vocational training. The first 3 years of these programs are spent at the upper secondary level and the last 2 earning a *Jun-gakushi* (associate's degree). These programs are given at *Koutousenmongakkou*, in subjects like public works, mechanical engineering, and information technology.
- *Jun-gakushi* (at junior college): 2- to 3-year programs, taken at junior colleges (*Tankidaigaku*), that prepare students for a career in fields like home economics, humanities, education, and social science. Junior colleges have traditionally enrolled mostly women.
- *Gakushi*: Academic degree requiring 3 to 4 years study that is similar to a bachelor's degree. Given at a *Daigaku* (college or university). Preprofessional programs in medicine, dentistry, and veterinary medicine take 6 years.
- *Shushi*: Graduate program taken at a *Daigaku* that requires 1 to 2 years of study beyond the bachelor's degree. Equivalent to a master's degree in the United States.
- Professional degrees: Medical, dental, and veterinary graduate programs taken at *Daigaku* that last 4 years beyond the bachelor's degree.
- *Hakushi*: Academic graduate program at a *Daigaku* requiring at least 5 years beyond the bachelor's degree. This degree is the equivalent of a doctorate in the United States.

Sources:

Education Japan. *Japanese School System*. Available: http://www.educationjapan.org/jguide/school_system.html. Author.

Kyoto University Department of Chemical Engineering. *School Education System in Japan*. Available: http://www.cheme.kyoto-u.ac.jp/jp-education-E.html

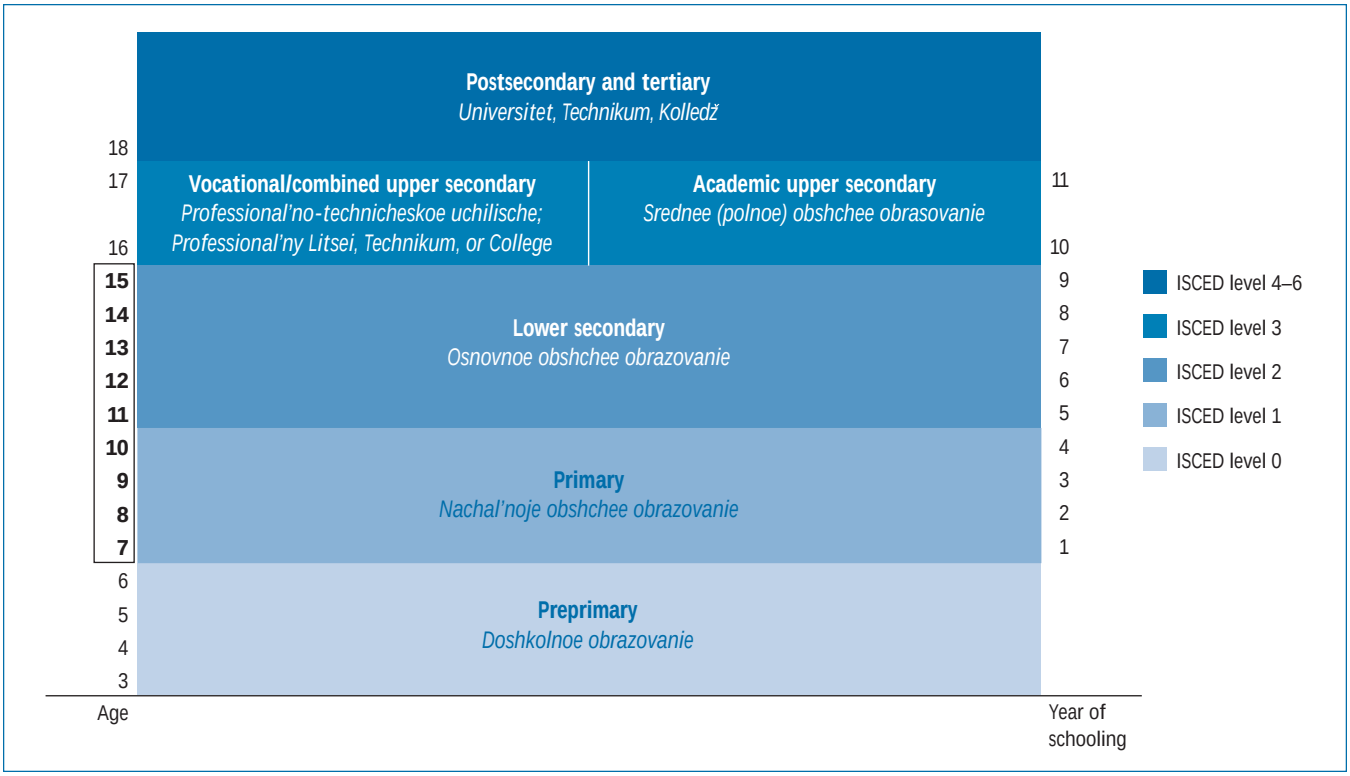
Marlow-Ferguson, R. (Ed.) (2002). *World Education Encyclopedia: A Survey of Educational Systems Worldwide, Vol. 1* (2nd ed.). Farmington Hills, MI: Gale Group.

Organization for Economic Cooperation and Development. (1996). *Education at a Glance: OECD Indicators*: Author.

Robitaille, D. F. (1997). *National Contexts for Mathematics and Science Education: An Encyclopedia of the Education Systems Participating in TIMSS*. Vancouver, Canada: Pacific Educational Press.

THE EDUCATION SYSTEM IN THE RUSSIAN FEDERATION

Figure A-6. Levels of education in the Russian Federation, by age and year of schooling: 2004



NOTE: Ages represent the typical age at the beginning of the school year. Numbers in bold print indicate ages of universal enrollment. Box encloses the age at which compulsory enrollment begins through the age at which compulsory enrollment ends. In some countries, enrollment rates may fall below universal before the ending age of compulsory education. No meaning should be inferred from width of subdivisions. Theoretical duration of first university degree is 4 years in the Russian Federation.

SOURCE: U.S. Department of Education, NCES. (2002). *Comparative Indicators of Education in the United States and Other G8 Countries: 2002* (NCES 2003–026).

Preprimary:

- Common name: *Doshkolnoe obrazovanie*
- Ages of attendance: As early as age 3 to age 6
- Number of years: 1 to 4
- Start of universal enrollment: Does not begin in preprimary, see below
- Compulsory? No

Primary:

- Common name: *Nachal'noje obshchee obrazovanie*
- Ages of attendance: 7 to 10
- Number of years: 4
- Start of universal enrollment: Age 7 (see Indicator 2)
- Compulsory? Yes

NOTE: There are no formal divisions between primary and lower secondary school in the Russian Federation. Primary and lower secondary schools are generally in the same buildings except in rural areas.

Lower secondary:

- Common name: *Osnovnoe obshchee obrazovanie* (Basic school)
- Ages of attendance: 11 to 15
- Number of years: 5
- Universal enrollment? Yes, through age 15 (most students turn 16 during the last year of lower secondary school) (see Indicator 2)
- Compulsory? Yes, until age 15 (most students turn 16 during the last year of lower secondary school)
- Entrance/exit criteria? Yes, in order to graduate from Basic school, students must pass four written examinations: one in Russian language and literature, one in algebra, and two in other subjects chosen by the student.

NOTE: Basic general education includes primary and lower secondary school. Graduates of lower secondary school may either continue their education at upper secondary school to receive secondary complete general education, go to vocational schools to receive professional training, or go to secondary

vocational schools to receive a combination of academic and vocational education.

Upper secondary:

- Common names: *Professional'no-technicheskoe uchilische*, *Professional'ny Litsei*, *Technikum*, or *College, Srednee (polnoe) obshchee obrasovanie*
- Ages of attendance: 16 to 17 (graduation generally at age 18)
- Number of years: 2
- Universal enrollment? No
- Compulsory? No
- Entrance/exit criteria? Students in the Russian Federation must pass five written exams at the end of secondary school in order to obtain the Certificate of Secondary Complete General Education. These exams include Algebra and Calculus, Literature, and three other subjects chosen by the student.

NOTE: Students who have graduated from lower secondary school have the option to continue in three types of upper secondary schools:

- *Professional'no-technicheskoe uchilische*: These schools provide professional education only in a program that usually lasts 2 years.
- *Professional'ny Litsei*, *Technikum*, or *College*: These schools provide combined professional and academic programs that lead to the *Attestat o Srednem (Polnom) Obshchem Obrasovanii* (Certificate of Secondary Complete General Education). The programs are usually 3 or 4 years.
- *Srednee (ponoe) obshchee obrasovanie*: Students who wish to continue their academic training enter these upper secondary schools, which last for 2 years and provide students with a Certificate of Secondary Complete General Education. This certificate qualifies students to apply for entrance into higher education.

Postsecondary and Tertiary:

- Common name: *Universitet, Technikum, Kolledž*
- Ages of attendance: Varies
- Number of years: Varies according to degree
- Universal enrollment? No (see Indicator 21)
- Entrance criteria: There are entrance exams, called *Vstupitelnoe ispytanie*, to be accepted into university. The number of exams and the subject varies according to the department a student wishes to attend, although all students must take an exam in Russian language and literature.

Common degree programs:

- Nonuniversity-level diploma: Obtained from *Technikum* (technical colleges) and *Kolledž* (colleges). These diplomas are in applied or vocational fields and require 2 years of study. Students may be able to enter university-level institutions after completing this degree and transfer some or all credits toward a *Bakalavr*.
- *Diploma O Nepolnom Vysshem Obrazovanii*: (Diploma of Incomplete Higher Education)—If students leave university after at least 2 years of study, they may ask for this diploma, which allows them to work in certain jobs that require some university experience but not a degree.
- *Bakalavr*: (bachelor's degree)—Program requiring 4 years of university study.
- *Magistr*: (master's degree)—Competitive 2-year program for students who have completed their *Bakalavr's* degree. Most require a year of research and a thesis.
- *Diplom*: This specialized diploma can be obtained either by completing 1 year of study beyond the *Bakalavr* or by completing 5 to 6 years of continuous study after upper secondary school.
- *Kandidat nauk*: Students who hold a *Diplom* or *Magistr* are eligible to apply for these programs, which typically last for 3 years and require students to carry out independent research and defend a dissertation in public. Equivalent of a doctorate in the United States.
- *Doktor nauk*: This is the highest possible academic degree in the Russian Federation for which there is no U.S. equivalent. This degree requires that a *Kandidat Nauk* gain reputation in his or her field of study, publish independent research, and have experience supervising undergraduates. A 3-year sabbatical is often taken to prepare research for the degree, although there is no specified length of time required to obtain it. The *Doktor nauk* requires a public dissertation defense (in addition to the defense completed to obtain a *Kandidat nauk*).

Sources:

EuroEducation.net. *Structure of Education System in Russia*. Available: http://www.euroeducation.net/prof/russco.htm

Marlow-Ferguson, R. (Ed.) (2002). *World Education Encyclopedia: A Survey of Educational Systems Worldwide, Vol. 2* (2nd ed.). Farmington Hills, MI: Gale Group.

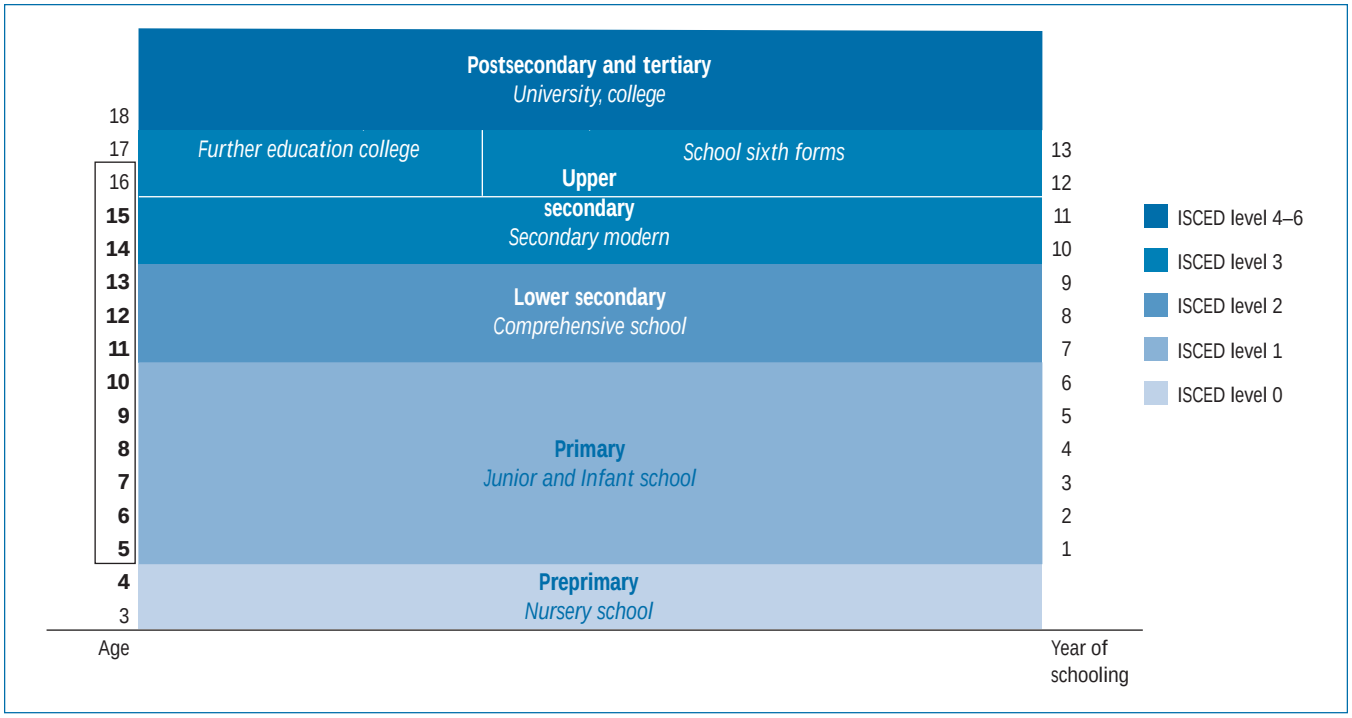
Organization for Economic Cooperation and Development. (1996). *Education at a Glance: OECD Indicators*: Author.

Robitaille, D. F. (1997). *National Contexts for Mathematics and Science Education: An Encyclopedia of the Education Systems Participating in TIMSS*. Vancouver, Canada: Pacific Educational Press.

THE EDUCATION SYSTEM IN THE UNITED KINGDOM

The Education System in England, Northern Ireland, and Wales

Figure A-7. Levels of education in England, Northern Ireland, and Wales, by age and year of schooling: 2004



NOTE: Ages represent the typical age at the beginning of the school year. Numbers in bold print indicate ages of universal enrollment. Box encloses the age at which compulsory enrollment begins through the age at which compulsory enrollment ends. In some countries, enrollment rates may fall below universal before the ending age of compulsory education. No meaning should be inferred from width of subdivisions. Theoretical duration of first university degree is 3 years in England, Northern Ireland, and Wales.

SOURCE: U.S. Department of Education, NCES. (2002). *Comparative Indicators of Education in the United States and Other G8 Countries: 2002* (NCES 2003–026).

Preprimary:

- Common name: *Nursery school*
- Ages of attendance: As early as age 3 to age 4
- Number of years: 1 to 2
- Start of universal enrollment: Age 4 (see Indicator 2)
- Compulsory? No

NOTE: Some students attend a "reception" year between nursery school and primary school. This year is comparable to a kindergarten in the United States, with academic activities, and is intended to provide additional preparation for children who are old enough to attend primary school, but not ready academically.

Primary:

- Common names: *Junior schools, Infant schools*
- Ages of attendance: 5 to 10
- Number of years: 6
- Universal enrollment? Yes
- Compulsory? Yes

NOTE: The primary school years are divided into two stages. The first stage, which may be preceded by the reception year, is sometimes called Infant school or Key Stage 1. It consists of the first 2 years of primary school. The second stage, often called Junior school or Key Stage 2, encompasses the next 4 years of primary school.

Lower secondary:

- Common name: *Comprehensive schools, Secondary modern schools, Grammar schools*
- Ages of attendance: 11 to 13
- Number of years: 3
- Universal enrollment? Yes
- Compulsory? Yes
- Entrance/exit criteria? No

NOTE: Although lower and upper secondary school are typically combined, the first 3 years of secondary school are classified as lower secondary under the ISCED and are commonly referred to as Key Stage 3. Some areas have Grammar schools and Secondary modern schools, which enroll children with higher and lower achievement, respectively.

Upper secondary:

- Common name: *Secondary modern*, *Comprehensive school*, *Grammar school*, *Further education sector colleges*, *School sixth form*
- Ages of attendance: 14 to 17 (graduation generally at age 18)
- Number of years: 4
- Universal enrollment? Through age 15 (see Indicator 2)
- Compulsory? Until age 16
- Entrance/exit criteria? In order to obtain the General Certificate of Secondary Education (GCSE), students take a series of single-subject examinations after the first 2 years of upper secondary school. The General Certificate of Education (GCE) Advanced-levels and the GCE Advanced Supplementary examinations are similar tests taken after sixth form (described below).

NOTE: Comprehensive schools, Secondary modern schools and Grammar schools all lead to the General Certificate of Secondary Education (GCSE), typically at age 16. After the first 2 years of upper secondary school, and after receiving the GCSE, students have the option of continuing school for 2 years, often called the Sixth form. Some schools do not offer the Sixth form, in which case students can transfer to a Sixth form college (which is similar but in a separate school) or go to a Further education college. Sixth forms offer the General Certificate of Education Advanced or Advanced Supplementary, which is usually required for admittance into higher education. Increasingly, however, students are able to enter higher education with a parallel qualification such as the General National Vocational Qualification (GNVQ). If students chose not to enter Sixth form, their options are the labor force (often through apprenticeships or youth training courses), or a Further education sector college. Further education sector colleges have traditionally offered vocational courses, but increasingly have academic programs.

Postsecondary and Tertiary:

- Common name: *University, College*
- Ages of attendance: Varies
- Number of years: Varies according to degree
- Universal enrollment? No (see Indicator 21)
- Entrance criteria: GCE Advanced-levels or equivalent, such as the GNVQ, are required for admittance into the tertiary sector.

Common degree programs:

- Certificate of higher education: 1 year vocational course.
- Diploma: Short undergraduate programs, which vary in length, offered at colleges and universities.
- Foundation degree: Employment-related higher education qualification taking 2 years to complete and offered at colleges and universities.
- Bachelor's degree: 3- to 4-year academic programs at colleges or universities. Most students opt for an honors degree, the requirements of which are specific to schools and departments. Honors degrees are an entrance requirement for most graduate programs.
- Advanced short degree: Short degree programs, which vary in length, for students who have already acquired a bachelor's degree, for example the postgraduate certificate of education. Courses offered are often professional development-oriented.
- Master's degree: Usually a taught (as opposed to research) postgraduate degree offered at colleges and universities. One year or more beyond an honors bachelor's degree.
- Professional degrees: Advanced degrees in professional fields such as engineering, accounting, medicine and information science. Number of years required to complete varies.
- Doctorate: Research-oriented postgraduate degree. Minimum 3 years in duration.

Sources:

Eurybase. (2001). The Information Database on Education Systems in Europe. Available: http://www.eurydice.org/Eurybase/Application/frameset.asp?country=UK&language=VO

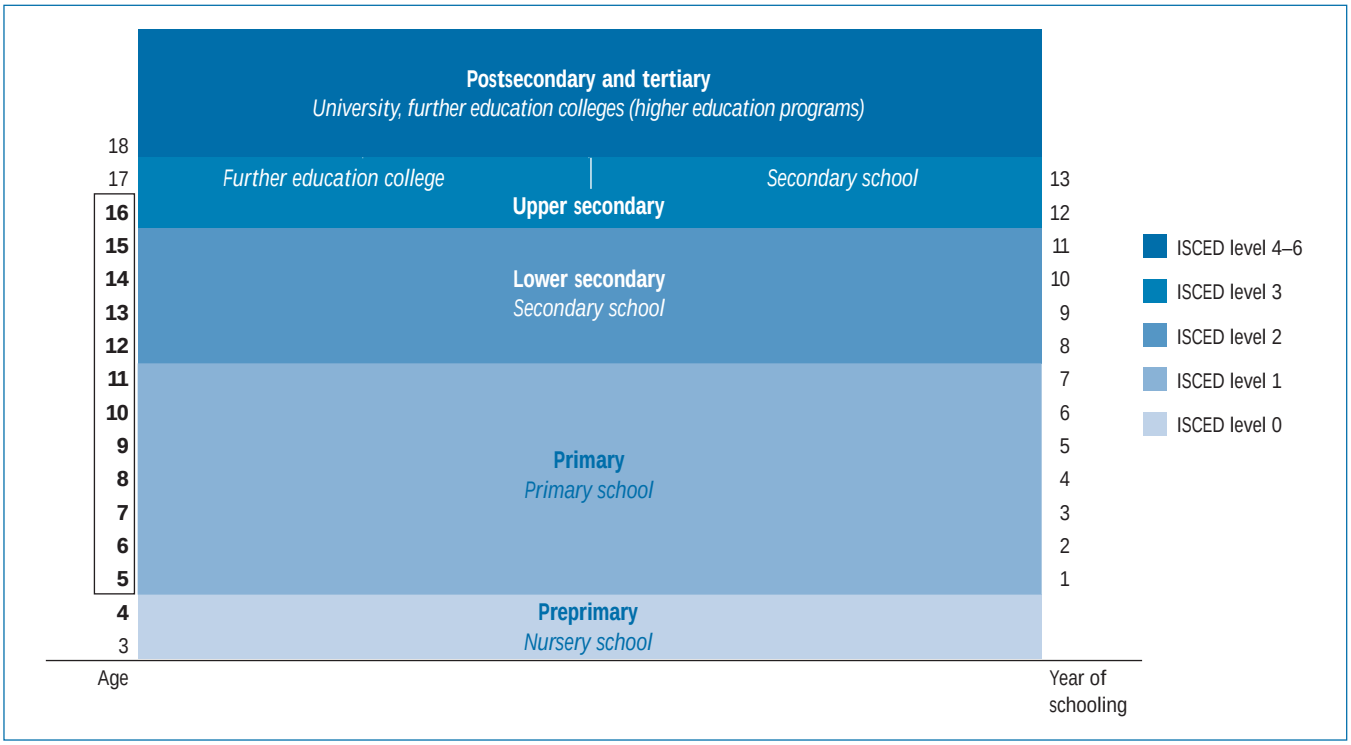
Marlow-Ferguson, R. (Ed.) (2002). *World Education Encyclopedia: A Survey of Educational Systems Worldwide, Vol. 1* (2nd ed.). Farmington Hills, MI: Gale Group.

Organization for Economic Cooperation and Development. (1996). *Education at a Glance: OECD Indicators*: Author.

Robitaille, D. F. (1997). *National Contexts for Mathematics and Science Education: An Encyclopedia of the Education Systems Participating in TIMSS*. Vancouver, Canada: Pacific Educational Press.

The Education System in Scotland

Figure A-8. Levels of education in Scotland, by age and year of schooling: 2004



NOTE: Ages represent the typical age at the beginning of the school year. Numbers in bold print indicate ages of universal enrollment. Box encloses the age at which compulsory enrollment begins through the age at which compulsory enrollment ends. In some countries, enrollment rates may fall below universal before the ending age of compulsory education. No meaning should be inferred from width of subdivisions. Theoretical duration of first university degree is 3 years in Scotland.

SOURCE: U.S. Department of Education, NCES. (2002). *Comparative Indicators of Education in the United States and Other G8 Countries: 2002* (NCES 2003–026).

NOTE: Although generally similar to the rest of the United Kingdom, the education system in Scotland differs in some respects because it managed by the Scottish parliament and Scottish Executive branch.

Preprimary:

- Common name: *Nursery school*, *Day nurseries*, *Nursery classes*
- Ages of attendance: As early as age 3 to age 4
- Number of years: 1 to 2
- Start of universal enrollment: Age 4
- Compulsory? No

Primary:

- Common name: *Primary school*
- Ages of attendance: 5 to 11
- Number of years: 7
- Universal enrollment? Yes
- Compulsory? Yes

Lower secondary:

- Common name: *Secondary school*
- Ages of attendance: 12 to 15
- Number of years: 4
- Universal enrollment? Yes, until age 16 (most students turn 16 during the last year of lower secondary school)
- Compulsory? Yes, until age 16 (most students turn 16 during the last year of lower secondary school)
- Entrance/exit criteria? No restrictions on entrance. At the end of lower secondary education, pupils take the examinations for the Scottish Qualifications Certificate (SQC) at Standard Grade or the newer National Qualifications equivalents. These examinations are intended to be taken by the whole school population.

Upper secondary:

- Common name: *Secondary school*, *Further education college*
- Ages of attendance: 16 to 17 (graduation generally at age 18)
- Number of years: 2
- Universal enrollment? Through age 16
- Compulsory? Generally no. Enrollment not compulsory after students reach the age of 16, and most students have reached this age before entering upper secondary.

- Entrance/exit criteria? A unified system of National Qualifications exams has been introduced for students in secondary schools, Further education colleges and training centers. Students who plan to go into higher education take the Higher-level examinations of the Scottish Qualifications Certificate (SQC).

NOTE: During upper secondary school, students in Scotland have the option to continue in a traditional secondary school or to attend Further education colleges. There are also nationally funded training and apprenticeship programs in which students can participate if they choose not to attend upper secondary school.

Postsecondary and Tertiary:

- Common name: *University, Further education college*
- Ages of attendance: Varies
- Number of years: Varies according to course/degree
- Universal enrollment? No (see Indicator 21)
- Entrance criteria: The usual entry requirements for higher education are the Higher or Advanced Higher level examinations of the SQC (see above). Further education colleges admit students who have just left school at age 16, students who have left school at age 17 or 18 with and without formal certification, and are now admitting an increasing number of older students. Admission requirements at Further education colleges are related to previous coursework.

Common degree programs:

- Further education colleges provide mainly vocational education courses at the secondary level, but also have some higher education programs.
- Bachelor's degree: Courses leading to an ordinary bachelor's degree last 3 years, while courses leading to a degree with honors are typically 4 years. There are also some courses where the first award is a master's degree.
- Master's degree: Taught master's degrees are typically 1-year programs, but research masters are generally longer. Entrance into a master's program generally requires a bachelor's degree.
- Professional degree programs: Programs leading to professional registration as a doctor, dentist, etc. Typically require 5 years beyond the bachelor's degree.
- Doctorate: A doctorate generally requires 3 years of full-time study (more if undertaken part time).

Sources:

Eurybase. (2001). The Information Database on Education Systems in Europe. Available: http://www.eurydice.org/Eurybase/Application/frameset.asp?country=SC&language=VO

Eurydice (2003). The Structure of Higher Education in Europe, 2003/04–National Trends in the Bologna Process. Available: http://www.eurydice.org/Doc_intermediaires/analysis/en/focus_frameset_EN.html

Marlow-Ferguson, R. (Ed.) (2002). *World Education Encyclopedia: A Survey of Educational Systems Worldwide, Vol. 3* (2nd ed.). Farmington Hills, MI: Gale Group.

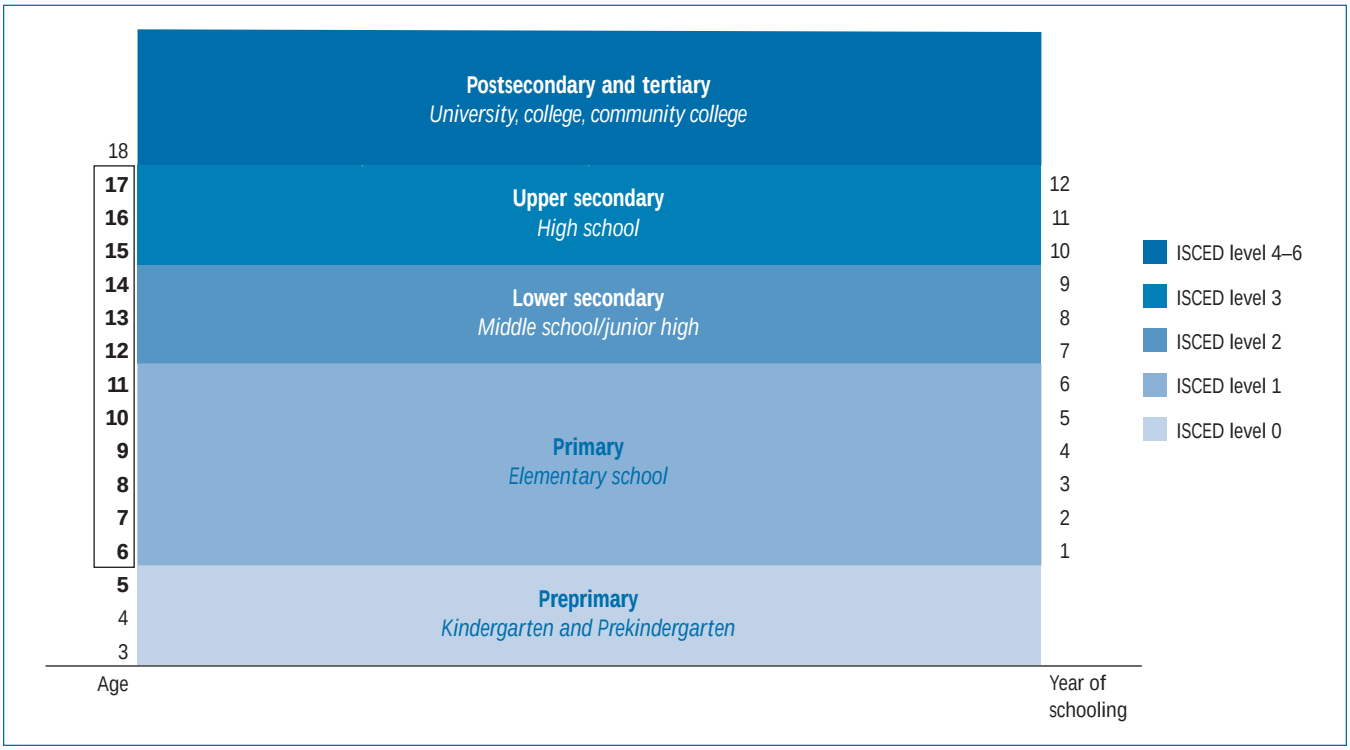
Organization for Economic Cooperation and Development. (1996). *Education at a Glance: OECD Indicators*: Author.

Robitaille, D. F. (1997). *National Contexts for Mathematics and Science Education: An Encyclopedia of the Education Systems Participating in TIMSS*. Vancouver, Canada: Pacific Educational Press.

Scottish Executive Education Department. (2003). National Dossier on Education and Training in Scotland. Available: http://www.scotland.gov.uk/library5/education/ndets-00.asp

THE EDUCATION SYSTEM IN THE UNITED STATES

Figure A-9. Levels of education in the United States, by age and year of schooling: 2004



NOTE: Ages represent the typical age at the beginning of the school year. Numbers in bold print indicate ages of universal enrollment. Box encloses the age at which compulsory enrollment begins through the age at which compulsory enrollment ends. In some countries, enrollment rates may fall below universal before the ending age of compulsory education. No meaning should be inferred from width of subdivisions. Theoretical duration of first university degree is 4 years in the United States.

SOURCE: U.S. Department of Education, NCES. (2002). *Comparative Indicators of Education in the United States and Other G8 Countries: 2002* (NCES 2003–026).

Preprimary:

- Common names: *Nursery school*, *Prekindergarten*, *Kindergarten*
- Ages of attendance: As early as age 3 to age 5
- Number of years: 1 to 3
- Start of universal enrollment: Age 5 (see Indicator 2)
- Compulsory? Generally no, but yes in some states

Primary:

- Common names: *Elementary school*, *Grade school*
- Ages of attendance: 6 to 11
- Number of years: 6
- Universal enrollment? Yes
- Compulsory? Yes

NOTE: Based on the ISCED, the first 6 years of schooling are classified as primary in the United States. Students may attend 5- or 6-year elementary schools. Some students also attend elementary schools that include eight grades.

Lower secondary:

- Common names: *Junior high school*, *Middle school*
- Ages of attendance: 12 to 14
- Number of years: 3
- Universal enrollment? Yes
- Compulsory? Yes
- Entrance/exit criteria? No

NOTE: Based on the ISCED, the 3 years of schooling following primary school are classified as lower secondary in the United States. Students may attend 2- or 3-year junior high schools or middle schools. Some students also attend combined junior-senior high schools.

Upper secondary:

- Common names: *High school*, *Senior high school*
- Ages of attendance: 15 to 17 (graduation generally at age 18)
- Number of years: 3

- Universal enrollment? Through age 17 (most students turn 18 during the last year of upper secondary school) (see Indicator 2)
- Compulsory? The ending age of compulsory education in the United States varies across states, ranging from 16 to 18. The national figure of age 17 (see Indicator 2) is calculated as a weighted average of the ending age of compulsory education for all the states. The modal age for the end of compulsory education in the United States is 16.
- Entrance/exit criteria? There are not generally entrance exams, although some states have begun instituting exit examinations that are required to receive a diploma. College-bound students usually take the Scholastic Aptitude Test (SAT) or the ACT Assessment (ACT), privately administered standardized tests which will partly determine college admittance. Admittance is also affected by previous grades, coursework, and other factors such as teacher recommendations and extracurricular participation.

NOTE: Based on the ISCED, the last 3 years of schooling prior to receiving a high school diploma are classified as upper secondary in the United States. Senior high schools may be 3 or 4 years in length. Some students attend combined junior-senior high schools.

Postsecondary and Tertiary:

- Common names: *University, College*, *Community College*
- Ages of attendance: Varies
- Number of years: Varies according to degree
- Universal enrollment? No (see Indicator 21)
- Entrance criteria: Varies according to degree. Students in the United States usually take the SAT or ACT (see above) as part of the entrance requirements for higher education. Most colleges and universities set their own admissions standards, so the requirements vary substantially from institution to institution.

Common degree programs:

- Certificate program: Vocational programs of 6 months to 1 year offered in public community colleges and private for-profit trade schools.
- Associate's degree: 2-year programs offered in fields of study that prepare students for the labor force or entry into a 4-year college or university. Granted at vocational and technical institutes as well as community colleges.
- Bachelor's degree: 4-year academic programs at a college or university that prepare students for the labor force or graduate study.
- Master's degree: Graduate program at a university that requires 2 years of study beyond the bachelor's degree and leads to a master's degree.
- Professional degrees: Graduate programs such as medicine or law taken at a university medical or law school. Typically require 3 or more years beyond the bachelor's degree and result in specialized degrees such as the Medical Doctorate (M.D.) or Juris Doctor (J.D.).
- Doctorate: Academic graduate program at a university typically requiring a minimum of 3 or 4 years of study and research beyond the bachelor's degree.

Sources:

Hoffman, C.M. (2003). *Mini-Digest of Education Statistics, 2002* (NCES 2003–061). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Marlow-Ferguson, R. (Ed.) (2002). *World Education Encyclopedia: A Survey of Educational Systems Worldwide, Vol. 1* (2nd ed.). Farmington Hills, MI: Gale Group.

Organization for Economic Cooperation and Development (1996). *Education at a Glance: OECD Indicators*: Author.

Robitaille, D. F. (1997). *National Contexts for Mathematics and Science Education: An Encyclopedia of the Education Systems Participating in TIMSS*. Vancouver, Canada: Pacific Educational Press.

Sherman, J.D., Honneger, S.D., and McGivern, J.L. (2003). *Comparative Indicators of Education in the United States and Other G8 Countries: 2002* (NCES 2003–026). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.