



3

Patterns of Students' Learning Time by Population Sub-Groups



INTRODUCTION

In general, the findings in this chapter show that students' learning time patterns differ according to individual and school characteristics within countries. The individual characteristics examined are gender, socio-economic status and immigrant status; the school characteristics studied involve lower and upper secondary schools, academic and vocational schools, public and private schools, and schools in urban and rural areas.

STUDENT BACKGROUND CHARACTERISTICS

PISA assessments have consistently shown that across countries, females are more interested in reading than males, and males are more interested in mathematics than females (OECD, 2004; OECD, 2007; OECD, 2009a). This chapter looks at whether or not these gender differences are also reflected in how students allocate time for learning.

PISA results have also shown that students' socio-economic backgrounds are related to performance, such that socio-economically advantaged students tend to achieve higher scores in mathematics, science and the language of instruction (OECD, 2002; OECD, 2004; OECD, 2007). This chapter seeks to understand how the patterns of learning time differ according to students' socio-economic backgrounds, as the time spent learning might be one of the major factors that reinforces the relationship between socio-economic background and performance. The PISA index of economic, social and cultural status provides a comprehensive measure of students' socio-economic background. This index is derived from information about the highest educational level of parents, the highest occupational status of parents, and possessions in the home (OECD, 2009b).

Examining participation rates in out-of-school-time lessons according to students' socio-economic background is also interesting since it could be suggested that socio-economically advantaged students have more opportunities to attend out-of-school-time lessons and, consequently, achieve higher scores in PISA. Chapter 4 examines the relationship between socio-economic background and performance, through participation in out-of-school-time lessons, in more detail.

This chapter also examines how learning time differs according to students' immigrant status. Students with immigrant backgrounds are defined as those whose parents were born in a foreign country. This group includes both first- and second-generation students. First-generation students are those born outside of the country of assessment whose parents are also foreign-born. Second-generation students are those born in the country of assessment with both parents foreign-born. Native students are defined as students who were born in the country of assessment and have at least one parent who was also born in the country of assessment. Analysis is only conducted for countries with a sufficient number of sampled students and schools in relevant sub-groups: *i.e.* statistics should be based on at least 30 students in 5 schools.

Given the increase in international migration, in some countries, a significant proportion of students were born in another country. For example, the proportion of students who are foreign-born or who have foreign-born parents now exceeds 10% in Germany, Belgium, Austria, France, the Netherlands and Sweden, as well as the partner countries Croatia, Estonia and Slovenia. That proportion is: 15% in the United States; 17% in Jordan; between 21% and 23% in Switzerland, Australia, New Zealand, Canada and the partner country Israel; 36% in Luxembourg; 37% in Liechtenstein; and over 40% in the partner countries and economies Macao-China, Hong Kong-China and Qatar (Table 3.1).

The differences in deliberate learning time by immigrant status are also examined in relation to the socio-economic background of the students and schools. In some countries, the socio-economic status of students with immigrant backgrounds could differ significantly because of immigration policies and practices, and the criteria used to decide who will be admitted into a country. If the socio-economic status of these students differs significantly, the observed differences in learning hours according to immigrant status could be due



to their different socio-economic backgrounds and not to their immigrant status. Thus, this chapter also examines differences in learning hours between natives and immigrants who share similar socio-economic status, by adjusting the estimates to differences in the socio-economic background of students and schools.

SCHOOL CHARACTERISTICS

This chapter also looks at how patterns of students' learning time may differ according to school structural and geographical characteristics. Specifically, it compares patterns in students' learning time in lower and upper secondary schools, academic and vocational schools, public and private schools, and schools in city and rural areas. Analysis of school characteristics is only conducted for countries with a sufficient number of sampled students and schools in relevant sub-groups: *i.e.* statistics should be based on at least 30 students in 5 schools.

PISA assesses students who are aged between 15 years 3 months and 16 years 2 months at the time of assessment, regardless of whether they are in lower secondary or upper secondary schools. In some countries, PISA target populations are all in upper secondary or all in lower secondary schools, while in other countries the students are in both lower secondary and upper secondary schools (Table 3.2).

In countries with a sufficient proportion of students in both academic and vocational schools, patterns of students' learning time are also compared between those of students in academic programmes and those of students in vocational programmes. Academic schools are defined as schools offering a study programme with a general curriculum. Vocational schools are defined as schools offering a study programme with a pre-vocational or vocational curriculum. The proportion of students in academic and vocational schools varies across countries (Table 3.4).

Institutional characteristics, such as lower or upper secondary schools and academic or vocational schools, are often related to each other. This also varies greatly across countries. In some countries, vocational schools are mainly at the upper secondary level, while in other countries this is not the case.

This chapter also examines how patterns in learning time differ between students in public schools and students in private schools. PISA assessments ask school principals whether their schools are managed directly or indirectly by a public education authority, government agency, or governing board appointed by government or elected by or public franchise (*i.e.* public schools); or by a non-government organisation, such as a church trade union, business, or other private institution (*i.e.* private schools) (Table 3.3).

Since the location of schools could also affect patterns in students' learning time, this chapter also looks at whether the time students spend in various learning activities differs between schools in urban areas and those in rural areas. Cities are defined as communities with 100 000 or more people; rural areas are defined as communities with fewer than 100 000 people. The proportion of 15-year-old students in schools in urban *versus* rural areas varies across countries (Table 3.5).

Among these school characteristics, the differences in deliberate learning time between students in public and private schools, academic and vocational schools, and schools in urban and rural areas are also explored by taking into consideration the socio-economic background of the students and schools. Since in many countries the socio-economic status of students and schools differs significantly according to these school characteristics, the observed differences could be due to their different socio-economic backgrounds rather than to the characteristics of schools.



CHARACTERISTICS OF LEARNING TIME

Differences in the time spent in regular school lessons, according to students' and schools' characteristics, tend to look similar to those spent in individual study. This finding is largely consistent across countries. However, the same is not true for the time spent in out-of-school-time lessons. Because the nature, meaning and function of out-of-school-time lessons are not necessarily the same across countries, differences in the time spent in out-of-school-time lessons, according to students' and schools' characteristics, are more complex and the results vary across countries.

Characteristics of learning time in regular school lessons and individual study

Gender

In most countries, females spend more time in regular school lessons and individual study in science, mathematics and the language of instruction than males, but the gender difference is greater in the language of instruction than in science and mathematics (Tables 3.6a, 3.6b and 3.6c). Across OECD countries, females spend around 40 minutes more per week than males in regular school lessons and individual study on the language of instruction, while females spend around 18 to 23 minutes more per week than males in regular school lessons and individual study in science and mathematics. In Greece, Hungary, Poland and Italy, and in the partner countries Jordan, Kyrgyzstan, Tunisia, Lithuania, Slovenia and Uruguay, females spend an additional 30 minutes or more per week than males in regular school lessons on the language of instruction. In Poland, Italy, Greece, Canada, the Slovak Republic, the United States, Hungary, Turkey and Spain, and partner countries Kyrgyzstan, Romania and Bulgaria, females spend at least 30 minutes per week more than males in individual study on the language of instruction.

The gender difference in time spent in regular school lessons in mathematics is small compared to time spent in regular school lessons in science and the language of instruction. Across OECD countries, females spend only five minutes more per week than males on regular school lessons in mathematics. Females spend an additional 30 minutes or more per week than males in regular school lessons in mathematics in Poland and the partner countries Slovenia, Lithuania and Jordan, while in 12 other OECD countries and 10 partner countries and economies this difference varies from an additional 6 to 28 minutes. In Austria, the Czech Republic and the Netherlands, males spend more time in regular school lessons in mathematics than females.

Socio-economic status

In most countries, socio-economically advantaged students spend much more time in regular school lessons and individual study in science, mathematics and the language of instruction than disadvantaged students (Tables 3.7a, 3.7b and 3.7c). Across OECD countries, socio-economically advantaged students spend 11.5 hours per week studying those 3 subjects in regular school lessons, while disadvantaged students spend 9.8 hours per week in regular school lessons (Table 3.7d). This difference of 1 hour and 42 minutes per week in regular school lessons reflects a difference of around 50 minutes per week in science, around 30 minutes per week in mathematics and around 20 minutes in the language of instruction. Socio-economically advantaged students have more opportunities to learn and acquire knowledge and skills than disadvantaged students, particularly in science.

Immigrant status

When students' immigrant status is taken into account, the results for time spent in regular school lessons are more complex and vary across countries. In about a half of the countries, there is no significant difference between native students and students with an immigrant background in the time spent in regular school lessons in science, mathematics and the language of instruction, while in other countries the results vary significantly across countries as well as by subject. For example, in the United States and the partner



economy Chinese Taipei, native students spend more time than students with an immigrant background on regular school lessons in the three subjects, while in Australia and the partner country Qatar, students with an immigrant background spend more time than native students. In Austria and Germany, the results are different by subject: native students spend more time in regular school lessons in science while students with an immigrant background spend more time in regular school lessons on the language of instruction.

Students with immigrant backgrounds tend to spend more time in individual study in science, mathematics and the language of instruction than native students (Table 3.8a, 3.8b and 3.8c). Across OECD countries, students with immigrant backgrounds spend 12 minutes more per week than native students on mathematics and the language of instruction. Students with an immigrant background spend ten minutes less per week in individual study in science than native students. In Australia, New Zealand, Canada, Sweden and the United Kingdom, students with immigrant backgrounds spend an additional 31 minutes or more in mathematics than native students.

After adjusting for the difference in socio-economic background of students and schools, students with an immigrant background still tend to spend more time on individual study, while the difference in time spent in regular school lessons varies according to countries (Table 3.8d). On average across OECD countries, and after adjusting for differences in socio-economic background, students with an immigrant background spend 40 minutes more than native students on individual study in science, mathematics and the language of instruction combined. Differences in time spent in regular school lessons between native students and those with immigrant backgrounds are insignificant in half the countries. However, students with an immigrant background spend more time in regular school lessons in Belgium, Australia, Austria, Luxembourg and in partner countries and economies Qatar, Macao-China, Hong Kong-China and Israel.

School-level variation

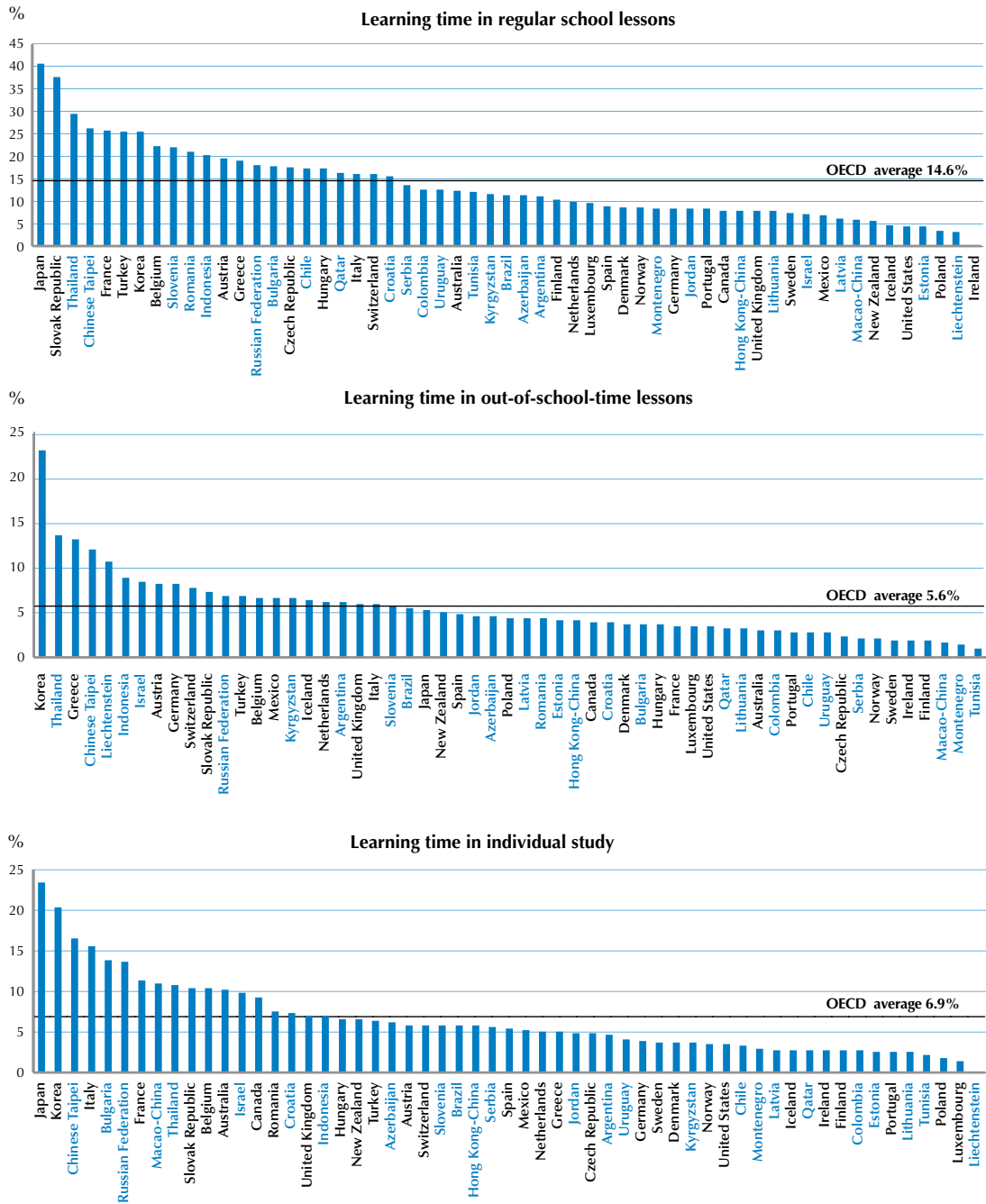
In general, the amount of hours students spend in regular school lessons varies within as well as between schools. Across OECD countries, 15% of variation in students' learning time in regular school lessons can be attributed to differences between schools (Table 3.9d). There is a 17% variation in science, 12% in mathematics and 11% in the language of instruction (Tables 3.9a, 3.9b and 3.9c). These differences vary considerably from country to country. As shown in Figure 3.1, in Japan, the Slovak Republic, France, Turkey, Korea, Belgium and the partner countries and economies Thailand and Chinese Taipei, 25% or more of the variation of students' learning time in regular school lessons on the three subjects combined is due to the difference between schools. But differences between schools account for only 5% of the variation in Ireland, Poland, the United States and partner countries Liechtenstein and Estonia (Table 3.9d). This shows that in most countries, variation in the learning time in regular school lessons is mostly due to differences between students within schools, and only partly due to differences between schools.

By contrast, learning time spent in individual study does not vary much between schools. Across OECD countries, 7% of variation in individual study can be attributed to the difference between schools (Table 3.9d). School-level variation in learning time through individual study is only 10% or less in all countries and economies except Japan, Korea, Italy, France and the partner countries and economies Chinese Taipei, Bulgaria, the Russian Federation, Macao-China and Thailand.



Figure 3.1

Percentage of between school variance out of total variance in regular school lessons, out-of-school-time lessons, and individual study



Countries are ranked in descending order of the percentage of between-school variance out of total variance.

Source: OECD PISA Database 2006, Table 3.9d.



Lower secondary and upper secondary schools

In general, students in upper secondary schools spend more time in regular school lessons in science than students in lower secondary schools. Students in upper secondary schools also spend more time in regular school lessons in mathematics than students in lower secondary schools, but the difference is small. For example, across OECD countries, students in upper secondary schools spend an additional 35 minutes per week in regular school lessons in science and an additional 7 minutes per week in regular school lessons in mathematics compared with students in lower secondary schools (Tables 3.10a and 3.10b). The biggest differences are found in France and Poland, where students in upper secondary schools spend an additional 90 minutes per week or more in regular school lessons in science compared with students in lower secondary schools.

Results comparing differences between lower and upper secondary schools in time spent in regular school lessons on the language of instruction vary across countries (Table 3.10c). In 9 OECD countries and 11 partner countries and economies, students in upper secondary spend more time in regular school lessons on the language of instruction than students in lower secondary schools, while in 8 OECD countries and 5 partner countries and economies, students in lower secondary schools spend more time than students in upper secondary schools.

Similarly, students in upper secondary schools tend to spend more time in individual study in science and mathematics than students in lower secondary schools, although the results vary across countries in the language of instruction (Tables 3.10a, 3.10b and 3.10c). Across OECD countries, students in upper secondary schools spend an additional eight minutes per week in individual study in both science and mathematics compared with students in lower secondary schools. In five OECD countries and four partner countries and economies, students in upper secondary spend more time in individual study in the language of instruction than students in lower secondary schools, while in five OECD countries and eight partner countries and economies, students in lower secondary schools spend more time than students in upper secondary schools.

Public and private schools

In general, students attending private schools tend to spend more time in regular school lessons in science, mathematics and the language of instruction than those who attend public schools. Across OECD countries, students in private schools spend an additional 30 minutes per week in regular school lessons in the 3 subjects compared with students in public schools (Table 3.11d). However, in Italy, the Czech Republic, Sweden and the partner countries and economies Tunisia, Thailand, Indonesia, Chinese Taipei and Estonia, students in public schools spend more time than those in private schools in regular school lessons in at least one of the three subjects (Tables 3.11a, 3.11b and 3.11c).

The difference in time spent in regular school lessons between students in public and private schools varies across countries. In some of the partner countries and economies, the difference is remarkable. For example, in Greece and partner countries Slovenia, Qatar and Brazil, students in private schools spend an additional 2 hours and 30 minutes or more in regular school lessons in science, mathematics and the language of instruction than students in public schools (Table 3.11d).

Taking into account differences in the socio-economic status of students, the variation in hours spent in regular school lessons in favour of students in private schools no longer exists in the majority of countries and economies. Across OECD countries, once socio-economic background is accounted for, students in public schools spend an average of ten minutes more in regular school lessons than students in private schools. The difference in hours spent in regular school lessons, favouring students from private schools, is statistically significant in only three OECD countries and five partner countries and economy: Iceland,



Norway, Spain, Luxembourg, Qatar, Macao-China, Slovenia, Uruguay and Brazil. The difference is larger in countries where students in public schools spend more time in regular lessons than students in private schools (Table 3.11d). This implies that the difference between public and private schools in the number of hours students spend in school regular lessons is not attributable only to school characteristics, but is largely driven by the socio-economic level of schools' student population.

Students attending private schools spend more time in individual study than students in public schools in many countries, including nine OECD countries and six partner countries and economies; but, the difference is smaller or insignificant in two-thirds of countries after accounting for socio-economic status (Table 3.11d). Across OECD countries, students attending private schools spend an additional 15 minutes per week in individual study of science, mathematics and the language of instruction compared with students in public schools.

Academic and vocational schools

In almost every country, students attending academic schools spend more time in learning science, mathematics and the language of instruction in regular school lessons and individual study than students in vocational schools (Tables 3.12a, 3.12b and 3.12c). For example, across OECD countries, students attending academic schools spend an additional 1 hour per week in regular school lessons in science, an additional 50 minutes per week in regular school lessons in mathematics and an additional 45 minutes per week in regular school lessons on the language of instruction compared with students attending vocational schools.

Even after adjusting for the socio-economic status of students and schools, students attending academic schools spend more time learning the three subjects in regular school lessons and individual study (Table 3.12d). Although the difference in learning hours is smaller, it remains considerable. For example, students attending academic schools spend 2 hours and 37 minutes more in regular school lessons, 28 minutes more in out-of-school-time lessons and 41 minutes more on individual study, on average across OECD countries, compared with students of similar socio-economic backgrounds who attend vocational schools.

Schools in urban and rural areas

In general, students in urban schools tend to spend more time in regular school lessons than students in schools in rural areas. The differences are large in some countries, but relatively small in others. In most countries, the difference is one hour per week or less in regular school lessons in science, mathematics and the language of instruction (Table 3.13d). However, in the United States, students in schools in rural areas spend more time in regular school lessons in all three subjects than students in urban schools.

In eight OECD countries and four partner countries and economies, students in urban schools also spend more time engaged in individual study in science, mathematics and the language of instruction than students in schools in rural areas (Table 3.13d). In some partner countries and economies, however, students in schools in rural areas spend more time in individual study than students in urban schools.

However, after the socio-economic status of students and schools is taken into account, the difference in hours spent in regular school lessons and individual study practically disappears in some countries. On average across OECD countries, students in urban schools spend eight minutes more in regular school lessons than students in schools in rural areas (Table 3.13d). Students in schools in urban areas spend more time in regular school lessons in only one OECD country and two partner countries and economies: Belgium, Qatar and Macao-China. The pattern regarding hours spent in individual study is mixed. In eight OECD countries and one partner country, students in urban schools spend more time on individual study than students in schools in rural areas, while in four OECD countries and eight partner countries, students in schools in rural areas spend more time on individual study than students in urban schools.

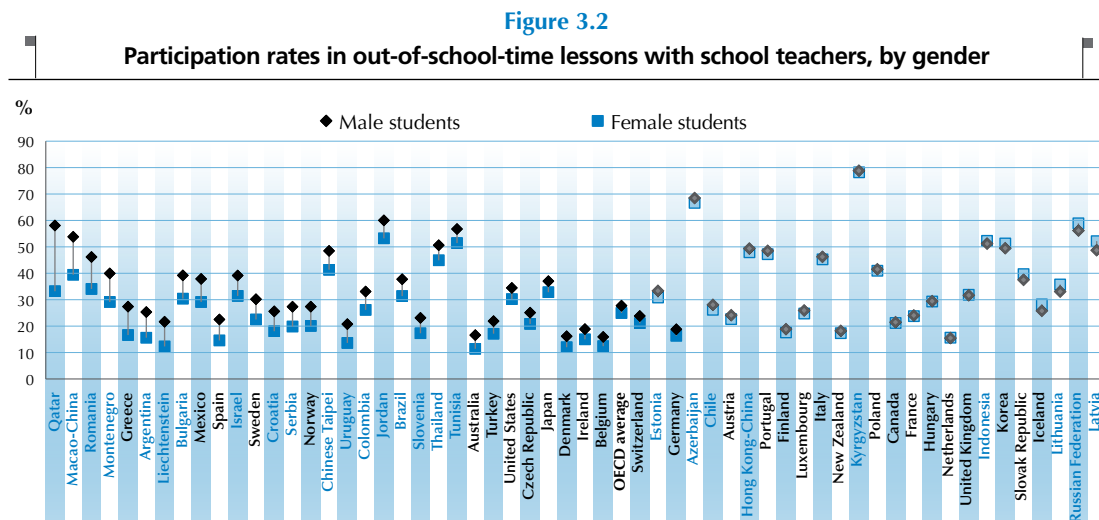


Characteristics of learning time in out-of-school-time lessons

This section considers how students' backgrounds and school characteristics are related to patterns of learning time in out-of-school-time lessons. Students' gender, socio-economic background and immigrant status are considered, as are differences between lower and upper secondary schools, academic and vocational schools, public and private schools, and schools in urban and in rural areas.

Gender

In out-of-school-time lessons, the pattern of gender difference varies across countries (Tables 3.6a, 3.6b and 3.6c). In 3 OECD countries and 1 partner country, females spend more time than males in out-of-school-time lessons in science, while males spend more time than females in 16 OECD countries and 10 partner countries and economies. In five OECD countries and one partner country, females spend more time than males in out-of-school-time lessons in mathematics, while males spend more time than females in ten OECD countries and five partner countries and economies. In ten OECD countries and six partner countries and economies, females spend more time than males in out-of-school-time lessons on the language of instruction, while males spend more time than females in nine OECD countries and seven partner countries and economies.



Note: Gender differences that are statistically significant are marked in a darker tone.

Countries are ranked in descending order of the difference in rates of participation in out-of-school-time lessons with school teachers between male and female students.

Source: OECD PISA 2006 Database, Table 3.14.

Are males and females involved in the same types of out-of-school-time lessons? Females tend to be more involved in one-to-one out-of-school-time lessons with non-school teachers than males, while males are more involved in large group, out-of-school-time lessons with non-school teachers (Table 3.14). Males are also more involved in out-of-school-time lessons of any size with school teachers, including one-to-one, small group and large group lessons. Interestingly, the gender differences favouring males in these types of out-of-school-time lessons are greater in the partner countries and economies than in OECD countries. Among OECD countries, Greece has the highest gender difference – 9% favouring males – in the enrolment rate in one-to-one, out-of-school-time lessons with school teachers. In the partner countries and economies, the gender difference in the enrolment rate in this type of out-of-school-time lesson is greater than 10%, favouring males in Qatar, Jordan, Romania and Montenegro.



Socio-economic background

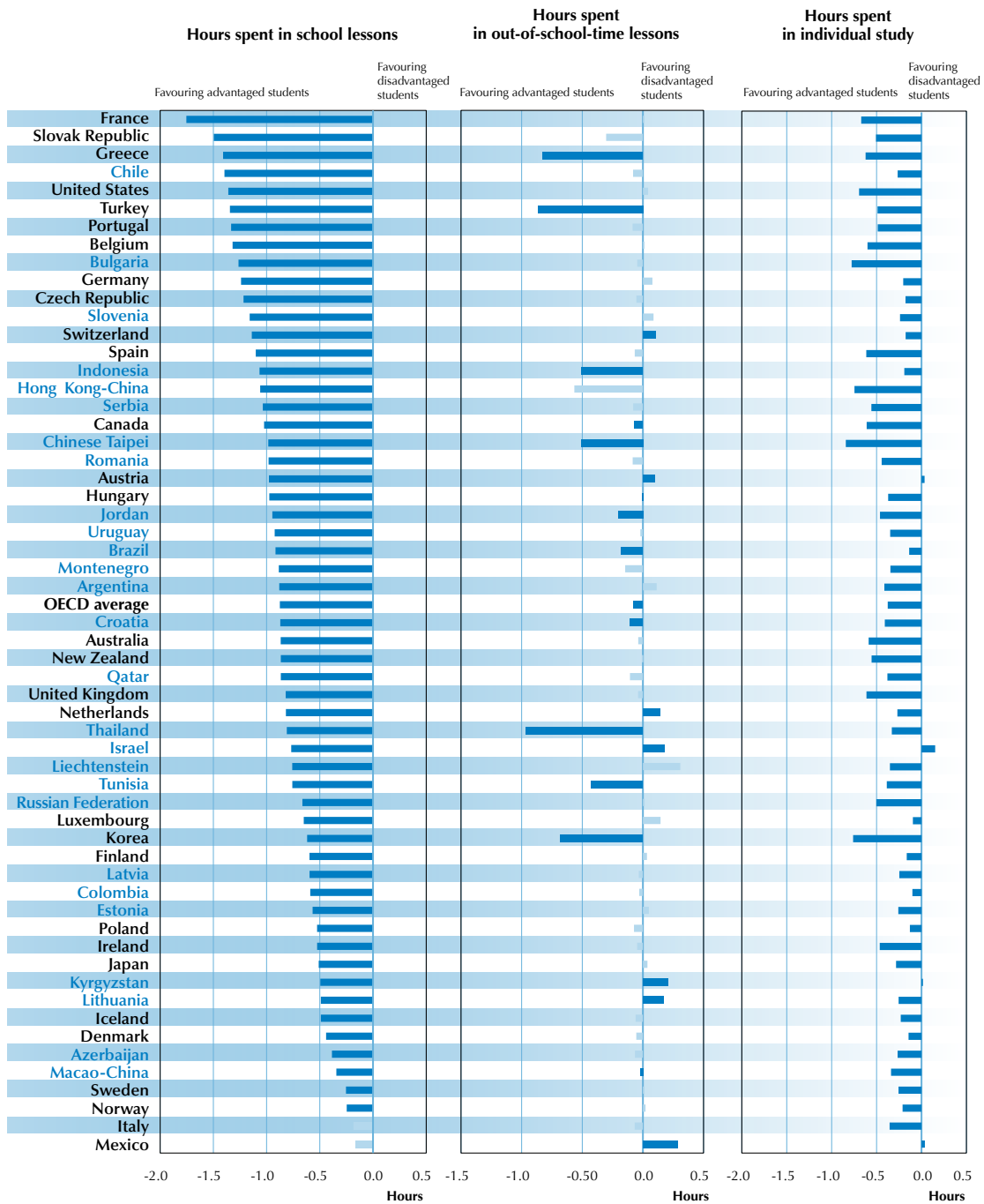
The pattern of difference in hours spent in out-of-school-time lessons between socio-economically advantaged and disadvantaged students is not consistent across countries (Tables 3.7a, 3.7b and 3.7c). For example, advantaged students spend more time than disadvantaged students in out-of-school-time lessons in science in five OECD countries and eight partner countries and economies, while disadvantaged students spend more time than advantaged students in five OECD countries and three partner countries and economies. In mathematics, advantaged students spend more time in these kinds of lessons than disadvantaged students in 9 OECD countries and 15 partner countries and economies, while disadvantaged students spend more time than advantaged students in eight OECD countries and only one partner country, Slovenia. In the language of instruction, advantaged students spend more time in these kinds of lessons than disadvantaged students in two OECD countries and two partner countries and economies, while disadvantaged students spend more time than advantaged students in 14 OECD countries and 10 partner countries and economies.

How does student participation in different types of out-of-school-time lessons vary according to socio-economic background? Students' involvement differs greatly according to who is teaching out-of-school-time lessons. In general, as shown in Figures 3.3b and 3.3c, socio-economically advantaged students are more likely than disadvantaged students to attend out-of-school-time lessons taught by someone who is not a teacher in the school that the students attend (*i.e.* a non-school teacher) (Table 3.15). For example, across OECD countries, 35% of advantaged students attend out-of-school-time lessons with non-school teachers, while only 21% of disadvantaged students do so. However, socio-economically disadvantaged students are more likely than advantaged students to attend out-of-school-time lessons taught by teachers from the school that the students attend (*i.e.* school teachers). For example, across OECD countries, 30% of disadvantaged students attend out-of-school-time lessons with school teachers, while 23% of advantaged students do so.

While it is important to be careful when interpreting results and deriving certain ideas about out-of-school-time lessons across countries and cultures, in general, the purpose of out-of-school-time lessons with school teachers is different from those with non-school teachers. Out-of-school-time lessons given by school teachers are often organised for remedial purposes, to help underperforming students keep up with the rest of the class. Out-of-school-time lessons instructed by non-school teachers are often for enrichment purposes. In addition, while out-of-school-time lessons with school teachers often do not require additional fees, those with non-school teachers often do. Students from disadvantaged socio-economic backgrounds are thus less likely to be involved in out-of-school-time lessons with non-school teachers. This is in line with previous research that shows that private tutoring is more readily available to the rich than to the poor (Bray, 1999).



Figure 3.3a
Difference in learning time in science, by quarters of the PISA index of economic, social and cultural status (ESCS)

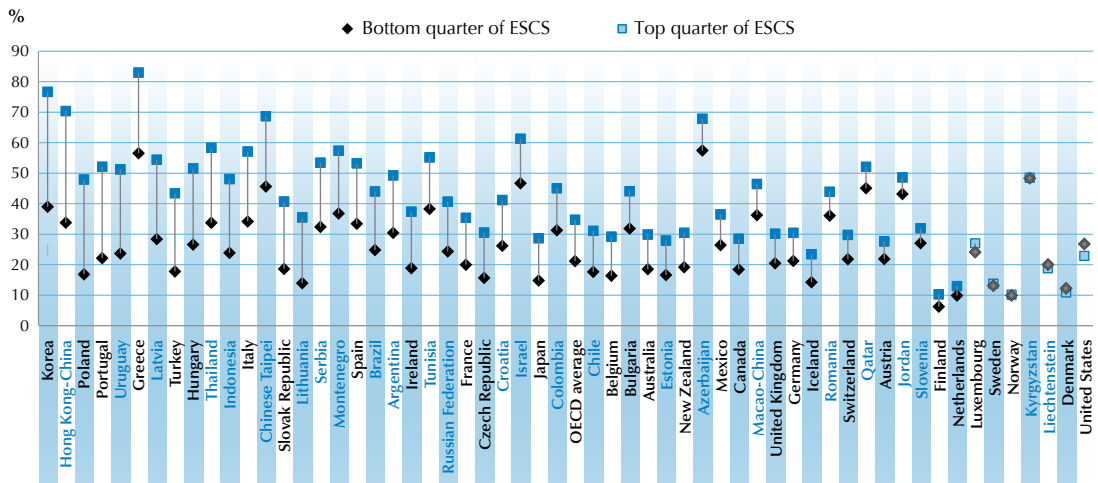


Note: Difference in learning time in science, by quarters of PISA index of economic, social and cultural status (ESCS). Countries are ranked in descending order of the difference in learning hours in school lessons between the top and bottom quarters of ESCS students.
 Source: OECD PISA 2006 Database, Table 3.7a.



Figure 3.3b

Participation rates in out-of-school-time lessons with non-school teachers, by quarters of the PISA index of economic, social and cultural status (ESCS)



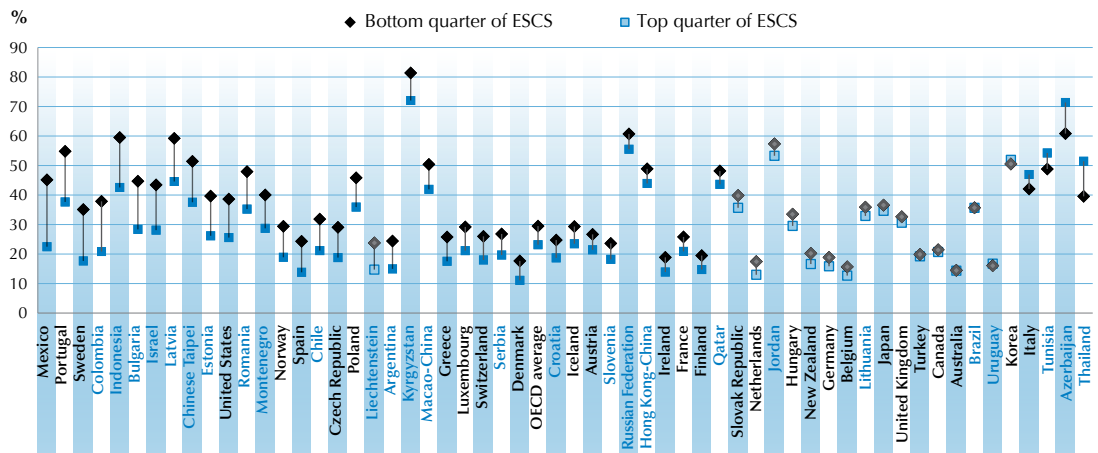
Note: Differences that are statistically significant are marked in a darker tone.

Countries are ranked in descending order of the difference in rates of participation in out-of-school-time lessons with non-school teachers between the top and bottom quarters of ESCS students.

Source: OECD PISA 2006 Database, Table 3.15.

Figure 3.3c

Participation rates in out-of-school-time lessons with school teachers, by quarters of PISA index of economic, social and cultural status (ESCS)



Note: Differences that are statistically significant are marked in a darker tone.

Countries are ranked in descending order of the difference in rates of participation in out-of-school-time lessons with school teachers between the bottom and top quarters of ESCS students.

Source: OECD PISA 2006 Database, Table 3.15.



Immigrant status

In most countries, students with an immigrant background tend to spend more time in out-of-school-time lessons regardless of subject (Tables 3.8a, 3.8b and 3.8c). Across OECD countries, students with an immigrant background spend an additional 42 minutes per week in out-of-school-time lessons in all 3 subjects combined compared with native students (Table 3.8d). After adjusting for the difference in socio-economic status of students and schools, students with an immigrant background still tend to spend more time in out-of-school-time lessons than native students. On average across OECD countries, and after adjusting for differences in socio-economic background, students with an immigrant background spend 40 minutes per week more in out-of-school-time lessons than native students.

Students with an immigrant background tend to be more involved in out-of-school-time lessons than native students in most countries except Greece and the partner countries and economies Qatar, Hong Kong-China, Kyrgyzstan and Macao-China (Table 3.16). In most countries, students with an immigrant background tend to be more involved in any type of out-of-school-time lessons than native students. However, there is no consistent pattern across countries concerning one-to-one out-of-school-time lessons with non-school teachers. The difference in the proportion of students participating in out-of-school-time lessons according to immigrant status varies according to the type of out-of-school-time lesson. The difference between out-of-school-time lessons with school teachers and those with non-school teachers is great. In Mexico, for example, 71% of students with an immigrant background participate in out-of-school-time lessons with a school teacher while only 31% of native students do so. In Denmark, Sweden, Spain, Norway, Portugal, the United States and the partner countries Tunisia, Liechtenstein and Brazil, the difference is 10% or more, favouring students with an immigrant background.

School-level variation

Learning time spent in out-of-school-time lessons does not vary much between schools. Across OECD countries, 6% of variation in learning time in out-of-school-time lessons can be attributed to the difference between schools (Table 3.9d). School-level variation in learning time in out-of-school-time lessons is small in almost all countries: it is 5% or less in about half of the participating countries and economies, and 10% or less in all countries and economies except Korea, Greece and the partner countries and economies Thailand, Chinese Taipei and Liechtenstein.

Lower secondary and upper secondary schools

Students in lower secondary schools tend to spend more time in out-of-school-time lessons than students in upper secondary schools. This might be because the end of lower secondary education in some countries marks the time for important examinations that determine entry into upper secondary schools (Dang, 2007; Tan, 2009). These students are also more likely to attend any type of out-of-school-time lessons, except one-to-one lessons taught by a non-school teacher (Table 3.17). Meanwhile, students in upper secondary schools in Greece, Portugal, Hungary, Poland, Switzerland, France and the partner countries and economies Slovenia, Uruguay, Bulgaria, Azerbaijan, Argentina and Hong Kong-China generally attend more one-to-one lessons with non-school teachers than students in lower secondary schools.

Public and private schools

Students in public schools tend to spend more time in out-of-school-time lessons than students in private schools in seven OECD countries and nine partner countries and economies (Table 3.11d). In Greece and Mexico, and the partner countries Israel and Estonia, students in public schools tend to spend an additional one hour or more per week in out-of-school-time lessons in science, mathematics and the language of instruction compared with students in private schools.



There is a significant difference in some type of out-of-school-time lessons students in public and private schools attend (Table 3.18). In 14 OECD countries and 5 partner countries and economies, students in private schools generally attend more one-to-one, out-of-school-time lessons taught by a non-school teacher than students in public schools. Meanwhile, in 11 OECD countries and 6 partner countries and economies, students in public schools attend more large group, out-of-school-time lessons taught by school teachers than students in private schools; but in four OECD countries and two partner countries and economies, students in private schools attend these types of lessons more than public school students.

Academic and vocational schools

In almost every country, students attending academic schools spend more time in learning science and mathematics in out-of-school-time lessons; but the results are mixed across countries in the language of instruction (Tables 3.12a, 3.12b and 3.12c). Across OECD countries, students attending academic schools spend an additional 13 minutes per week in out-of-school-time lessons in science and an additional 17 minutes in mathematics. In seven OECD countries and five partner countries, students in academic schools spend more time in out-of-school-time lessons in the language of instruction than students in vocational schools, but in five OECD countries and three partner countries, students in vocational schools spend more time in these lessons than students in academic schools.

Even after accounting for the socio-economic status of students and schools, students attending academic schools spend more time in learning science, mathematics and the language of instruction in out-of-school-time lessons in most countries (Table 3.12d). Although the difference in learning hours is smaller, it remains considerable. For example, on average across OECD countries, students attending academic schools spend 28 minutes more in out-of-school-time lessons than students with a similar socio-economic background who attend vocational schools.

Students in academic schools spend more time in out-of-school-time lessons, especially for science and mathematics. In most countries, students in academic schools are more likely to attend any type of out-of-school-time lesson than students in vocational schools, but the difference in participation is remarkable for the one-to-one, out-of-school-time lessons taught by someone who is not a teacher in the school the student attends (*i.e.* one-to-one lessons with non-school teachers) (Table 3.19). For example, in Greece, 48% of students in academic schools, but only 24% of students in vocational schools, attend out-of-school-time lessons. This means that the difference in participation rates between students in academic and vocational schools is 24 percentage points. Across OECD countries, there is a difference of more than eight percentage points between students in academic schools who attend this type of out-of-school-time lesson and students in vocational schools who do so. The difference in the participation rate is ten percentage points or higher in Greece, Korea, France, Italy, Hungary, Austria and in the partner country and economy Macao-China and Serbia. In most countries, this difference does not change much after adjusting for socio-economic background: on average across OECD countries, the difference between students in academic schools and students in vocational schools who attend this type of out-of-school-time lesson is five percentage points or greater.

Schools in urban and rural areas

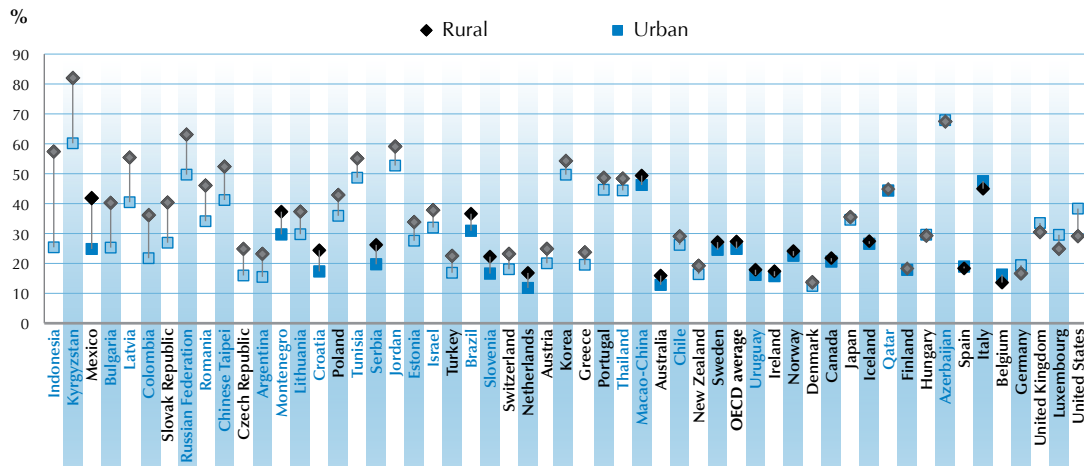
The results for out-of-school-time lessons according to school location vary across countries. Earlier studies have shown that tutoring is more common in cities (UNESCO, 2009). PISA 2006 data show that, in most countries, students in urban schools are more involved in out-of-school-time lessons taught by non-school teachers. This is especially true in one-to-one, out-of-school-time lessons with non-school teachers (Table 3.20). Across OECD countries, 22% of students in urban schools attend this type of out-of-school-time lesson, while 18% of students in schools in rural areas do so. This means that the difference in participation rates between students in urban and rural areas is four percentage points. As shown in Figure 3.4b, the difference in the attendance rate for this type of out-of-school-time lessons is ten percentage points or



higher in Switzerland, New Zealand and the partner countries Tunisia, Estonia, Lithuania and Serbia. The difference in this participation rate, favouring students in urban schools, is significant in half the countries, after adjusting for the socio-economic status of students and schools (Table 3.20).

Figure 3.4a

Participation rates in out-of-school-time lessons with school teachers, by school location



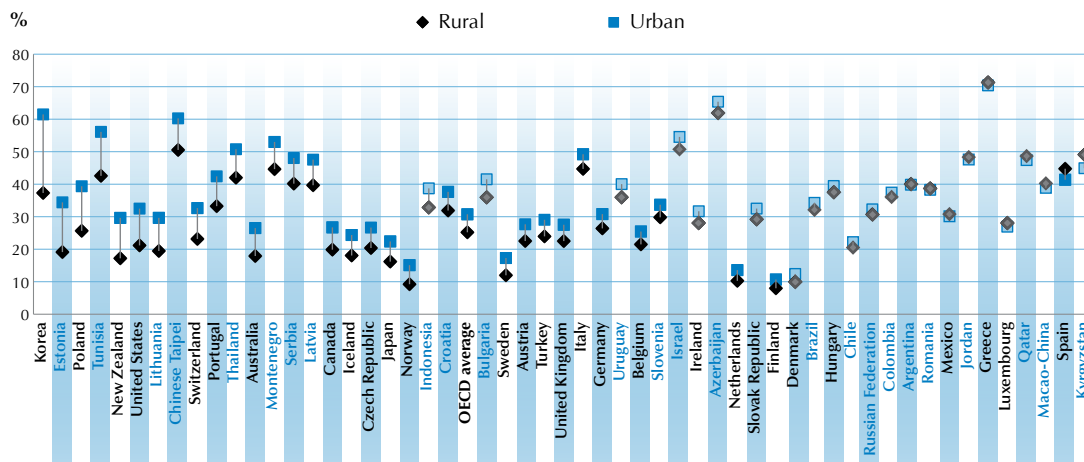
Note: Differences that are statistically significant are marked in a darker tone.

Countries are ranked in descending order of the difference in rates of participation in out-of-school-time lessons with school teachers between rural and urban schools.

Source: OECD PISA 2006 Database, Table 3.20.

Figure 3.4b

Participation rates in out-of-school-time lessons with non-school teachers, by school location



Note: Differences that are statistically significant are marked in a darker tone.

Countries are ranked in descending order of the difference in rates of participation in out-of-school-time lessons with non-school teachers between urban and rural schools.

Source: OECD PISA 2006 Database, Table 3.20.

In most countries, students in schools in rural areas are more likely than students in urban schools to attend out-of-school-time lessons that are taught by teachers from the schools the students attend, but this pattern disappears in two-thirds of countries once the difference in socio-economic status of students and schools



is taken into account (Table 3.20). The difference in the attendance rates for this type of out-of-school-time lessons is ten percentage points or more in Mexico, the Slovak Republic and the partner countries and economies Indonesia, Kyrgyzstan, Bulgaria, Latvia, Colombia, the Russian Federation, Romania and Chinese Taipei. However, after adjusting for the socio-economic status of students and schools, only in the Russian Federation and Indonesia is the difference ten percentage points or more.

Who spends more time in regular school lessons and individual study?

In both learning time spent in regular school lessons and in individual study, females spend more time than males, socio-economically advantaged students spend more time than disadvantaged students, students in private schools spend more time than students in public schools, students in academic schools spend more time than students in vocational schools, and students in urban schools spend more time than students in schools in rural areas. However, the difference in hours spent in regular school lessons and individual study favours students in private schools or in schools in urban areas; but once the socio-economic background of the students and schools is accounted for, there is no appreciable difference. Students with an immigrant background spend more time than native students in individual study across most countries, and students in upper secondary schools spend more time in individual study in science and mathematics, but there is no consistent pattern for individual study in the language of instruction.

Who spends more time in which types of out-of-school-time lessons?

Given that out-of-school-time lessons are not necessarily the same across countries, or even within countries, since different types of out-of-school-time lessons have different meanings and functions, there are differences in students' involvement in out-of-school-time lessons according to student subgroups and to the different types of out-of-school-time lessons. For example, out-of-school-time lessons with school teachers are favoured by males, socio-economically disadvantaged students, students in lower secondary schools, and, especially in partner countries and economies, students in schools in rural areas. However, the difference in attendance rates in this type of out-of-school-time lesson between rural and urban schools disappears after adjustments are made for the socio-economic backgrounds of the students and schools.

Meanwhile, one-to-one, out-of-school-time lessons with non-school teachers are favoured by females, socio-economically advantaged students, students in academic schools, students in private schools and students in urban schools. The pattern does not change much even after the socio-economic backgrounds of students and schools are adjusted for. The patterns of involvement differ, as the purpose and organisation of these two types of out-of-school-time lessons are different.



Box 3.1 Summary of observed learning patterns by student and school characteristics

The table below presents the overview of patterns in the deliberate learning time among population sub-groups. The population sub-group, which is shown consistently to spend more time in each learning activity across countries in three subject domains, is presented in a darker tone. The number of countries is presented only in science, as the pattern does not differ greatly across subject domains. Any significant difference in pattern across subject domains is explained in a footnote. The number of OECD countries is indicated in brackets. For example, female students spend more time in regular school lessons than male students in 27 OECD countries and 42 partner countries and economies.

		Regular school lessons	Out-of-school-time lessons	Individual study
Gender	Female	42(27)	4(3)	43(20)
	Male	3(1)	26(16) ¹	3(1)
ESCS	Advantaged	55(28)	13(5)	50(26)
	Disadvantaged	0(0)	8(5)	0(0)
Immigrant background	Native	15(11)	3(1)	3(1)
	Immigrant	3(1)	22(19)	14(10)
Lower/Upper secondary school	Upper secondary	35(15)	3(1)	23(12) ²
	Lower secondary	5(3)	18(12)	7(5)
Private/Public school	Private	23(11)	4(0)	13(8)
	Public	7(3)	13(7)	9(3)
Academic/Vocational school	Academic	30(17)	17(11)	31(17)
	Vocational	2(1)	2(1)	1(1)
Region	City	21(8)	9(7)	12(10)
	Rural	3(3)	10(4)	5(1)

Note: These results are based on the observed differences in deliberate learning hours by population sub-group. For those who are interested in the results after accounting for socio-economic background of students and schools, please refer to the previous text in corresponding sections.

1. Mathematics and the language of instruction showed a different pattern from science. In mathematics, the difference is in favour of male students in 15(10) countries and it is in favour of female students in 6(5) countries. In the language of instruction, the difference is in favour of male students in 16(9) countries and it is in favour of female students in 16(11) countries.

2. Unlike science and mathematics, there is no consistent pattern in the language of instruction.

Source: OECD PISA 2006 Database, Tables 3.6a, 3.7a, 3.8a, 3.9a, 3.10a, 3.11a, 3.12a and 3.13a.

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The following table shows attendance in out-of-school-time lessons. The population sub-group, which is shown consistently to be more likely to attend a particular type of out-of-school-time lessons across countries, is presented in a darker tone.

		Out-of-school-time lessons with school teachers	One-to-one out-of-school-time lessons with non-school teachers
Gender	Female	0(0)	24(13)
	Male	32(15)	5(1)
ESCS	Advantaged	4(1)	53(27)
	Disadvantaged	37(18)	0(0)
Immigrant background	Native	2(0)	5(2)
	Immigrant	23(16)	9(8)
Lower/Upper secondary school	Upper secondary	2(1)	12(6)
	Lower secondary	30(17)	8(7)
Private/Public school	Private	8(6)	19(14)
	Public	13(8)	1(1)
Academic/ Vocational school	Academic	13(8)	28(13)
	Vocational	12(5)	1(0)
Region	Urban	2(2)	32(16)
	Rural	28(10)	0(0)

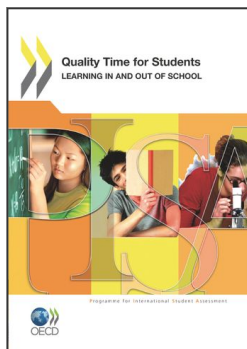
Note: These results are based on the observed differences in deliberate learning hours by population sub-group. For those who are interested in the results after accounting for socio-economic background of students and schools, please refer to the previous text in corresponding sections.

Source: OECD PISA 2006 Database, Tables 3.14 - 3.20.



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