PISA

PISA 2022 Results (Volume II)

Learning During – and From – Disruption

Preface

In 2022, as countries were still dealing with the lingering impacts of the COVID-19 pandemic, nearly 700 000 students from 81 OECD Member and partner economies, representing 29 million across the world, took the Programme for International Student Assessment (PISA) test.

It makes 2022 PISA the first large-scale study to collect data on student performance, well-being, and equity before and after the COVID-19 disruptions. The report finds that in spite of the challenging circumstances, 31 countries and economies managed to at least maintain their performance in mathematics since PISA 2018. Among these, Australia*, Japan, Korea, Singapore, and Switzerland maintained or further raised already high levels of student performance, with scores ranging from 487 to 575 points (OECD average 472). These systems showed common features including shorter school closures, fewer obstacles to remote learning, and continuing teachers' and parental support, which can further offer insights and indications of broader best practices to address future crises.

Many countries also made significant progress towards universal secondary education, key to enabling equality of opportunity and full participation in the economy. Among them, Cambodia, Colombia, Costa Rica, Indonesia, Morocco, Paraguay and Romania have rapidly expanded education to previously marginalised populations over the past decade.

Ten countries and economies saw a large share of all 15-year-olds with basic proficiency in maths, reading and science and achieve high levels of socio-economic fairness: Canada*, Denmark*, Finland, Hong Kong (China)*, Ireland*, Japan, Korea, Latvia*, Macao (China) and the United Kingdom*. While socioeconomic status remains a significant predictor of performance in these and other OECD countries and economies, education in these countries can be considered highly equitable.

At the same time, on average, the PISA 2022 assessment saw an unprecedented drop in performance across the OECD. Compared to 2018, mean performance fell by ten score points in reading and by almost 15 score points in mathematics, which is equivalent to three-quarters of a year's worth of learning. The decline in mathematics performance is three times greater than any previous consecutive change. In fact, one in four 15-year-old is now considered a low performer in mathematics, reading, and science on average across OECD countries. This means they can struggle to do tasks such as use basic algorithms or interpret simple texts. This trend is more pronounced in 18 countries and economies, where more than 60% of 15-year-olds are falling behind.

Yet the decline can only partially be attributed to the COVID-19 pandemic. Scores in reading and science had already been falling prior to the pandemic. For example, negative trends in maths performance were already apparent prior to 2018 in Belgium, Canada*, Czechia, Finland, France, Hungary, Iceland, the Netherlands*, New Zealand*, and the Slovak Republic.

The relationship between pandemic-induced school closures, often cited as the main cause of performance decline is not so direct. Across the OECD, around half of the students experienced closures for more than three months. However, PISA results show no clear difference in performance trends between education systems with limited school closures such as Iceland, Sweden and Chinese Taipei and systems that experienced longer school closures, such as Brazil, Ireland* and Jamaica*.

School closures also drove a global conversion to digitally enabled remote learning, adding to long-term challenges that had already emerged, such as the use of technology in classrooms. How education systems grapple with technological change and whether policymakers find the right balance between risks and opportunities, will be a defining feature of effective education systems.

According to our results, on average across OECD countries, around three quarters of students reported being confident using various technologies, including learning-management systems, school learning platforms and video communication programs. Students who spent up to one hour per day on digital devices for learning activities in school scored 14 points higher in mathematics than students who spent no time, even after accounting for students' and schools' socio-economic profile, and this positive relationship is observed in over half (45 countries and economies) of all systems with available data. Yet technology used for leisure rather than instruction, such as mobile phones, often seems to be associated with poorer results. Students who reported that they become distracted by other students who are using digital devices in at least some mathematics lessons scored 15 points lower than students who reported that this never or almost never happens, after accounting for students' and schools' socio-economic profile.

PISA data shows that teachers' support is particularly important in times of disruption, including by providing extra pedagogical and motivational support to students. The availability of teachers to help students in need had the strongest relationship to mathematics performance across the OECD, compared to other experiences linked to COVID-19 school closure. Mathematics score were 15 points higher on average in places where students agreed they had good access to teacher help. These students were also more confident than their peers to learn autonomously and remotely. Despite this, one in five students overall reported that they only received extra help from teachers in some mathematics lessons in 2022. Around eight percent never or almost never received additional support.

Overall, education systems with positive trends in parental engagement in student learning between 2018 and 2022 showed greater stability or improvement in mathematics performance. This was particularly true for disadvantaged students. These figures show that the level of active support that parents offer their children might have a decisive effect. Yet parental involvement in students' learning at school decreased substantially between 2018 and 2022. On average across OECD countries, the share of students in schools where most parents initiated discussions about their child's progress with a teacher dropped by ten percentage points.

Finally, we see a positive relationship between investment in education and average performance up to a threshold of USD 75 000 (PPP) in cumulative spending per student from age 6 to 15. For many OECD countries that spend more per student, there is no relationship between extra investment and student performance. Countries like Korea and Singapore have demonstrated that it is possible to establish a top-tier education system even when starting from a relatively low-income level, by prioritising the quality of teaching over the size of classes and funding mechanisms that align resources with needs.

To strengthen the role of education in empowering young people to succeed and ensuring merit-based equality of opportunity, the resilience of our education systems will be critical not only to improve learning outcomes measured through PISA, but to their long-term effectiveness. I'm pleased to share the PISA 2022 report with you, to provide policymakers across OECD Members and partner economies with evidence-based policy advice to design resilient and effective education systems that will help give our children and adolescents the best possible future.

Mathias Cormann,

OECD Secretary-General

Foreword

Up to the end of the 1990s, the OECD's comparisons of education outcomes were mainly based on measures of years of schooling, which don't necessarily reflect what people actually know and can do. The Programme for International Student Assessment (PISA) changed this. The idea behind PISA lay in testing the knowledge and skills of students directly, through a metric that was internationally agreed upon; linking that with data from students, teachers, schools and systems to understand performance differences; and then harnessing the power of collaboration to act on the data, both by creating shared points of reference and by leveraging peer pressure.

The aim with PISA was not to create another layer of top-down accountability, but to help schools and policy makers shift from looking upward within the education system towards looking outward to the next teacher, the next school, the next country. In essence, PISA counts what counts, and makes that information available to educators and policy makers so they can make more informed decisions.

The OECD countries that initiated PISA tried to make PISA different from traditional assessments in other ways too. In a world that rewards individuals increasingly not just for what they know, but for what they can do with what they know, PISA goes beyond assessing whether students can reproduce what they have learned in school. To do well in PISA, students have to be able to extrapolate from what they know, think across the boundaries of subject-matter disciplines, apply their knowledge creatively in novel situations and demonstrate effective learning strategies. For example, in the PISA mathematics assessment, students don't just have to demonstrate mathematical content knowledge, but also that they can think like a mathematician, translate real-world problems into the world of mathematics, reason mathematically, and interpret mathematical solutions in the original problem context. If all we do is teach our children what we know, they might remember enough to follow in our footsteps; but if they learn how to learn, and are able to think for themselves, and work with others, they can go anywhere they want.

Some people argue that the PISA tests are unfair, because they may confront students with problems they have not encountered in school. But then life is unfair, because the real test in life is not whether we can remember what we learned at school, but whether we will be able to solve problems that we can't possibly anticipate today.

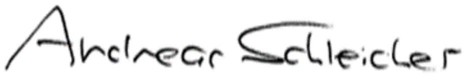
But the greatest strength of PISA lies in its working methods. Most assessments are centrally planned and then contracted to engineers who build them. That's how tests are created that are owned by an institution – but not by the people who are needed to change education. PISA turned that on its head. The idea of PISA attracted the world's best thinkers and mobilised hundreds of experts, educators and scientists from the participating countries to build a global assessment through a global expert community. Today, we would call that crowdsourcing; but whatever we call it, it created the ownership that was critical for success.

In a nutshell, PISA owes its success to a collaborative effort between the participating countries, the national and international experts and institutions working within the framework of the PISA Consortium, and the OECD. Subject-matter experts, practitioners and policy makers from the participating countries worked tirelessly to build agreement on which learning outcomes are important to measure and how to measure them best; to design and validate assessment tasks that can reflect those measures adequately and accurately across countries and cultures; and to find ways to compare the results meaningfully and reliably. The OECD co-ordinated this effort and worked with countries to make sense of the results and compile the reports.

PISA 2022 was the eighth round of the international assessment since the programme was launched in 2000, with an unprecedented number of countries taking part. Every PISA test assesses students' knowledge and skills in mathematics, science and reading; each assessment focuses on one of these subjects and provides a summary assessment of the other two. PISA 2022 also captures a wider range of cognitive, social and emotional student outcomes, captured in the new PISA Happy Life Dashboard.

Over the past two decades, PISA has become the world's premier yardstick for comparing quality, equity and efficiency in learning outcomes across countries, and an influential force for education reform. It has helped policy makers lower the cost of political action by backing difficult decisions with evidence – but it has also raised the political cost of inaction by exposing areas where policy and practice have been unsatisfactory.

These latest PISA results show that education systems can provide both high-quality instruction and equitable learning opportunities for all, and that they can support academic excellence not at the expense of student's well-being, but through students' well-being. At the same time, the results also show that many education systems are not up to this task. This publication provides many pointers as to what we can do to change this. Countries and economies that take part in PISA are culturally diverse and have attained different levels of economic development. Nevertheless, they face a common challenge--to support children and young people so they can reach their full potential as learners and human beings. PISA provides the evidence and the policy insights that countries need to address these matters. There is an urgent need to take action. The task for governments is to help education systems rise to this challenge.



Andreas Schleicher

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Reader's Guide

PISA in the pandemic

This edition of PISA includes data from 81 countries and economies. The test was originally planned to take place in 2021 but was delayed by one year due to the COVID-19 pandemic. The exceptional circumstances throughout this period, including lockdowns and school closures in many places, led to occasional difficulties in collecting some data. While the vast majority of countries and economies met PISA's technical standards (available on line), a small number did not. In prior PISA rounds, countries and economies that failed to comply with the standards, and which the PISA Adjudication Group judged to be consequential, could face exclusion from the main part of reporting. However, given the unprecedented situation caused by the pandemic, PISA 2022 results includes data from all participating education systems, including those where there were issues such as low response rates (see Annexes A2 and A4). The next section explains the potential limitations of data from countries not meeting specific technical standards. Readers are alerted to these limitations throughout the volume wherever appropriate.

It is important to note that the limitations and implications were assessed by the PISA Adjudication Group in June 2023. There may be a need for subsequent adjustments as new evidence on the quality and comparability of the data emerges. PISA will return to the standard ways of reporting for the 2025 assessment.

Adjudicated entities not meeting the sampling standards

The results of 13 adjudicated entities (i.e. countries, economies and regions within countries), listed below, will be reported with annotations. Caution is required when interpreting estimates for these countries/economies because one or more PISA sampling standards listed below were not met.

- **Overall exclusion rate. Standard 1.7**: The PISA Defined Target Population covers 95% or more of the PISA Desired Target Population. That is, school-level exclusions and within-school exclusions combined do not exceed 5%.
- **School response rate. Standard 1.11**: The final weighted school response rate is at least 85% of sampled schools. If a response rate is below 85% then an acceptable response rate can still be achieved through agreed upon use of replacement schools**.**
- **Student response rate. Standard 1.12**: The student response rate is at least 80% of all sampled students across responding schools.

The 13 entities can be grouped into two:

(i) Entities that submitted technically strong analyses, which indicated that more than minimal bias was most likely introduced in the estimates due to low response rates (falling below PISA standards): Canada, Ireland, New Zealand, the United Kingdom and Scotland.

(ii) Entities that did not meet one or more PISA sampling standards and it is not possible to exclude the possibility of more than minimal bias based on the information available at the time of data adjudication: Australia, Denmark, Hong Kong (China), Jamaica, Latvia, the Netherlands, Panama and the United States.

The Adjudication Group also noted that the bias associated with trend and cross-country comparisons might be smaller, if past data or data for other countries are biased in the same direction. Therefore, the deviations from the standards in PISA 2022 are compared with those in PISA 2018 where necessary.

(i) Entities that submitted technically strong analyses, which indicated that more than minimal bias was most likely introduced in the estimates due to low response rates (falling below PISA standards)

Canada

- **Overall exclusion rate: 5.8%.** Exclusions exceeded the acceptable rate by less than one percentage point; at the same time, the exclusion rates observed in 2022 remained relatively close to exclusion rates observed in 2018 (6.9%).
- **Student response rate: 77%. School response rates: 81% before replacement, 86% after replacement.** Student response rates decreased from 84% with respect to PISA 2018, and fell short of the target in 7 out of 10 provinces (all but New Brunswick, Prince Edward Island and Saskatchewan). A thorough non-response bias analysis was submitted, with analyses conducted separately for each province, using students' academic achievement data as auxiliary information. School response rates also fell short of the target, driven by low participation rates in two provinces (Alberta and Quebec). For these provinces, non-response bias was also examined at the school level. The analyses clearly indicate that school nonresponse has not led to any appreciable bias, but student nonresponse has given rise to a small upwards bias.

Ireland

- **Student response rate: 77%.** Student response rates decreased from 86% with respect to PISA 2018. A thorough non-response bias analysis was submitted, using external achievement data at student level as auxiliary information. The analysis provided evidence to suggest a residual upwards bias of about 0.1 standard deviations, after non-response adjustments are taken into account. On the PISA scale, considering that the standard deviation in Ireland ranged (in 2018) from 78 score points in mathematics to 91 score points in reading, this could translate in an estimated upwards bias of approximately 8 or 9 points.

New Zealand

- **Overall exclusion rate: 5.8%.** Exclusions exceeded the acceptable rate by less than one percentage point; at the same time, the exclusion rates observed in 2022 remained relatively close to exclusion rates observed in 2018 (6.8%).
- **Student response rate: 72%. School response rate: 61% before replacement, 72% after replacement).** Student response rates decreased from 83% with respect to PISA 2018. School response rates also fell short of the target. A thorough and detailed non-response bias analysis was submitted, using external achievement data at student level, but also information on chronic absenteeism, as auxiliary information, along with demographic characteristics. The analysis provided evidence to suggest a residual upwards bias of about 0.1 standard deviations, after non-response adjustments are taken into account, driven entirely by student non-response (school non-participation did not result in significant bias, in contrast). The analysis also suggested that chronically absent students are over-represented among non-respondents in PISA. On the PISA scale, considering that the standard deviation in New Zealand ranged (in 2018) from 93 score points in mathematics to 106 score points in reading, this could translate in an estimated upwards bias of approximately 10 points. The Adjudication Group also noted that the bias associated with trend and cross-country comparisons might be smaller, if past data or data for other countries are biased in the same direction. For more information, see educationcounts.govt.nz website.

The United Kingdom

The United Kingdom (excluding Scotland)

- Student response rate: 75%. School response rates: 66% before replacement, 80% after replacement. Student response rates decreased from 83% with respect to PISA 2018. School response rates also fell short of the target. An informative non-response bias analysis was submitted, using external achievement data at student level as auxiliary information, along with demographic characteristics; the analysis was limited to England as the largest subnational entity within the United Kingdom (excluding Scotland), and thus covered over 90% of the intended sample. The analysis provided evidence to suggest a small residual upwards bias of about 0.07 standard deviations for reading and 0.09 standard deviations for mathematics, after non-response adjustments are taken into account, driven entirely by student non-response (school non-participation did not result in significant bias, in contrast). On the PISA scale, considering that the standard deviation in England (in 2018) was about 101 score points in reading and 93 score points in mathematics, this could translate in an estimated upwards bias of approximately 7 or 8 points.

Scotland

- **Overall exclusion rate: 6.6%.** Exclusions exceeded the acceptable rate by a small margin; at the same time, the exclusion rates observed in 2022 remained relatively close to exclusion rates observed in 2018 (5.4%).
- **Student response rate: 79%.** Student response rates missed the standard by a small margin, but were otherwise similar to response rates in PISA 2018 (81%). A thorough non-response bias analysis was submitted, using several external achievement variables at student level as auxiliary information, along with demographic characteristics. The analysis provided evidence to suggest a residual upwards bias of about 0.1 standard deviations, after non-response adjustments are taken into account. On the PISA scale, considering that the standard deviation in Scotland (in 2018) was about 95 score points in reading and mathematics, this could translate in an estimated upwards bias of approximately 9 or 10 points. Given the similarity of response rates between 2018 and 2022, it cannot be excluded that a similar bias might be present in 2018 as well, and in many PISA 2022 participants whose response rates were similarly close to the target. For this reason, data were deemed to be comparable to previous cycles.

(ii) Entities that did not meet one or more PISA sampling standards and it is not possible to exclude the possibility of more than minimal bias based on the information available at the time of data adjudication.

Australia

- **Overall exclusion rate: 6.9%.** Exclusions exceeded the acceptable rate by a small margin; at the same time, the exclusion rates observed in 2022 remained relatively close to exclusion rates observed in 2018 (5.7%).
- **Student response rate: 76%.** Student response rates decreased from 85% with respect to PISA 2018. A technically sound non-response bias analysis was submitted; however, the strength of the evidence was limited by the fact that no external student-level achievement variables could be used in the analysis. Based on the available evidence, and on the experience of other countries participating in PISA, the Adjudication Group considered that while non-response adjustments likely limited the severity of non-response biases, a small residual upward bias could not be excluded.

Denmark

- **Overall exclusion rate: 11.6%.** Exclusions exceeded the acceptable rate by a large margin and showed a marked increase, with respect to 2018 (5.7%). The Adjudication Group noted that high levels of student exclusions may bias performance results upwards. In Denmark, a major cause behind the rise appears to be the increased share of students with diagnosed dyslexia, and the fact that more of these students are using electronic assistive devices to help them read on the screen, including during exams. The lack of such an accommodation for students with diagnosed dyslexia in the PISA assessment led schools to exclude many of these students. In order to reduce exclusion rates in the future, PISA may need to further accommodate dyslexic students, allowing the use of assistive devices.

Hong Kong (China)

- **Student response rate: 75%. School response rates: 60% before replacement, 80% after replacement).** Student response rates decreased from 85% with respect to PISA 2018. School response rates also fell short of the target (as they did in 2018). At the school level, the fact that a raw, but direct measure of school performance is used to assign schools to sampling strata (and therefore, differential non-response across strata is unlikely to cause bias), limits the risk of bias due to non-response. A non-response bias analysis was submitted; however, the strength of the evidence was limited by the fact that no external student-level achievement variables could be used in the analysis (only student grade information, already used in non-response adjustments, was available). The proxies for school and student achievement (school size and student grade) that were used in the analyses showed no or very limited relationship with participation rates. Nevertheless, based on the available evidence, and on the experience of other countries participating in PISA, the Adjudication Group considered that while non-response adjustments likely limited the severity of non-response biases, a small residual upward bias could not be excluded.

Jamaica

- **Student response rate: 68%**. Student response rates were substantially below the standard. A simple non-response bias analysis was submitted, analysing student response rates by school characteristics: this showed in particular lower response rates in rural schools and regions. A limited non-response bias analysis was also prepared by the Core C contractor, to compare respondent characteristics (both before and after nonresponse adjustment) to characteristics of the full eligible sample of students. This suggested that non-response was also related to students' grade level and gender (both variables are used in non-response adjustments). Based on the available information, it is not possible to exclude the possibility of bias; considering the analyses on student non-response conducted in other countries, the residual bias after non-response adjustments are taken into account is likely to correspond to an upward bias. The Adjudication Group also noted that a number of issues encountered during the main survey data collection could have been prevented, had Jamaica been able to do a full field trial. This was not possible because of COVID-related disruptions to schooling in 2021. In particular, enrolment information available to the national centre for school-level sampling often turned out to be imprecise; and low student participation rates could have been anticipated, had a regular field trial been conducted. As a result of inaccurate sampling frames and low student response rates, the achieved sample size for the main survey was well below target, and sampling errors for Jamaica are larger than desired. The Adjudication Group noted that apart from the challenges around sampling operations, the quality of the data met expectations for reporting.

Latvia

- **Overall exclusion rate: 7.9%**. Exclusions exceeded the acceptable rate by a large margin and showed a marked increase, with respect to 2018 (4.3%). Most of these students were excluded because they were attending school in remote or virtual mode. The Adjudication Group noted that high levels of student exclusions may bias performance results upwards.

The Netherlands

- **Overall exclusion rate: 8.4%.** Exclusions exceeded the acceptable rate by a large margin and showed a marked increase, with respect to 2018 (6.2%). Most of these students were excluded because they had a physical or intellectual disability and no adaptation was available for them. The Adjudication Group noted that high levels of student exclusions may bias performance results upwards.
- **School response rates: 66% before replacement, 90% after replacement.** A non-response bias analysis was submitted, analysing differences in performance and in other characteristics between responding schools and the total population of schools, as well as differences between replacement schools and originally sampled, but non-responding schools. This supported the case that no large bias would result from non-

response; furthermore, given the available evidence, there is no clear indication about the direction of any residual bias.

Panama

- **Student response rate: 77%.** In the challenging circumstances surrounding schooling in Panama in 2022 (teacher strikes, road blockades, and student absenteeism), student response rates decreased from 90% with respect to PISA 2018. No non-response bias analysis was submitted; the PISA national centre explained that non-response was potentially related to the agitated school climate the students found themselves when returning to their schools after the strikes. A limited non-response bias analysis was prepared by the Core C contractor, to compare respondent characteristics (both before and after nonresponse adjustment) to characteristics of the full eligible sample of students. This analysis suggested that (before non-response adjustments were taken into account), non-response was related to students' grade level, and to special needs status. Based on the available information, it is not possible to exclude the possibility of bias; considering the analyses on student non-response conducted in other countries, the residual bias after non-response adjustments are taken into account is likely to correspond to an upward bias.

The United States

- **Exclusion rates: 6.1%.** Exclusions exceeded the acceptable rate by a small margin but showed a marked increase, with respect to 2018 (3.8%), in exclusion rates for students with functional or intellectual disabilities. The Adjudication Group invited the national centres to investigate the reasons for this increase in exclusion rates and take remedial action for future cycles. It is expected that exclusion rates will fall again in the future, as a result.
- **School response rates: 51% before replacement, 63% after replacement.** School participation rates missed the standard by a substantial margin, and participation rates were particularly low among private schools (representing about 7% of the student population). A non-response bias analysis was submitted, indicating that, after replacement schools and non-response adjustments are taken into account, a number of characteristics (not including direct measures of school performance) are balanced across respondents and non-respondents. The Adjudication Group also noted that the response rate for students was only slightly above the target (80%). Based on the available information, it is not possible to exclude the possibility of bias, nor to determine its most likely direction.

Adjudication entity not reaching a strong level of comparability

The ability to compare PISA results with those of other countries, and over time, depends on the use of common test items and of standardised test-administration procedures. In addition, the common items must consistently indicate high, medium, or low proficiency, regardless of the country/economy or of the language of the test. When this condition is met, a common set of (international) parameters is used to convert students' correct, partially correct or incorrect responses into an estimated score on the PISA scale.

The PISA Technical Advisory Group issued a memo in December 2021 stating that, in each country and economy, over two-thirds of items are expected to use the international item parameters to ensure strong comparability of PISA scores across countries and economies. Where the proportion is lower, greater uncertainty (beyond the uncertainty of estimates reflected in standard errors) is associated with cross-country comparisons.

During the review of PISA 2022 results, invariance of item parameters with respect to the international ones was examined for each major language of assessment within a participating country/economy. For Viet Nam, 40% of the items were assigned unique parameters in reading (35 of 87). Viet Nam's reading results are, therefore, reported in this volume with an annotation indicating that a strong linkage to the international PISA scale could not be established.

Data underlying the figures

The data referred to in this volume are presented in Annex B and, in greater detail, including additional tables, on the PISA website (www.oecd.org/pisa). Five symbols are used to denote missing data:

- a The category does not apply in the country concerned or economy; data are therefore missing.
- c There were too few observations to provide reliable estimates (i.e. there were fewer than 30 students or fewer than 5 schools with valid data).
- m Data are not available. There was no observation in the sample; these data were not collected by the country or economy; or these data were collected but subsequently removed from the publication for technical reasons.
- w Results were withdrawn at the request of the country or economy concerned.
- x Data included in another category or column of the table (e.g. x(2) means that data are included in Column 2 of the table).

Coverage

This publication features data from 81 countries and economies, including all OECD Member countries except Luxembourg and 44 non-OECD Member countries and economies (see map of PISA countries and economies in “What is PISA?”). Specific territorial disclaimers and footnotes applicable to this publication are included in the copyright page (p.2).

The designation “Ukrainian regions (18 of 27)” refers to the 18 PISA-participating jurisdictions of Ukraine: Cherkasy Oblast, Kirovohrad Oblast, Poltava Oblast, Vinnytsia Oblast, Chernihiv Oblast, Kyiv Oblast, Sumy Oblast, the City of Kyiv, Zhytomyr Oblast, Odesa Oblast, Chernivtsi Oblast, Ivano-Frankivsk Oblast, Khmelnytskyi Oblast, Lviv Oblast, Rivne Oblast, Ternopil Oblast, Volyn Oblast and Zakarpattia Oblast. Due to Russia’s large-scale aggression against Ukraine, the following nine jurisdictions were not covered: Dnipropetrovsk Oblast, Donetsk Oblast, Kharkiv Oblast, Luhansk Oblast, Zaporizhzhia Oblast, Kherson Oblast, Mykolaiv Oblast, the Autonomous Republic of Crimea and the city of Sevastopol.

Following OECD data regulations, a visual separation between countries and territories has been used in all charts to reduce the risk of data misinterpretation.

International averages

The OECD average corresponds to the arithmetic mean of the respective country estimates. It was calculated for most indicators presented in this report.

In this publication, the OECD average is generally used when the focus is on comparing performance across education systems. In the case of some countries, data may not be available for specific indicators, or specific categories may not apply. Readers should, therefore, keep in mind that the term “OECD average” refers to the OECD Member countries included in the respective comparisons. In cases where data are not available or do not apply for all sub-categories of a given population or indicator, the “OECD average” is not necessarily computed on a consistent set of countries across all columns of a table.

In analyses involving data from multiple years, the OECD average is always reported on consistent sets of OECD Member countries, and several averages may be reported in the same table. For instance, the “OECD average-35” includes only 35 OECD Member countries that have non-missing values across all the assessments for which this average itself is non-missing. This restriction allows for valid comparisons of the OECD average over time.

The number in the label used in figures and tables indicates the number of countries included in the average:

- OECD average: Arithmetic mean across all OECD Member countries except Luxembourg.
- OECD average-35: Arithmetic mean across all OECD Member countries excluding Costa Rica, Luxembourg and Spain.
- OECD average-26: Arithmetic mean across all OECD Member countries excluding Australia, Canada, Denmark, Ireland, Latvia, Luxembourg, the Netherlands, New Zealand, Portugal, Spain, the United Kingdom and the United States.
- OECD average-23: Arithmetic mean across all OECD Member countries excluding Austria, Chile, Colombia, Costa Rica, Estonia, Israel, Lithuania, Luxembourg, the Netherlands, the Slovak Republic, Slovenia, Spain, Türkiye, the United Kingdom and the United States.

Rounding figures

Because of rounding, some figures in tables may not add up exactly to the totals. Totals, differences and averages are always calculated on the basis of exact numbers and are rounded only after calculation.

All standard errors in this publication have been rounded to one or two decimal places. Where the value 0.0 or 0.00 is shown, this does not imply that the standard error is zero, but that it is smaller than 0.05 or 0.005, respectively.

Reporting student data

The report uses “15-year-olds” as shorthand for the PISA target population. PISA covers students who are aged between 15 years 3 months and 16 years 2 months at the time of assessment and who are enrolled in school and have completed at least 6 years of formal schooling, regardless of the type of institution in which they are enrolled, and whether they are in full-time or part-time education, whether they attend academic or vocational programmes, and whether they attend public or private schools or foreign schools within the country.

Reporting school data

The principals of the schools in which students were assessed provided information on their schools’ characteristics by completing a school questionnaire. Where responses from school principals are presented in this publication, they are weighted so that they are proportionate to the number of 15-year-olds enrolled in the school.

Focusing on statistically significant differences

This volume discusses only statistically significant differences or changes. These are denoted in darker colours in figures and in bold font in tables. Unless otherwise specified, the significance level is set to 5%. See Annex A3 for further information.

Abbreviations used in this report

ESCS	PISA index of economic, social, and cultural status
GDP	Gross domestic product
ICT	Information and communications technology
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
PPP	Purchasing power parity
Score dif.	Score-point difference
S.D.	Standard deviation
SDGs	Sustainable Development Goals
S.E.	Standard error
% dif.	Percentage-point difference

Box 1. Interpreting differences in PISA scores

PISA scores do not have a substantive meaning as they are not physical units such as metres or grams. Instead, they are set in relation to the variation in results observed across all test participants. There is, theoretically, no minimum or maximum score in PISA; rather, the results are scaled to fit approximately normal distributions (i.e. means around 500 score points, standard deviations around 100 score points). In statistical terms, a one-point difference on the PISA scale therefore corresponds to an effect size (Cohen's d) of 0.01; and a 10-point difference to an effect size of 0.10.

Interpreting large differences in scores: proficiency levels

PISA scales are divided into proficiency levels. For example, for PISA 2022, the range of difficulty of mathematics items is represented by eight levels of mathematics proficiency: the simplest items correspond to Level 1c; Levels 1b, 1a, 2, 3, 4, 5 and 6 correspond to increasingly difficult items. Individuals who are proficient within the range of Level 1c are likely to be able to complete Level 1c items but are unlikely to be able to complete items at higher levels. See Chapter 3, *Volume I – PISA 2022 Results*, for a detailed description of proficiency levels in mathematics, reading, and science.

In mathematics, each proficiency level corresponds to a range of about 62 score points; in reading the difference between the cut points for each proficiency level is about 73 score points, and in science is about 75 score points. Hence, score-point differences of that magnitude can be interpreted as the difference in described skills and knowledge between successive proficiency levels.

Interpreting small differences in scores: statistical significance

Smaller differences in PISA scores cannot be expressed in terms of the difference in skills and knowledge between proficiency levels. However, they can still be compared with each other by means of verifying their "statistical significance".

A difference is called “statistically significant” if it is unlikely that such a difference can be observed in the estimates based on samples when, in fact, no true difference exists in the populations from which the samples are drawn. The results of the PISA assessments are “estimates” because they are obtained from samples of students rather than from a census of all students (i.e. which introduces a “sampling error”), and because they are obtained using a limited set of assessment tasks rather than the universe of all possible assessment tasks (i.e. which introduces a “measurement error”).

It is possible to determine the magnitude of the uncertainty associated with the estimate and to represent it as a “confidence interval”, i.e. a range defined in such a way that if the true value lies above its upper bound or below its lower bound, an estimate different from the reported estimate would be observed only with a small probability (typically less than 5%). The confidence interval needs to be taken into account when making comparisons between estimates so that differences that may arise simply due to the sampling error and measurement error are not interpreted as real differences.

Interpreting differences in scores across PISA assessments

To ensure the comparability of PISA results across different assessment years, “link errors” must be used. The link error represents uncertainty around scale values (“is a score of 432 in PISA 2022 the same as 432 in PISA 2018?”) and is therefore independent of the size of the student sample. For comparisons between mathematics results in PISA 2022 and mathematics results in 2018, the link error corresponds to 2.24 score points. For detailed information, see Box I.5.3 in Chapter 5 and Annex A7 of *Volume I – PISA 2022 Results*.

Interpreting differences in scores in terms of learning gains over a year of schooling

Knowing the typical learning gain that students make as they progress from one grade-level to the next can be useful for interpreting differences in PISA results. 20 points represents the average annual pace of learning of 15-year-olds in countries that participate in PISA. Box I.5.1 in Chapter 5 of *Volume I – PISA 2022 Results* explores this topic.

Further documentation

For further information on the PISA assessment instruments and the methods used in PISA, see the *PISA 2022 Assessment and Analytical Framework* (OECD, 2023[1]) and *PISA 2022 Technical Report* (OECD, forthcoming[2]).

StatLink

This report has StatLinks for tables and graphs. To download the matching Excel® spreadsheet, just type the link into your Internet browser, starting with the https://doi.org prefix, or click on the link from the e-book version.

References

OECD (2023), *PISA 2022 Assessment and Analytical Framework*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/dfe0bf9c-en. [1]

OECD (forthcoming), *PISA 2022 Technical Report*, OECD Publishing, Paris. [2]

Executive Summary

The COVID-19 pandemic was a stress test for education systems. It revealed whether schools and students around the globe were able to adapt to sudden and profound changes in how instruction is provided and how students learn. Now that the crisis phase has passed, policy makers and schools need to know where students stand in their learning and well-being to be able to provide remedial measures for those students who fell behind in their learning or suffered emotionally or physically from the pandemic. Updated information on the resources available and the general climate in schools after the pandemic can also help education systems prepare for the future.

Results from PISA 2022 show that some education systems coped better than others during and after pandemic-related school closures – and even learned from the experience. These resilient education systems have a few policies in common: they kept schools open for longer for more students; students encountered fewer obstacles to remote learning; and they worked to strengthen parent-school partnerships, among others.

Insights drawn from PISA 2022 data can help education systems bolster their resilience to disruption, and rethink learning and teaching. Given that it is all but inevitable that education will continue to be affected by natural and man-made shocks and disturbances, both global, such as pandemics and climate change, and local, including earthquakes, floods and war, education systems need to build their capacity to withstand adversity.

Resilient education systems

- Four education systems, namely Japan, Korea, Lithuania and Chinese Taipei, could be considered "resilient" with regard to mathematics performance, equity and well-being. Twenty-one other education systems were resilient in one or two of the three aspects considered.
- Between 2018 and 2022 trends in students' sense of belonging at school were mixed, with equal proportions of countries/economies showing stable, improving or deteriorating trends. Of the 47 education systems with improving or stable trends, only 20 maintained or attained a level of students' sense of belonging at school that was at or above the OECD average.
- Disadvantaged students in 2022 were more likely than their advantaged peers to report feeling that they have fewer opportunities to form close bonds at and with school. However, PISA 2022 results suggest that systems offering greater fairness in learning opportunities also offer greater fairness in social opportunities.
- Education systems that were resilient in mathematics performance differed in certain policies, practices and characteristics compared to other countries/economies, including in their response to COVID-19, in parental support and school climate, and in their approaches to selecting and grouping students, and to governing and allocating resources to schools.

How learning continued when schools were closed

- Two out of three countries/economies closed their schools for longer than three months for a majority of their students during the COVID-19 pandemic. Students in systems that spared more students from longer closures scored higher in mathematics and reported a greater sense of belonging at school.

- Almost one in two students indicated that, when learning at home, they frequently had difficulty motivating themselves to do schoolwork, and one in three students frequently did not fully understand school assignments, on average across OECD countries.
- Students in education systems whose schools provided more activities to maintain learning and well-being during school closures reported feeling more confident in their ability to learn autonomously and remotely if their school has to close again in the future.

Life at school and support from home

- On average across OECD countries, almost 40% of students reported that, in most lessons, the teacher does not show an interest in every student's learning or does not continue teaching until students understand the material.
- Some 30% of students, on average across OECD countries, reported that, in most or every mathematics lesson, they get distracted using digital devices; 25% of students reported that they get distracted by other students using these devices in class.
- On average across OECD countries, students who reported feeling safe and were not exposed to bullying or risks at school have a stronger sense of belonging at school, feel more confident about their capacity for self-directed learning and are overall more satisfied with life.
- In all countries/economies with available data, students who enjoy more support from their families reported a greater sense of belonging at school and life satisfaction, and more confidence in their capacity for self-directed learning. In most countries/economies, these students also reported feeling less anxiety towards mathematics.

Selecting and grouping students

- On average across OECD countries and in a majority of education systems, students who had attended pre-primary education for at least one year were considerably less likely to have repeated a grade than students who had never attended pre-primary education or who had attended for less than one year, even after accounting for socio-economic factors.
- In equitable and high-performing education systems, almost all students had attended pre-primary school; few students had repeated a grade; socio-economically advantaged and disadvantaged students were not heavily concentrated in certain schools; students were tracked into different curricular programmes relatively late; and comparatively few students were grouped by ability between classes.

Educational resources

- In more than half of all education systems with available data, and on average across OECD countries, more students in 2022 than in 2018 attended a school whose principal reported that instruction is hindered by a shortage of education staff. In 58 countries/economies, the share of students in schools whose principal reported that instruction is hindered by a lack of teaching staff increased between 2018 and 2022.
- On average across OECD countries and in 41 education systems, socio-economically disadvantaged schools were more likely than advantaged schools to suffer from a lack of or poor-quality digital resources.
- Some 29% of students in schools where the use of cell phones is banned reported using a smartphone several times a day, on average across OECD countries, illustrating that cell phone bans are not always effectively enforced.
- In those education systems where more students in 2022 than in 2018 attended schools that offer peer-to-peer tutoring, students' sense of belonging at school strengthened during the period.

School governance

- The top three quality-assurance mechanisms that appear to ensure that greater school autonomy is associated with better academic performance in mathematics are: teacher mentoring; monitoring teacher practice by having inspectors observe classes; and systematic recording of students' test results and graduation rates.
- Strong-performing school systems entrust principals and teachers with more responsibility.
- Principals of private schools were more likely than their counterparts in public schools to report that their school is prepared for remote learning – even after all the efforts public schools made to improve digital learning during the COVID-19 pandemic.

Table II.1. Snapshot of the resilience of education systems [1/2]

Countries/economies with values **above** the OECD average
Countries/economies with values **not significantly different** from the OECD average
Countries/economies with values **below** the OECD average

	Resilience in mathematics		Resilience in equity			Resilience in well-being	
	Mathematics performance	Change in mathematics performance[1]	Socio-economic fairness in mathematics[2]	Change in mathematics performance[1]: Disadvantaged students[3]	Change in mathematics performance[1]: Advantaged students[3]	Index of sense of belonging	Change in sense of belonging[1]
	Mean score	Score dif.	%	Score dif.	Score dif.	Mean index	Dif.
OECD average	472	**-15**	84.5	**-17**	**-10**	-0.02	**-0.02**
Singapore	575	6	83.0	-6	**16**	-0.22	**-0.06**
Japan	536	9	88.1	5	**18**	0.25	**0.23**
Korea	527	1	87.4	-4	5	0.26	-0.02
Estonia	510	**-13**	86.6	**-23**	-6	-0.14	0.00
Switzerland	508	-7	79.2	**-15**	2	0.36	**0.06**
Canada*	497	**-15**	89.8	**-18**	**-11**	-0.16	0.02
Netherlands*	493	**-27**	84.9	**-34**	**-18**	0.10	**-0.10**
Ireland*	492	**-8**	87.0	**-10**	-3	-0.13	0.02
Belgium	489	**-19**	78.2	**-19**	**-18**	0.02	**-0.04**
Denmark*	489	**-20**	87.8	**-23**	**-19**	0.11	**-0.10**
United Kingdom*	489	**-13**	89.0	-7	-5	-0.21	-0.02
Poland	489	**-27**	83.7	**-29**	**-24**	-0.31	**-0.07**
Austria	487	**-12**	80.6	**-20**	-5	0.44	0.05
Australia*	487	-4	85.4	**-13**	7	-0.23	**-0.04**
Czech Republic	487	**-12**	78.0	**-18**	-9	-0.28	0.00
Slovenia	485	**-24**	84.3	**-30**	**-25**	0.04	**0.14**
Finland	484	**-23**	87.6	**-26**	**-16**	0.10	**0.09**
Latvia*	483	**-13**	86.8	**-16**	**-10**	-0.25	0.01
Sweden	482	**-21**	85.0	**-24**	-9	0.09	**0.06**
New Zealand*	479	**-15**	84.2	**-23**	-9	-0.29	**-0.08**
Lithuania	475	-6	83.5	-4	-2	-0.02	**0.11**
Germany	475	**-25**	81.3	**-26**	**-18**	0.27	-0.01
France	474	**-21**	78.5	**-22**	**-16**	-0.03	**0.05**
Spain	473	m	85.8	m	m	0.27	**-0.19**
Hungary	473	**-8**	74.9	**-12**	-5	0.14	**0.06**
Portugal	472	**-21**	81.8	**-17**	**-20**	0.08	-0.04
Italy	471	**-15**	86.5	**-15**	-11	-0.06	**-0.11**
Viet Nam	469	m	86.2	m	m	-0.28	**0.05**
Norway	468	**-33**	90.4	**-31**	**-19**	0.23	**-0.14**
Malta	466	-6	90.0	-1	-10	-0.24	0.00
United States*	465	**-13**	85.1	-12	-7	-0.26	-0.03
Slovak Republic	464	**-22**	74.3	**-32**	**-15**	-0.20	**0.08**
Croatia	463	-1	87.0	-10	2	0.13	**0.08**
Iceland	459	**-36**	90.7	**-36**	**-34**	0.16	**0.06**
Israel	458	-5	80.4	-11	7	m	m
Türkiye	453	0	87.4	-8	0	-0.30	**-0.16**
Brunei Darussalam	442	**12**	84.0	**13**	**14**	-0.50	**-0.07**
Serbia	440	-8	86.6	**-15**	-10	0.18	**0.15**
United Arab Emirates	431	-4	94.2	7	**-28**	-0.20	**-0.10**

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4). 1. Change from PISA 2018 to PISA 2022 2. Socio-economic fairness is measured by the percentage of variation in student performance that is not accounted for by differences in student socio-economic status. Higher percentages indicate higher levels of fairness by student socio-economic status. 3. A socio-economically advantaged (disadvantaged) student is a student in the top (bottom) quarter of ESCS in his or her own country/economy. Notes: Values that are statistically significant are marked in bold (see Annex A3). The OECD average does not include Costa Rica and Spain for change in performance. Countries and economies are ranked in descending order of the students performance in Mathematics.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 1; and Volume I, Annex B1.

Table II.1. Snapshot of the resilience of education systems [2/2]

Countries/economies with values **above** the OECD average
Countries/economies with values **not significantly different** from the OECD average
Countries/economies with values **below** the OECD average

	Resilience in mathematics		Resilience in equity			Resilience in well-being	
	Mathematics performance	Change in mathematics performance[1]	Socio-economic fairness in mathematics[2]	Change in mathematics performance[1]: Disadvantaged students[3]	Change in mathematics performance[1]: Advantaged students[3]	Index of sense of belonging	Change in sense of belonging[1]
	Mean score	Score dif.	%	Score dif.	Score dif.	Mean index	Dif.
Greece	430	**-21**	88.2	**-16**	**-21**	-0.06	**-0.08**
Romania	428	-2	74.2	-11	13	-0.02	0.01
Kazakhstan	425	2	96.1	0	7	-0.14	**0.07**
Mongolia	425	m	81.9	m	m	-0.15	m
Bulgaria	417	**-19**	82.8	**-21**	-16	-0.19	**0.11**
Moldova	414	-6	84.4	3	-12	-0.06	0.01
Qatar	414	0	88.3	4	-5	-0.16	**0.04**
Chile	412	-6	87.5	7	**-14**	-0.22	**-0.12**
Uruguay	409	**-9**	82.1	-3	-4	-0.08	-0.05
Malaysia	409	**-32**	81.9	**-26**	**-31**	-0.27	**-0.09**
Montenegro	406	**-24**	90.5	**-29**	**-19**	0.14	**0.24**
Mexico	395	**-14**	89.6	-9	**-17**	-0.18	**-0.16**
Thailand	394	**-25**	89.9	**-22**	**-32**	-0.34	**0.05**
Peru	391	**-9**	82.7	-2	**-13**	-0.20	**-0.09**
Georgia	390	-8	92.2	-1	-13	-0.05	**0.06**
Saudi Arabia	389	**16**	93.6	**27**	7	0.00	-0.03
North Macedonia	389	**-6**	87.5	-5	**-12**	0.12	m
Costa Rica	385	**-18**	m	m	m	-0.09	**-0.15**
Colombia	383	-8	83.8	-7	-5	-0.16	0.02
Brazil	379	-5	85.2	0	**-13**	-0.21	-0.02
Argentina	378	-2	84.6	**12**	-9	-0.20	**-0.09**
Jamaica*	377	m	93.9	m	m	-0.34	m
Albania	368	**-69**	95.5	**-68**	**-57**	0.25	**-0.14**
Indonesia	366	**-13**	94.5	-6	**-23**	-0.13	0.00
Morocco	365	-3	91.5	1	-7	-0.29	0.02
Uzbekistan	364	m	98.0	m	m	0.08	m
Jordan	361	**-39**	94.8	**-32**	**-47**	-0.21	-0.04
Panama*	357	4	80.0	7	2	-0.19	0.02
Philippines	355	2	95.2	**20**	**-18**	-0.38	**-0.12**
Guatemala	344	**10**	87.9	m	m	-0.18	**-0.31**
El Salvador	343	m	85.6	m	m	-0.27	m
Dominican Republic	339	**14**	89.9	**17**	6	-0.23	0.03
Paraguay	338	**11**	88.8	m	m	-0.24	**-0.39**
Cambodia	336	**12**	98.1	m	m	-0.43	**-0.29**
Macao (China)	552	**-6**	95.0	**-14**	6	-0.31	**0.09**
Chinese Taipei	547	**16**	84.3	3	**30**	0.01	**0.06**
Hong Kong (China)*	540	**-11**	94.2	-13	-5	-0.39	0.00
Ukrainian regions (18 of 27)	441	m	86.2	m	m	-0.08	**0.16**
Cyprus	418	**-32**	89.1	**-35**	**-18**	-0.10	-0.04
Baku (Azerbaijan)	397	**-23**	94.8	**-25**	**-25**	-0.17	**0.04**
Palestinian Authority	366	m	92.6	m	m	-0.17	m
Kosovo	355	**-11**	94.3	-8	**-12**	m	m

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
1. Change from PISA 2018 to PISA 2022
2. Socio-economic fairness is measured by the percentage of variation in student performance that is not accounted for by differences in student socio-economic status. Higher percentages indicate higher levels of fairness by student socio-economic status.
3. A socio-economically advantaged (disadvantaged) student is a student in the top (bottom) quarter of ESCS in his or her own country/economy.
Notes: Values that are statistically significant are marked in bold (see Annex A3).
The OECD average does not include Costa Rica and Spain for change in performance.
Countries and economies are ranked in descending order of the students performance in Mathematics.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 1; and Volume I, Annex B1.

Table II.2. Snapshot of performance in mathematics, reading and science [1/2]

Countries/economies with values **above** the OECD average
Countries/economies with values **not significantly different** from the OECD average
Countries/economies with values **below** the OECD average

	Percentage of students who reported				
	Their school building was closed for three months or less	They feel confident or very confident that they can motivate themselves to do school work	They agree or strongly agree that their teacher s were available when they needed help	They never or only a few times had problems finding someone who could help them with their school work	Someone from their school checked in with them to ask how they were feeling every day or almost every day
	%	%	%	%	%
OECD average	49.5	58.1	67.1	75.8	13.3
Iceland	88.9	73.8	62.2	82.0	7.0
Sweden	85.4	59.8	74.6	77.6	6.6
Japan	84.5	33.9	39.2	80.4	27.9
Korea	79.2	57.0	70.0	81.0	7.2
Switzerland	76.5	64.8	73.0	83.1	13.1
Croatia	70.3	72.4	70.0	75.2	16.0
Finland	68.8	63.5	73.1	80.6	16.8
Serbia	68.5	54.1	62.7	69.9	18.4
Lithuania	66.8	62.8	71.6	77.0	15.6
Uzbekistan	64.9	68.5	62.7	58.5	38.2
France	64.2	65.1	63.2	78.5	9.5
Moldova	62.9	65.1	69.2	73.2	31.4
Viet Nam	60.1	65.7	85.7	71.3	23.6
Thailand	59.1	55.1	71.9	72.2	21.3
New Zealand*	58.1	51.3	72.6	72.1	12.0
Portugal	58.0	65.6	75.1	83.3	11.9
Bulgaria	54.2	65.8	64.5	65.1	21.4
Spain	54.1	63.0	61.5	78.4	11.6
Morocco	53.7	57.0	48.1	61.2	18.4
Australia*	53.5	54.4	71.5	68.7	14.7
Albania	53.3	69.4	76.3	61.4	41.1
Montenegro	50.5	54.1	65.3	67.1	20.5
Austria	50.4	63.9	68.4	75.1	16.2
Dominican Republic	50.2	66.0	66.5	64.3	28.1
Romania	49.6	65.1	63.5	74.0	19.7
Israel	49.5	48.3	58.8	73.3	16.2
Belgium	49.4	51.9	69.4	77.9	8.5
Kazakhstan	48.5	75.6	72.1	77.6	31.0
Uruguay	48.1	60.2	63.4	70.5	17.0
Hungary	47.8	61.8	71.3	79.3	16.8
Saudi Arabia	47.7	73.7	61.2	71.2	24.0
Chile	47.3	63.3	67.4	63.5	12.2
Georgia	47.0	59.5	66.2	70.3	29.0
Philippines	45.1	68.1	81.5	65.6	18.3
Peru	45.1	71.5	67.9	64.4	21.3
Estonia	45.0	56.3	76.2	79.3	8.0
Panama*	44.9	79.1	63.6	65.2	24.4
Malta	43.7	52.2	69.6	71.6	11.4
El Salvador	43.6	76.7	71.2	68.9	22.7
Guatemala	43.3	75.7	73.0	76.6	28.4

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Countries and economies are ranked in descending order of the percentage of students who reported their school was closed for three months or less.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

Table II.2. Snapshot of performance in mathematics, reading and science [2/2]

Countries/economies with values **above** the OECD average
Countries/economies with values **not significantly different** from the OECD average
Countries/economies with values **below** the OECD average

	Percentage of students who reported				
	Their school building was closed for three months or less	They feel confident or very confident that they can motivate themselves to do school work	They agree or strongly agree that their teachers were available when they needed help	They never or only a few times had problems finding someone who could help them with their school work	Someone from their school checked in with them to ask how they were feeling every day or almost every day
	%	%	%	%	%
Canada*	43.1	51.4	72.7	71.4	12.6
Poland	43.0	44.1	51.7	76.4	12.8
Slovak Republic	42.9	60.0	65.9	73.2	21.1
Qatar	42.8	64.8	67.4	64.9	19.8
North Macedonia	42.1	68.9	65.7	64.3	22.2
Brunei Darussalam	41.3	45.5	81.7	60.2	13.8
Cambodia	40.6	75.1	72.0	63.4	27.8
Slovenia	40.5	52.7	65.5	80.0	15.6
Paraguay	40.5	71.6	70.0	71.5	31.4
Indonesia	40.1	70.2	79.6	72.5	17.1
Mongolia	39.5	63.6	54.3	60.2	13.7
Italy	38.8	58.3	63.2	77.1	11.4
Türkiye	38.7	61.5	62.3	67.8	13.6
Greece	38.2	51.8	52.7	70.9	11.3
Mexico	37.6	72.2	65.5	71.7	20.2
Malaysia	37.5	57.4	67.8	67.8	17.4
United Kingdom*	36.6	47.0	58.2	70.4	9.4
United States*	36.3	54.6	72.2	71.8	12.7
Netherlands*	36.3	50.1	74.0	81.9	6.3
Colombia	36.2	82.4	72.2	73.3	24.1
Argentina	35.7	61.3	60.3	69.0	19.5
United Arab Emirates	35.2	69.0	73.6	66.2	22.6
Jordan	35.1	62.3	51.1	55.8	21.7
Czech Republic	30.9	m	68.0	77.2	13.6
Costa Rica	29.7	69.6	69.6	74.8	15.1
Germany	28.7	59.3	73.0	76.8	9.1
Latvia*	26.9	51.1	74.1	72.0	15.8
Brazil	26.2	52.0	61.2	70.0	18.3
Jamaica*	24.2	56.5	64.1	63.2	21.5
Ireland*	19.6	48.0	67.7	74.9	8.6
Norway	m	m	m	m	m
Singapore	m	m	m	m	m
Denmark*	m	m	m	m	m
Chinese Taipei	90.2	52.7	70.4	78.1	7.2
Macao (China)	58.1	54.4	64.4	71.8	5.0
Kosovo	58.1	63.2	59.9	66.6	28.0
Hong Kong (China)*	47.5	53.1	70.3	69.8	5.6
Palestinian Authority	46.4	64.6	55.1	63.7	23.2
Cyprus	45.7	57.4	63.0	63.2	14.3
Ukrainian regions (18 of 27)	41.6	64.5	69.7	71.6	27.8
Baku (Azerbaijan)	39.0	69.4	71.6	55.7	27.8

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Countries and economies are ranked in descending order of the percentage of students who reported their school was closed for three months or less.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

Table II.3. Snapshot of life at school and support from home [1/2]

Countries/economies with values **above** the OECD average
Countries/economies with values **not significantly different** from the OECD average
Countries/economies with values **below** the OECD average

	Change in the percentage of students[1] who reported			Percentage of students who reported			
	Their teachers gives extra help in most or every lesson	Other students made fun of them	They skipped some classes at least once	They were absent from school for more than three consecutive months at least once during their school years	They become distracted by using digital devices in most or every lesson	They felt safe in other places (outside the classroom) at school	They witnessed a fight on school property in which someone got hurt
	% dif.	% dif.	% dif.	%	%	%	%
OECD average	**-2.6**	**-1.9**	**-5.4**	7.6	30.5	89.9	17.0
Italy	**16.4**	**-4.9**	**-14.0**	m	37.8	90.1	9.9
Peru	**9.4**	-1.0	**-26.5**	13.8	20.7	85.8	20.1
Croatia	**8.4**	**-1.5**	**-10.1**	7.6	22.8	94.3	6.7
Japan	**8.3**	**-4.0**	**-1.0**	m	5.2	m	m
Colombia	**6.8**	**-5.2**	**-26.3**	12.6	30.4	91.7	21.4
Korea	**5.9**	-1.0	-0.7	2.0	9.4	89.7	7.8
Uruguay	**3.9**	-1.5	**-14.3**	11.0	52.0	90.0	27.4
Germany	**3.5**	0.2	**-5.8**	m	28.1	m	m
Israel	2.6	m	-1.0	10.2	31.1	m	m
Spain	**2.3**	-0.7	**-7.6**	m	32.8	m	m
Chile	1.9	**-5.6**	**-3.5**	10.3	51.3	86.0	36.1
Malaysia	1.1	**-8.4**	**-10.9**	13.3	20.3	81.3	12.7
Ireland*	0.7	**-4.9**	-1.6	5.2	19.8	93.4	16.4
Viet Nam	0.7	**-3.1**	**-5.1**	6.1	14.3	84.3	13.3
Sweden	0.3	-0.2	**2.0**	6.8	36.9	88.7	18.8
Argentina	0.0	**-4.5**	**-38.8**	10.8	53.7	86.3	25.6
Slovenia	0.0	**-2.1**	**-5.0**	7.7	23.3	92.4	9.0
Costa Rica	0.0	**-3.3**	**-17.6**	7.7	34.1	89.0	25.9
Hungary	0.0	**-3.0**	**-9.5**	6.8	28.2	92.5	7.3
United States*	-0.4	**-5.5**	-1.4	6.6	29.6	87.3	33.3
Netherlands*	-0.4	-0.4	**-5.2**	7.9	33.0	93.5	9.0
Mexico	-1.2	**-5.3**	**-11.5**	11.5	25.3	89.4	10.7
Brazil	-1.5	**-4.6**	**-31.0**	11.0	45.1	87.2	19.0
Singapore	**-1.6**	**-5.6**	**-4.0**	4.8	27.3	92.9	13.3
Romania	-1.7	**-3.4**	-0.1	7.8	34.6	87.5	16.5
Montenegro	**-2.6**	**-2.9**	**-8.4**	7.8	34.8	91.1	27.8
Denmark*	**-2.7**	-0.2	0.5	5.0	31.5	m	m
France	**-2.9**	**2.0**	**-3.1**	10.2	30.3	91.5	18.0
Kazakhstan	**-2.9**	**-9.8**	**-29.2**	9.4	23.2	85.9	7.6
Austria	-3.0	-0.6	**-8.4**	m	23.4	92.7	7.2
Qatar	**-3.1**	**-4.8**	**-15.1**	11.4	22.1	88.0	31.1
Slovak Republic	**-3.3**	**-3.7**	**-13.7**	11.2	26.0	89.9	10.8
Estonia	**-3.5**	1.6	0.3	5.7	28.1	89.5	11.4
New Zealand*	**-3.8**	**-3.8**	-1.8	13.2	45.7	87.0	28.0
Portugal	**-4.0**	**-1.4**	**-28.6**	3.7	34.1	95.3	15.8
Bulgaria	**-4.0**	**-7.3**	**-21.6**	11.7	45.9	85.6	17.0
Norway	**-4.3**	1.3	**2.1**	m	31.2	90.5	16.4
Serbia	**-4.3**	**-4.3**	**-11.6**	8.3	34.1	93.5	7.2
United Arab Emirates	**-4.4**	**-4.7**	**-13.4**	13.3	24.4	88.3	23.1

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4). 1. Change from PISA 2018 to PISA 2022 Notes: Values that are statistically significant are marked in bold (see Annex A3).

Countries and economies are ranked in descending order of the change between PISA 2018 and PISA 2022 in the percentage of students who reported that their teachers gave them extra help.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

Table II.3. Snapshot of life at school and support from home [2/2]

Countries/economies with values **above** the OECD average
Countries/economies with values **not significantly different** from the OECD average
Countries/economies with values **below** the OECD average

	Change in the percentage of students[1] who reported			Percentage of students who reported			
	Their teachers gives extra help in most or every lesson	Other students made fun of them	They skipped some classes at least once	They were absent from school for more than three consecutive months at least once during their school years	They become distracted by using digital devices in most or every lesson	They felt safe in other places (outside the classroom) at school	They witnessed a fight on school property in which someone got hurt
	% dif.	% dif.	% dif.	%	%	%	%
Greece	**-4.9**	-0.5	1.4	6.8	38.1	88.6	17.2
Australia*	**-4.9**	**-4.3**	**-2.8**	9.3	40.3	88.4	m
Albania	**-5.1**	0.1	**5.4**	12.1	25.2	91.1	21.4
Indonesia	**-5.4**	**-9.8**	**-9.1**	8.2	25.1	82.7	12.3
United Kingdom*	**-5.7**	-0.7	**1.7**	11.4	18.6	87.1	38.3
Belgium	**-6.0**	0.4	-1.1	7.8	28.4	93.2	17.5
Switzerland	**-6.5**	-0.1	**-7.4**	5.4	22.9	94.7	12.0
Finland	**-7.0**	**-1.2**	-1.6	3.4	40.6	92.0	14.3
Jordan	**-7.1**	**-4.0**	**-21.6**	14.5	27.9	79.3	23.1
Thailand	**-7.2**	**-9.0**	**-17.1**	10.3	26.4	84.0	18.2
Latvia*	**-8.4**	**-1.6**	**-7.9**	6.8	41.9	89.0	23.0
Iceland	**-8.5**	0.5	**-2.6**	5.9	32.4	85.8	11.9
Lithuania	**-9.8**	**-3.9**	**-10.7**	4.5	25.4	90.4	8.7
Türkiye	**-11.2**	**2.3**	**-7.5**	7.5	23.5	79.9	26.9
Czech Republic	**-14.1**	**-2.8**	**-4.8**	7.4	30.8	90.1	15.3
Poland	**-25.5**	**-4.8**	**8.9**	6.4	34.2	87.5	12.2
Malta	m	**-3.8**	**-17.2**	13.4	16.4	89.8	30.8
Saudi Arabia	m	**-4.5**	**-13.9**	6.4	19.2	84.2	19.2
Philippines	m	**-21.4**	**-4.7**	30.3	40.9	80.8	34.5
Panama*	m	**-8.5**	**-24.6**	14.7	27.3	87.4	17.0
Dominican Republic	m	**-9.6**	**-11.2**	15.4	30.9	86.3	23.8
Moldova	m	**1.7**	**-4.0**	10.9	32.7	56.8	16.7
Brunei Darussalam	m	**-11.5**	**-9.4**	15.2	11.5	78.3	17.0
Cambodia	m	m	**9.2**	17.2	19.2	82.9	27.2
Uzbekistan	m	m	m	18.5	19.7	80.2	16.1
Paraguay	m	m	**-9.0**	20.8	32.1	88.9	16.8
Guatemala	m	m	**-7.3**	20.4	14.2	89.0	6.4
Jamaica*	m	m	m	13.6	29.7	74.9	38.9
El Salvador	m	m	m	16.4	23.6	90.6	19.6
Mongolia	m	m	m	10.5	32.9	75.7	18.6
North Macedonia	m	m	m	10.1	28.9	90.3	14.9
Georgia	m	**-5.0**	**-26.6**	14.4	29.0	86.2	11.6
Canada*	m	**-2.8**	**-4.2**	8.3	43.2	88.5	m
Morocco	m	**-7.5**	**-19.6**	16.8	38.9	71.4	13.6
Macao (China)	**2.0**	**-4.1**	**-4.6**	10.6	13.3	89.5	m
Chinese Taipei	0.2	**-3.4**	**-3.3**	2.5	15.9	92.2	5.0
Hong Kong (China)*	-1.1	**-9.8**	**-4.5**	7.8	16.4	92.4	8.5
Cyprus	**-8.5**	**-6.2**	**-14.1**	9.6	34.9	83.4	24.8
Baku (Azerbaijan)	m	**-10.9**	**-9.1**	17.1	32.6	77.0	19.5
Kosovo	m	**-1.7**	**5.1**	10.5	30.1	86.3	22.9
Ukrainian regions (18 of 27)	m	**-4.8**	m	9.9	24.1	92.5	12.0
Palestinian Authority	m	m	m	13.6	25.9	79.3	19.8

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

1. Change from PISA 2018 to PISA 2022

Notes: Values that are statistically significant are marked in bold (see Annex A3). *Countries and economies are ranked in descending order of the change between PISA 2018 and PISA 2022 in the percentage of students who reported that their teachers gave them extra help.*

Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

Table II.4. Snapshot of selecting and grouping students [1/2]

Countries/economies with values **above** the OECD average
Countries/economies with values **not significantly different** from the OECD average
Countries/economies with values **below** the OECD average

	Percentage of students who			Isolation index[1]		
	Had attended pre-primary school for one year or more	Had repeated a grade at least once in primary, lower secondary or upper secondary school	Attended a school where students are grouped by ability into different classes for all subjects	Disadvantaged students from all other students	Advantaged students from all other students	First age at selection in the education system
	%	%	%	Mean index	Mean index	Years
OECD average	94.2	9.4	6.7	0.18	0.19	14.3
Japan	99.7	0.0	6.2	0.19	0.16	15
Hungary	99.3	6.5	1.6	0.30	0.30	14
Singapore	98.9	3.7	7.3	0.14	0.20	12
Israel	98.6	8.1	13.9	0.23	0.18	15
France	98.4	10.8	2.5	0.20	0.20	15
Mexico	98.4	9.0	8.3	0.22	0.26	15
Iceland	98.4	1.4	0.6	0.12	0.10	16
Denmark*	98.3	3.5	1.4	0.16	0.14	16
Thailand	97.9	6.9	18.4	0.20	0.30	15
Belgium	97.7	26.5	10.1	0.18	0.19	12
Greece	97.6	3.3	0.5	0.14	0.21	15
Spain	97.6	21.7	6.2	0.14	0.18	15
Finland	97.4	2.7	0.9	0.09	0.10	16
Argentina	97.4	13.5	1.5	0.20	0.29	12
Jamaica*	97.4	20.4	19.3	0.09	0.14	12
Malta	97.3	4.6	22.3	0.11	0.14	16
Austria	97.3	15.6	3.5	0.24	0.22	10
Italy	97.2	8.6	1.1	0.16	0.17	14
Romania	97.1	5.0	13.5	0.25	0.30	15
Viet Nam	97.0	4.7	19.3	0.24	0.26	15
Peru	96.8	13.5	4.1	0.34	0.34	14
Czech Republic	96.7	4.2	2.9	0.23	0.26	11
Netherlands*	96.6	23.3	37.2	0.14	0.18	12
Estonia	96.5	3.6	6.3	0.17	0.18	16
Uruguay	96.4	24.0	12.0	0.16	0.29	15
Norway	96.1	0.0	0.0	0.10	0.11	16
Latvia*	96.0	2.9	6.6	0.19	0.16	16
Serbia	95.8	1.6	8.3	0.15	0.21	15
Germany	95.8	19.2	10.0	0.18	0.22	10
Korea	95.7	3.3	8.3	0.14	0.13	15
Switzerland	95.5	13.4	26.1	0.15	0.20	12
Sweden	95.4	4.0	0.0	0.13	0.15	16
New Zealand*	95.1	4.9	1.4	0.16	0.12	16
Chile	95.0	16.8	2.5	0.20	0.34	16
Moldova	94.9	2.9	4.4	0.19	0.25	16
Malaysia	94.8	w	29.6	0.15	0.23	15
United Kingdom*	94.7	2.1	5.0	0.16	0.19	16
Ireland*	94.7	3.8	0.6	0.13	0.11	15
Portugal	94.6	17.2	3.9	0.15	0.18	15
El Salvador	94.3	19.8	18.6	0.24	0.31	16
Bulgaria	94.2	5.0	7.4	0.29	0.23	14
Slovak Republic	94.2	7.6	10.0	0.28	0.28	11

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4). Note: The questions on grade repetition were not administered in Japan and Norway. The share of grade repeaters has been set to zero in agreement with countries since there is a policy of automatic grade progression and more than 99.5% of students were enrolled in the same grade level. 1. The isolation index measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students or from a specific group of students (e.g. advantaged students), based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure (no segregation) and 1 to full isolation/segregation. *Countries and economies are ranked in descending order of the percentage of students who reported they had attended pre-primary school for one year or more.* Source: OECD, PISA 2022 Database, Annex B1, Chapter 4 and Table B3.1.4.

Table II.4. Snapshot of selecting and grouping students [2/2]

- Countries/economies with values **above** the OECD average
- Countries/economies with values **not significantly different** from the OECD average
- Countries/economies with values **below** the OECD average

	Percentage of students who			Isolation index[1]		First age at selection in the education system
	Had attended pre-primary school for one year or more	Had repeated a grade at least once in primary, lower secondary or upper secondary school	Attended a school where students are grouped by ability into different classes for all subjects	Disadvantaged students from all other students	Advantaged students from all other students	
	%	%	%	Mean index	Mean index	Years
Slovenia	92.3	3.5	0.2	0.21	0.20	15
Costa Rica	91.5	19.1	20.7	m	m	12
Colombia	91.3	39.4	18.3	0.26	0.36	15
United Arab Emirates	89.8	11.4	14.3	0.19	0.19	14
Brazil	89.7	22.1	7.5	0.19	0.31	15
Jordan	88.1	12.7	39.6	0.16	0.15	16
Paraguay	87.6	18.1	8.5	0.18	0.29	12
Poland	87.3	3.1	3.0	0.21	0.24	15
Australia*	87.3	4.8	2.7	0.20	0.19	a
Lithuania	86.7	1.8	4.8	0.20	0.21	14
Canada*	85.9	5.0	8.2	0.12	0.12	a
Qatar	85.1	13.7	27.4	0.19	0.24	15
Indonesia	85.0	12.0	23.2	0.20	0.24	16
Philippines	84.6	25.5	20.5	0.12	0.17	16
Georgia	83.4	3.0	2.5	0.18	0.18	15
Croatia	82.9	1.2	16.1	0.13	0.20	15
Panama*	82.3	20.4	5.4	0.24	0.35	15
Mongolia	81.1	3.7	6.5	0.21	0.27	15
Albania	79.9	5.5	16.1	0.19	0.24	15
United States*	78.6	8.0	1.6	0.17	0.20	a
Guatemala	77.9	28.6	12.9	0.24	0.32	m
Türkiye	76.3	1.5	10.9	0.18	0.27	14
Brunei Darussalam	75.6	8.3	34.7	0.11	0.20	12
Montenegro	75.6	2.3	27.2	0.12	0.14	15
Dominican Republic	74.4	25.8	17.0	0.13	0.20	15
Morocco	71.1	45.5	22.9	0.13	0.26	12
Saudi Arabia	71.1	6.3	47.3	0.14	0.16	15
Uzbekistan	68.2	5.9	8.1	0.11	0.12	16
North Macedonia	63.3	3.0	21.1	0.09	0.15	15
Kazakhstan	62.0	2.4	15.2	0.13	0.16	15
Cambodia	60.4	28.8	36.8	0.14	0.21	15
Hong Kong (China)*	98.9	12.3	13.2	0.13	0.27	14
Macao (China)	98.9	21.9	6.3	0.15	0.24	15
Chinese Taipei	98.4	0.9	6.3	0.17	0.17	15
Cyprus	95.9	5.2	5.1	0.13	0.14	15
Palestinian Authority	95.1	11.1	34.9	0.12	0.12	15
Ukrainian regions (18 of 27)	82.5	2.6	16.3	0.22	0.17	15
Kosovo	70.0	4.7	16.5	0.12	0.15	m
Baku (Azerbaijan)	62.2	3.9	23.9	0.12	0.21	15

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Note: The questions on grade repetition were not administered in Japan and Norway. The share of grade repeaters has been set to zero in agreement with countries since there is a policy of automatic grade progression and more than 99.5% of students were enrolled in the same grade level.

1. The isolation index measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students or from a specific group of students (e.g. advantaged students), based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure (no segregation) and 1 to full isolation/segregation.

Countries and economies are ranked in descending order of the percentage of students who reported they had attended pre-primary school for one year or more.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 4 and Table B3.1.4.

Table II.5. Snapshot of investments in a solid foundation for learning and well-being [1/2]

Countries/economies with values **above** the OECD average
Countries/economies with values **not significantly different** from the OECD average
Countries/economies with values **below** the OECD average

	Percentage of students in schools whose principal reported that					Percentage of students in schools where peer-to-peer tutoring is provided	Daily time spent learning on digital devices at school
	The school's capacity to provide instruction is hindered to some extent or a lot by:				The use of cell phones is not allowed on school premises		
	A lack of teaching staff	Inadequate or poorly qualified teaching staff	A lack of digital resources	Inadequate or poor-quality digital resources			
	%	%	%	%	%	%	Hours
OECD average	46.7	25.4	23.9	24.6	33.6	51.3	2.0
Belgium	80.1	50.7	17.0	19.7	36.4	27.8	1.5
Germany	73.2	25.3	38.3	37.0	59.4	47.2	1.4
Estonia	72.9	51.3	14.8	16.5	15.2	53.3	1.6
Netherlands*	71.8	45.5	7.6	7.5	7.8	43.2	2.1
Ireland*	67.8	31.0	15.2	12.6	55.5	19.1	1.4
Latvia*	67.7	29.6	27.3	29.8	21.0	76.7	2.2
France	67.0	30.4	23.2	22.6	23.4	45.2	1.3
Japan	63.7	42.9	48.6	46.8	38.1	47.1	1.7
Portugal	62.1	26.9	29.2	39.5	22.4	68.5	1.5
Australia*	61.2	26.7	9.9	9.9	53.4	38.3	2.9
Cambodia	59.4	27.2	77.3	72.0	33.4	77.6	1.7
Jordan	57.5	50.3	64.0	65.5	79.2	63.1	1.5
Morocco	56.0	44.3	77.6	74.7	80.7	48.1	1.7
Saudi Arabia	55.3	38.9	56.7	56.7	71.6	86.1	1.5
Dominican Republic	55.1	19.5	56.5	49.2	54.9	60.7	1.5
Greece	54.3	26.5	56.3	50.9	94.9	39.5	1.2
United Kingdom*	53.5	18.9	19.0	21.2	66.1	53.7	1.6
Costa Rica	51.3	45.0	68.2	68.0	12.7	38.9	1.5
Korea	50.9	15.7	27.9	28.7	23.3	78.8	2.2
Colombia	49.4	24.3	66.9	63.0	30.8	40.5	1.9
Italy	48.9	38.2	13.6	14.3	46.0	60.5	2.6
Poland	47.5	23.4	13.2	19.2	14.6	83.7	1.8
Croatia	45.7	20.2	33.3	33.1	23.2	56.0	1.8
Israel	45.6	44.0	42.8	39.7	33.4	65.1	1.5
Argentina	45.5	24.0	67.7	67.5	29.7	71.5	1.8
Brunei Darussalam	45.0	20.0	50.6	49.6	80.9	69.6	1.5
New Zealand*	44.5	23.7	8.7	7.2	17.6	71.4	2.8
Czech Republic	44.2	29.9	24.0	26.4	20.3	29.7	1.4
Chile	43.7	22.7	33.0	32.4	33.8	51.3	1.5
Canada*	43.6	23.8	10.8	9.1	9.9	71.1	2.0
Thailand	43.2	15.9	53.8	50.6	12.4	97.3	2.5
Philippines	42.7	19.1	63.1	62.9	30.0	88.4	2.3
Viet Nam	42.4	29.2	48.5	43.4	11.6	93.6	2.3
Slovenia	42.2	22.9	9.8	12.2	45.0	63.0	1.3
United States*	41.8	18.4	6.6	9.4	13.6	74.4	m
Malta	41.4	19.1	10.7	10.7	69.0	9.2	1.5
Slovak Republic	41.0	16.3	30.4	43.3	41.7	48.9	1.9
Hungary	40.7	16.1	33.8	38.1	19.4	57.2	1.7
Spain	40.5	21.3	27.0	24.4	67.4	42.9	1.7
Uruguay	40.3	28.4	51.7	47.5	6.4	34.1	1.6

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4). Countries and economies are ranked in descending order of the percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered to some extent or a lot by a lack of teaching staff.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Table II.5. Snapshot of investments in a solid foundation for learning and well-being [2/2]

Countries/economies with values **above** the OECD average
Countries/economies with values **not significantly different** from the OECD average
Countries/economies with values **below** the OECD average

	Percentage of students in schools whose principal reported that					Percentage of students in schools where peer-to-peer tutoring is provided	Daily time spent learning on digital devices at school
	The school's capacity to provide instruction is hindered to some extent or a lot by:				The use of cell phones is not allowed on school premises		
	A lack of teaching staff	Inadequate or poorly qualified teaching staff	A lack of digital resources	Inadequate or poor-quality digital resources			
	%	%	%	%	%	%	Hours
Mongolia	38.3	37.8	80.2	80.5	40.5	82.9	2.6
Moldova	37.8	14.0	30.9	40.5	35.8	86.0	1.7
Guatemala	36.9	11.7	60.5	52.3	65.6	37.4	2.0
Kazakhstan	36.2	25.7	30.1	32.0	28.8	78.5	2.0
Sweden	35.5	36.8	3.5	6.7	37.9	20.8	3.0
Jamaica*	34.8	9.6	82.1	79.3	49.5	55.9	1.7
Norway	34.6	11.5	7.8	12.4	57.4	31.4	3.1
Switzerland	33.9	16.6	12.5	11.0	45.5	28.5	1.8
Austria	33.0	18.4	25.9	20.7	17.7	63.0	1.7
Mexico	30.8	18.3	52.7	48.5	21.9	67.8	1.8
El Salvador	29.3	21.8	36.0	35.8	45.0	60.0	1.7
United Arab Emirates	27.0	21.0	19.8	21.2	77.0	75.6	2.4
Montenegro	26.9	9.7	66.3	65.4	52.6	59.6	1.3
Lithuania	26.8	3.7	7.2	12.1	8.0	79.3	2.4
Panama*	26.5	11.9	71.2	67.5	43.3	35.1	1.6
Singapore	26.1	7.8	1.5	2.7	15.5	65.8	2.3
Uzbekistan	24.3	27.7	51.2	39.6	62.6	56.2	1.9
Malaysia	24.2	21.9	55.2	56.4	64.4	88.4	1.9
Finland	23.1	12.8	18.1	16.5	7.5	17.3	2.7
Paraguay	22.7	10.5	63.0	51.5	29.6	45.4	1.2
Brazil	22.3	11.7	34.5	34.5	37.5	53.0	1.6
Serbia	18.4	10.1	35.4	35.5	17.5	58.1	1.3
Bulgaria	17.9	9.3	9.4	8.1	25.0	61.8	2.1
Indonesia	17.8	12.7	41.5	41.5	43.5	85.3	2.4
Peru	17.7	22.8	63.0	59.5	63.9	60.6	1.5
Türkiye	16.4	17.0	13.4	12.8	62.0	74.4	1.8
Qatar	16.3	10.3	11.8	10.0	67.8	83.4	1.6
Albania	14.9	6.7	62.0	65.0	89.6	73.4	1.8
North Macedonia	14.6	3.6	38.0	39.1	58.8	58.9	1.8
Romania	12.7	9.8	25.8	31.9	22.2	66.6	1.9
Iceland	11.4	8.5	14.8	13.4	23.7	57.0	3.0
Denmark*	10.1	5.8	6.7	6.5	40.3	20.7	3.8
Georgia	6.8	12.4	49.2	47.3	29.7	77.9	1.6
Palestinian Authority	66.9	61.9	74.8	74.9	84.6	63.0	1.6
Baku (Azerbaijan)	59.4	41.0	68.7	63.0	39.5	58.3	2.4
Hong Kong (China)*	44.7	35.1	16.2	13.3	67.0	67.6	1.9
Cyprus	32.0	20.3	36.1	37.8	44.3	24.7	1.3
Ukrainian regions (18 of 27)	30.1	22.0	77.1	75.1	13.4	71.3	3.0
Chinese Taipei	29.4	19.9	17.6	13.6	45.8	78.2	2.3
Kosovo	27.1	12.9	69.3	71.1	67.7	84.8	1.7
Macao (China)	21.0	27.3	35.6	41.5	46.3	91.1	2.3

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4). *Countries and economies are ranked in descending order of the percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered to some extent or a lot by a lack of teaching staff.*
Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Table II.6. Snapshot of investments in a solid foundation for learning and well-being [1/2]

Countries/economies with values **above** the OECD average
Countries/economies with values **not significantly different** from the OECD average
Countries/economies with values **below** the OECD average

	Index of school responsibility for curriculum	Index of preparedness for digital learning: Differences between private and public schools	Percentage of students in schools where: The academic record of students is sometimes or always considered for admission to school	Students are likely or very likely to be transferred to another school for low academic achievement	Students are assessed through mandatory standardised tests at least once a year	Internal evaluations or self-evaluations are in place	Teacher mentoring is in place
	Mean index	Dif.	%	%	%	%	%
OECD average	2.43	**0.36**	51.6	24.9	72.5	95.3	81.9
Estonia	4.78	-0.23	57.8	13.0	98.1	99.7	96.0
Japan	4.45	**0.41**	99.5	78.5	m	98.6	87.5
Netherlands*	4.39	0.08	91.2	40.6	m	96.9	94.1
United Kingdom*	4.29	0.02	21.5	1.4	95.4	100.0	96.8
Thailand	4.27	**-0.30**	92.9	54.3	83.5	100.0	84.4
Czech Republic	4.20	m	60.1	41.5	75.1	97.4	98.9
New Zealand*	4.15	**0.35**	52.8	1.2	m	100.0	98.2
Italy	3.49	-0.35	63.7	64.8	95.7	97.1	59.3
Australia*	3.38	**0.39**	65.6	4.1	m	97.6	99.1
Colombia	3.20	**1.04**	66.9	28.2	77.6	99.4	83.8
Georgia	3.11	0.32	53.4	34.6	85.0	99.3	81.8
Slovak Republic	3.07	0.12	61.2	27.1	78.3	95.7	64.9
Belgium	2.83	0.21	53.6	44.0	33.6	89.8	92.1
Finland	2.76	0.24	10.8	2.4	55.9	95.1	70.8
Latvia*	2.76	m	64.6	20.6	98.0	100.0	88.4
Israel	2.74	m	66.1	20.9	74.6	98.1	94.0
Ireland*	2.72	-0.09	15.4	3.1	m	100.0	95.7
Indonesia	2.69	0.02	87.6	23.8	89.0	99.1	99.1
Denmark*	2.56	m	27.2	7.6	80.2	88.6	88.3
Chile	2.52	**0.53**	9.8	7.8	97.5	93.7	65.4
Guatemala	2.52	**0.89**	45.9	23.7	87.5	92.5	46.0
Brunei Darussalam	2.51	**0.26**	92.9	18.9	89.0	100.0	100.0
Korea	2.39	m	50.0	27.6	75.6	99.6	98.0
Iceland	2.38	m	16.3	1.1	30.0	100.0	52.3
Jamaica*	2.36	m	97.4	18.6	53.3	100.0	96.1
Hungary	2.30	0.25	95.0	43.7	88.8	93.4	85.8
United Arab Emirates	2.30	**-0.15**	91.1	23.6	96.7	99.9	98.5
Poland	2.21	0.08	92.4	52.0	55.6	89.6	94.8
Singapore	2.18	m	99.0	4.1	97.6	99.1	100.0
Lithuania	2.17	0.29	47.9	14.2	58.0	99.6	78.6
United States*	2.13	m	41.3	5.6	92.3	91.8	99.1
Bulgaria	2.06	m	96.1	21.0	m	95.9	81.1
Qatar	2.03	**-0.28**	78.3	39.2	74.3	100.0	95.4
Sweden	1.96	-0.20	6.4	0.7	100.0	97.7	87.6
Peru	1.88	**1.03**	25.2	10.7	73.2	89.8	99.7
Cambodia	1.87	m	98.2	23.1	70.4	97.0	93.5
Canada*	1.81	**0.78**	48.0	8.5	83.0	83.3	90.9
Norway	1.60	m	11.2	0.5	78.9	97.5	92.9
Portugal	1.60	**0.63**	12.8	10.3	63.7	99.1	78.9
Malta	1.59	m	48.1	0.0	100.0	100.0	94.2

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Countries and economies are ranked in descending order of the percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered to some extent or a lot by a lack of teaching staff.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

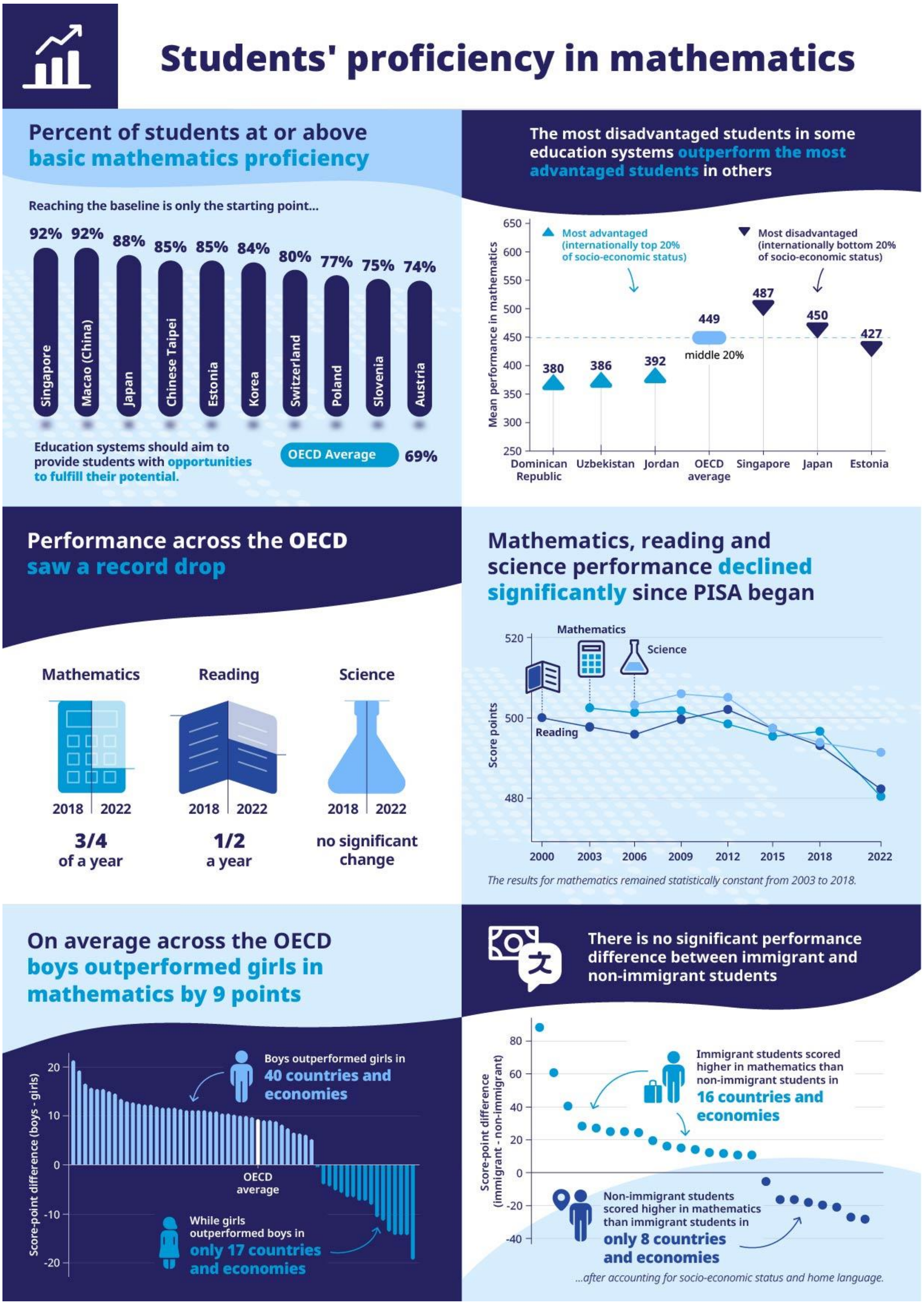
Table II.6. Snapshot of investments in a solid foundation for learning and well-being [2/2]

Countries/economies with values **above** the OECD average
Countries/economies with values **not significantly different** from the OECD average
Countries/economies with values **below** the OECD average

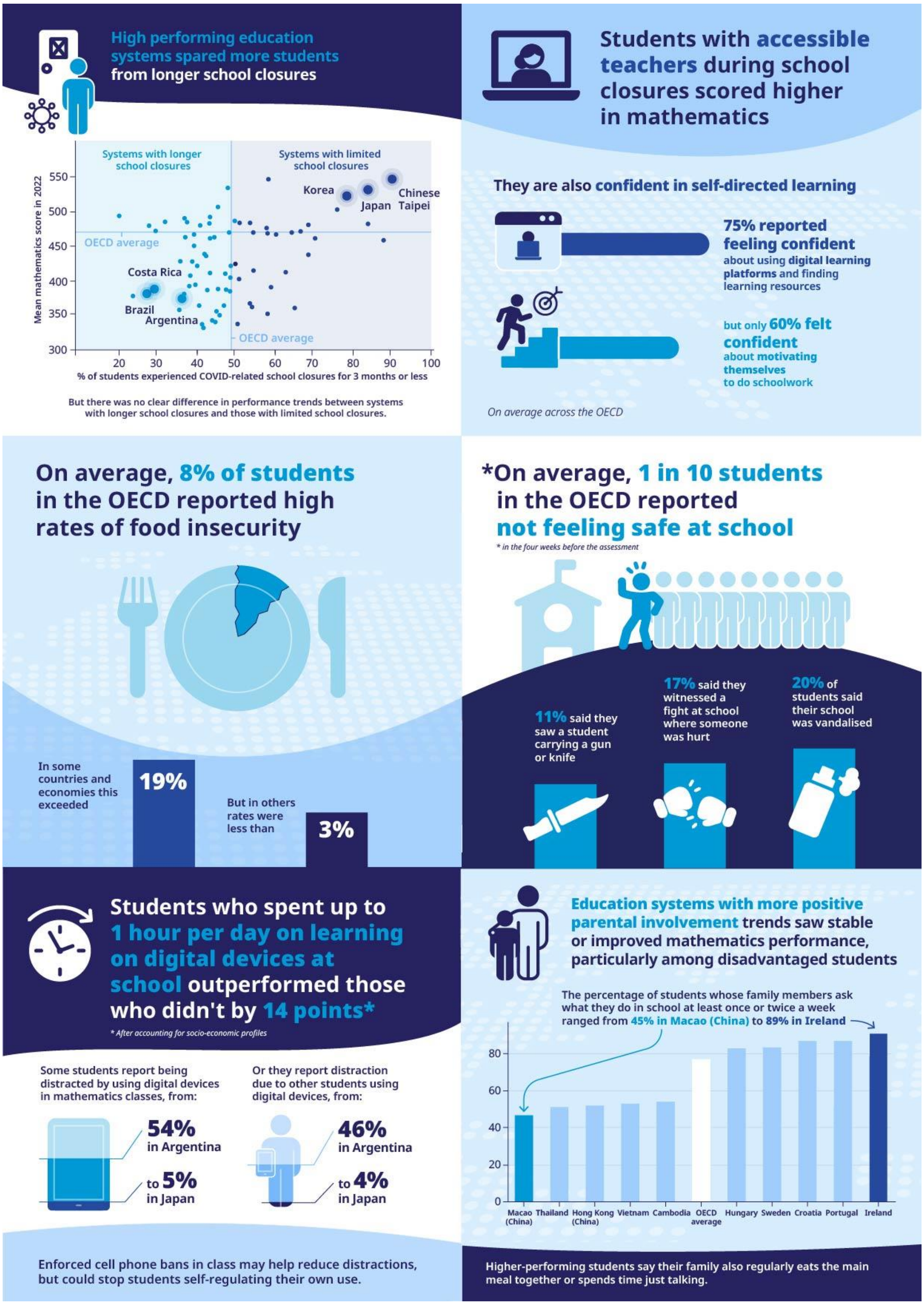
	Index of school responsibility for curriculum	Index of preparedness for digital learning: Differences between private and public schools	Percentage of students in schools where: The academic record of students is sometimes or always considered for admission to school	Students are likely or very likely to be transferred to another school for low academic achievement	Students are assessed through mandatory standardised tests at least once a year	Internal evaluations or self-evaluations are in place	Teacher mentoring is in place
	Mean index	Dif.	%	%	%	%	%
Austria	1.55	0.04	83.4	28.5	49.0	93.2	71.7
Philippines	1.47	0.37	78.9	13.0	57.8	100.0	99.4
Slovenia	1.45	**-0.06**	72.4	73.7	48.2	99.9	84.2
El Salvador	1.42	0.37	60.3	14.4	61.8	95.2	96.0
Moldova	1.40	m	71.0	4.8	98.6	99.1	95.0
Germany	1.37	0.81	77.5	32.5	60.3	84.8	43.5
Brazil	1.36	**0.89**	34.4	12.0	89.0	97.0	91.2
France	1.35	0.05	55.7	22.8	95.1	88.2	71.4
Malaysia	1.33	0.22	69.6	15.5	99.4	98.7	100.0
Mongolia	1.33	**0.26**	61.0	39.0	98.6	98.9	98.0
Kazakhstan	1.28	0.15	72.0	28.6	86.1	99.0	99.4
Spain	1.24	**0.73**	15.3	2.8	61.5	91.5	38.6
Switzerland	1.23	0.51	70.1	27.6	65.6	84.8	83.3
Mexico	1.19	**1.23**	65.5	27.7	81.1	91.4	53.8
Argentina	1.16	**0.36**	28.9	15.7	80.7	88.6	57.0
Albania	1.06	**1.61**	82.3	30.3	77.3	100.0	98.1
Montenegro	1.02	m	77.8	8.1	62.5	100.0	100.0
Panama*	1.01	m	86.6	36.7	m	99.0	100.0
Serbia	1.01	**1.07**	94.8	28.5	m	98.8	97.7
Viet Nam	1.00	-0.08	92.8	57.9	99.3	100.0	92.1
Paraguay	0.96	**0.48**	59.7	25.9	81.7	95.2	49.7
North Macedonia	0.95	**0.39**	73.4	55.9	m	100.0	100.0
Dominican Republic	0.93	**0.44**	57.3	23.6	75.9	93.8	77.1
Romania	0.92	m	87.7	36.8	89.0	100.0	90.2
Uruguay	0.85	**0.35**	35.6	9.2	55.5	88.5	77.0
Croatia	0.71	-0.10	97.3	36.0	47.5	96.7	97.6
Costa Rica	0.68	**1.33**	71.8	59.2	31.4	95.3	76.3
Türkiye	0.62	-0.05	72.9	22.5	58.2	99.4	85.7
Uzbekistan	0.59	m	53.7	20.5	100.0	98.6	97.4
Saudi Arabia	0.59	0.17	83.3	36.9	68.2	99.0	99.3
Morocco	0.51	0.57	50.5	13.5	83.0	98.1	94.1
Jordan	0.48	**0.69**	67.3	30.7	90.8	99.0	98.2
Greece	0.31	**1.41**	16.0	51.9	82.6	98.9	89.7
Macao (China)	4.29	m	100.0	83.8	89.7	97.7	99.6
Hong Kong (China)*	4.04	0.22	98.0	66.8	m	100.0	89.4
Chinese Taipei	2.95	0.00	73.7	67.6	100.0	98.0	87.7
Ukrainian regions (18 of 27)	2.16	m	47.5	15.1	77.7	98.8	95.2
Cyprus	1.00	0.00	47.1	24.0	85.9	94.0	97.3
Baku (Azerbaijan)	0.93	m	68.2	37.3	98.6	96.9	69.5
Kosovo	0.83	m	95.7	48.7	87.7	98.0	94.7
Palestinian Authority	0.34	**0.77**	62.6	22.7	73.5	97.4	98.2

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Countries and economies are ranked in descending order of the percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered to some extent or a lot by a lack of teaching staff.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Infographic 1. PISA 2022 key results [1/2]



Infographic 2. PISA 2022 key results [2/2]



What is PISA?

OECD's Programme for International Student Assessment (PISA)

What should citizens know and be able to do? In response to that question and to the need for internationally comparable evidence on student performance, the Organisation for Economic Co-operation and Development (OECD) launched the Programme for International Student Assessment (PISA) in 1997 and the first assessment was conducted in 2000.

PISA is a triennial survey of 15-year-old students around the world that assesses the extent to which they have acquired key knowledge and skills essential for full participation in social and economic life. PISA assessments do not just ascertain whether students near the end of their compulsory education can reproduce what they have learned; they also examine how well students can extrapolate from what they have learned and apply their knowledge in unfamiliar settings, both in and outside of school.

While the eighth assessment was originally planned for 2021, the PISA Governing Board postponed the assessment to 2022 because of the many difficulties education systems faced due to the COVID-19 pandemic.

What is unique about PISA?

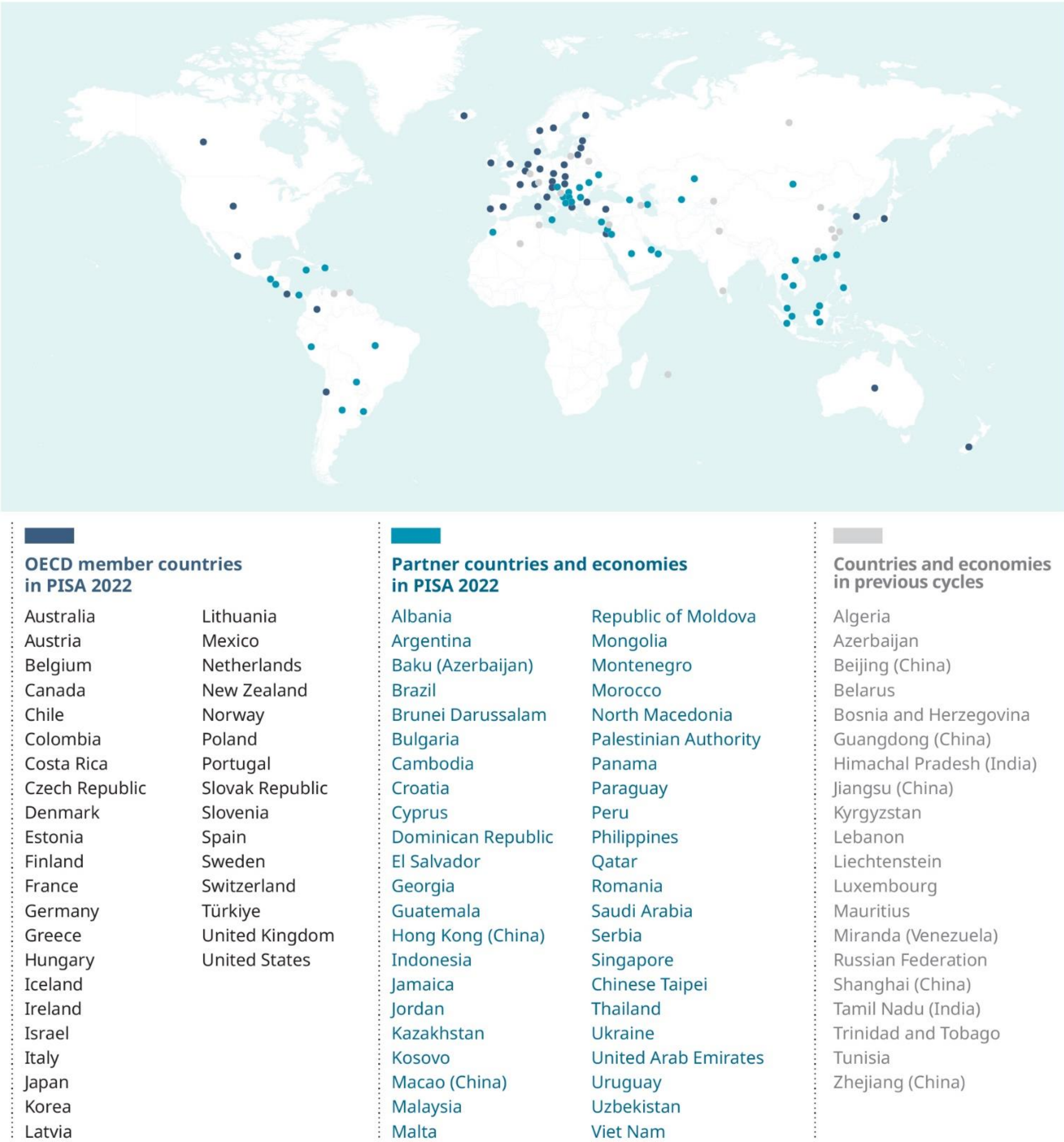
PISA is unique because of its:

- **policy orientation**, which links data on student learning outcomes with data on students' backgrounds and attitudes towards learning, and with key aspects that shape their learning, in and outside of school; by doing so, PISA can highlight differences in performance and identify the characteristics of students, schools and education systems that perform well
- **innovative concept of student competency**, which refers to students' capacity to apply their knowledge and skills in key areas, and to analyse, reason and communicate effectively as they identify, interpret and solve problems in a variety of situations
- **relevance to lifelong learning**, as PISA asks students to report on their motivation to learn, their beliefs about themselves, and their learning strategies
- **regularity**, which enables countries to monitor their progress in meeting key learning objectives
- **breadth of coverage**, which, in PISA 2022, encompassed 37 OECD countries and 44 partner countries and economies.

Which countries and economies participate in PISA?

PISA is used as an assessment tool in many regions around the world. It was implemented in 43 countries and economies in the first assessment (32 in 2000 and 11 in 2002), 41 in the second assessment (2003), 57 in the third assessment (2006), 75 in the fourth assessment (65 in 2009 and 10 in 2010), 65 in the fifth assessment (2012), 72 in the sixth assessment (2015) and 79 in the seventh assessment (2018). In 2022, 81 countries and economies participated in PISA.

Figure II.1. Map of PISA countries and economies



First-time participants include Cambodia, El Salvador, Guatemala, Jamaica, Mongolia, the Palestinian Authority, Paraguay and Uzbekistan, while Cambodia, Guatemala and Paraguay participated in the PISA for Development programme. Chinese provinces/municipalities (Beijing, Shanghai, Jiangsu and Zhejiang) and Lebanon are participants in PISA 2022 but were unable to collect data because schools were closed during the intended data collection period.

Key features of PISA 2022

The content

The PISA 2022 survey focused on mathematics, with reading, science and creative thinking as minor areas of assessment. In each round of PISA, one subject is tested in detail, taking up nearly half of the total testing time. The main subject in 2022 was mathematics, as it was in 2012 and 2003. Reading was the main subject in 2000, 2009 and 2018, science was the main subject in 2006 and 2015.

With this alternating schedule, a thorough analysis of achievement in each of the three core subjects is presented every nine (or 10) years; and an analysis of trends is offered every three (or four) years. As this cycle was postponed from 2021 to 2022 due to the COVID-19 pandemic, this cycle offers results one year later than previous cycles.

Creative thinking was assessed as an innovative domain for the first time in PISA 2022.

The *PISA 2022 Assessment and Analytical Framework* (OECD, 2023[1]) presents definitions and more detailed descriptions of the subjects assessed in PISA 2022:

- Mathematics is defined as students' capacity to reason mathematically and to formulate, employ and interpret mathematics to solve problems in a variety of real-world contexts. It includes concepts, procedures, facts and tools to describe, explain and predict phenomena. It helps individuals make well-founded judgements and decisions, and become constructive, engaged and reflective 21st-century citizens.
- Reading is defined as students' capacity to understand, use, evaluate, reflect on and engage with texts in order to achieve one's goals, develop one's knowledge and potential, and participate in society.
- Science literacy is defined as students' ability to engage with science-related issues, and with the ideas of science, as a reflective citizen. A scientifically literate person is willing to engage in reasoned discourse about science and technology, which requires the competencies to explain phenomena scientifically, evaluate and design scientific enquiry, and interpret data and evidence scientifically.
- Creative thinking is defined as students' ability to engage productively in the generation, evaluation and improvement of ideas that can result in original and effective solutions, advances in knowledge and impactful expressions of imagination.

PISA 2022 also included an assessment of young people's financial literacy, which was optional for countries and economies.

The students

Some 690 000 students took the assessment in 2022, representing about 29 million 15-year-olds in the schools of the 81 countries and economies.

PISA students are aged between 15 years 3 months and 16 years 2 months at the time of the assessment, and they have completed at least 6 years of formal schooling. Using this age across countries and over time allows PISA to consistently compare the knowledge and skills of individuals born in the same year who are still in school at age 15, despite the diversity of their education histories in and outside of school. They can be enrolled in any type of institution, participate in full-time or part-time education, in academic or vocational programmes, and attend public or private schools or foreign schools within the country.

The population of PISA-participating students is defined by the PISA Technical Standards as are the students who are excluded from participating (see Annex A2). The overall exclusion rate within a country is required to be below 5% to ensure that, under reasonable assumptions, any distortions in national mean scores would remain within plus or minus five score points, i.e. typically within the order of magnitude of two standard errors of sampling. Exclusion could take place either through the schools that participated or the students who participated within schools. There are several reasons why a school or a student could be excluded from PISA. Schools might be excluded because they are situated in remote regions and are inaccessible, because they are very small, or because of organisational or operational factors that precluded participation. Students might be excluded because of intellectual disability or limited proficiency in the language of the assessment.

The assessment

As was done in 2015 and 2018, computer-based tests were used in most countries and economies in PISA 2022, with assessments lasting a total of two hours for each student. In mathematics and reading, a multi-stage adaptive approach was applied in computer-based tests whereby students were assigned a block of test items based on their performance in preceding blocks.

Test items were a mixture of multiple-choice questions and questions requiring students to construct their own responses. The items were organised in groups based on a passage setting out a real-life situation. More than 15 hours of test items for reading, mathematics, science and creative thinking were covered, with different students taking different combinations of test items.

There were six different kinds of test forms representing various combinations of two of the four domains (i.e. the three core domains, plus the innovative domain). Typically, within each country/economy, 94% of students received test forms covering 60 minutes of mathematics as the major domain, and another 60 minutes of one of the three minor or innovative domains (reading, science or creative thinking). In addition, 6% of students received test forms composed of two minor domains. Each test form was completed by enough students to allow for estimations of proficiency and psychometric analyses of all items by students in each country/economy and in relevant subgroups within a country/economy, such as boys and girls, or students from different social and economic backgrounds.

In addition, PISA 2022 retained a paper-based version of the assessment that included only trend items that had been used in prior paper-based assessments. This paper-based assessment was implemented in four countries: Cambodia, Guatemala, Paraguay and Viet Nam.

The assessment of financial literacy was offered again in PISA 2022 as an optional computer-based test. It was based on a revised framework based on the PISA 2022 updated framework. The cognitive instruments included trend items and a set of new interactive items that were developed specifically for PISA 2022.

The questionnaires

Students answered a background questionnaire, which took about 35 minutes to complete. The questionnaire sought information about the students' attitudes, dispositions and beliefs, their homes, and their school and learning experiences. School principals completed a questionnaire that covered school management and organisation, and the learning environment. Both students and schools responded to items in the Global Crises Module in their respective questionnaires. These items aimed to elicit their perspectives on how learning was organised when schools were closed because of the COVID-19 pandemic.

Some countries/economies also distributed additional questionnaires to elicit more information. These included: a questionnaire for teachers asking about themselves and their teaching practices; and a questionnaire for parents asking them to provide information about their perceptions of and involvement in their child's school and learning.

Countries/economies could also choose to distribute two other optional questionnaires for students: a questionnaire about students' familiarity with computers and a questionnaire about students' well-being. A financial literacy questionnaire was also distributed to the students in the countries/economies that conducted the optional financial literacy assessment.

Where can you find the results?

The initial PISA 2022 results are released in five volumes:

- **Volume I: The State of Learning and Equity in Education** (OECD, 2023[2]) presents two of the main education outcomes: performance and equity. The volume examines countries' and economies' performance in mathematics, reading and science and how performance has changed over time. In addition, equity in education is analysed from the perspectives of inclusion and fairness, focusing on students' gender, socio-economic status and immigrant background.
- **Volume II: Learning During – and From – Disruption** (OECD, 2023[3]) examines various student-, school-, and system-level characteristics, and analyses how these are related to student outcomes, such as performance, equity and student well-being. The volume also presents data on how learning was organised when schools were closed because of COVID-19. These results can assist countries in building resilience in their education systems, schools and students so they are all better able to withstand disruptions in teaching and learning.
- **Volume III** (OECD, forthcoming[4]) is on creative thinking. This volume examines students' capacity to generate original and diverse ideas in the 66 countries and economies that participated in the innovative domain assessment for the PISA 2022 cycle. It explores how student performance and attitudes associated with creative thinking vary across and within countries, and with different student- and school-level characteristics. The chapter also offers an insight into students' participation in creative activities, how opportunities to engage in creative thinking vary across schools and socio-demographic factors, and how these are associated with different student outcomes including well-being.
- **Volume IV** (OECD, forthcoming[5]) is on financial literacy. This volume examines 15-year-old students' understanding about money matters in the 23 countries and economies that participated in this optional assessment. The volume explores how the financial literacy of 15-year-old students is associated with their competencies in other subjects and how it varies across socio-demographic factors. It also offers an overview of students' experiences with money, of their financial behavior and attitudes, and of exposure to financial literacy in school.
- **Volume V** (OECD, forthcoming[6]) on students' readiness for lifelong learning. This volume presents key aspects of students' preparedness to continue learning throughout their lives. These include students' attitudes towards mathematics, their social and emotional skills, and their aspirations for future education and a career.

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OECD (2023), *PISA 2022 Assessment and Analytical Framework*, PISA, OECD Publishing, Paris, https://doi.org/10.1787/dfe0bf9c-en. [1]

OECD (2023), *PISA 2022 Results (Volume I): The State of Learning and Equity in Education*. [2]

OECD (2023), *PISA 2022 Results (Volume II): Learning During – and From – Disruption*. [3]

OECD (forthcoming), *PISA 2022 Results (Volume III)*. [4]

OECD (forthcoming), *PISA 2022 Results (Volume IV)*. [5]

OECD (forthcoming), *PISA 2022 Results (Volume V)*. [6]

1 Resilient education systems

This chapter identifies resilient education systems – those that weathered the disruptions related to the COVID-19 pandemic and are better prepared to ensure that learning continues even in adverse circumstances. It also discusses practices and policies in five specific areas that are common to resilient systems: learning during and from school closures; life at school and support from home; students' pathways through school; investments in education; and school governance. Each of these will be examined more closely in the following chapters.

For Australia*, Canada*, Denmark*, Hong Kong (China)*, Ireland*, Jamaica*, Latvia*, the Netherlands*, New Zealand*, Panama*, the United Kingdom* and the United States*, caution is advised when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

By 2023, four years after the beginning of the COVID-19 pandemic, most countries had adapted to life with the virus. The health situation had stabilised, and most countries around the world had lifted public health and social-distancing measures (WHO, 2023[1]; WHO, 2023[2]). There was a concurrent push to move beyond the pandemic and resume life "as normal" in what many called "the post-COVID era".

Yet, the pandemic had taken a major toll on many sectors, including education. Now that the crisis phase has passed, policy makers and schools need to know where students stand in their learning and well-being to be able to provide remedial measures for those students who fell behind in their learning or suffered emotionally or physically from the pandemic. This is key to avoiding long-term damage to students' well-being and productivity, and to ensure equity in education. Similarly, updated information on the resources available and the general climate in schools after the pandemic can help education systems plan for the future.

What the data tell us

- Four education systems, namely Japan, Korea, Lithuania and Chinese Taipei, could be considered "resilient" with regard to mathematics performance, equity and well-being. Twenty-one other education systems were resilient in one or two of the three aspects considered.
- Between 2018 and 2022 trends in students' sense of belonging at school were mixed, with equal proportions of countries/economies showing stable, improving or deteriorating trends. Of the 47 education systems with improving or stable trends, only 20 maintained or attained a level of students' sense of belonging at school that was at or above the OECD average.
- Disadvantaged students in 2022 were more likely than their advantaged peers to report feeling that they have fewer opportunities to form close bonds at and with school. However, PISA 2022 results suggest that systems offering greater fairness in learning opportunities also offer greater fairness in social opportunities.
- Education systems that were resilient in mathematics performance differed in certain policies, practices and characteristics compared to other countries/economies, including in their response to COVID-19, in parental support and school climate, and in their approaches to selecting and grouping students, and to governing and allocating resources to schools.

This volume focuses on resilience: the ability to recover quickly, or even grow, from adversity (OECD, 2021[3]). COVID-19 was a stress test for resilience in education, as it showed whether systems, schools and students around the globe were able to adapt to sudden and profound changes in how students are taught and how they learn. The 2022 round of the OECD Programme for International Student Assessment (PISA) was conducted during or right after the crisis phase of the COVID-19 pandemic. PISA 2022 provides information on how education systems, schools, teachers and students across countries responded to this global challenge.

This chapter identifies resilient education systems, while Chapters 2 through 6 explore policies, practices and characteristics of learning environments that are common to some of the education systems that coped better than others during and after the pandemic, including in their responses to school closures (Bertling et al., 2020[4]). Insights drawn from the data can help education systems bolster their resilience and rethink learning and teaching. Given that it is all but inevitable that education can and will continue to be affected by disruptions both global, such as pandemics and climate change, and local, including earthquakes, floods and war, education systems need to build their capacity to withstand adversity.

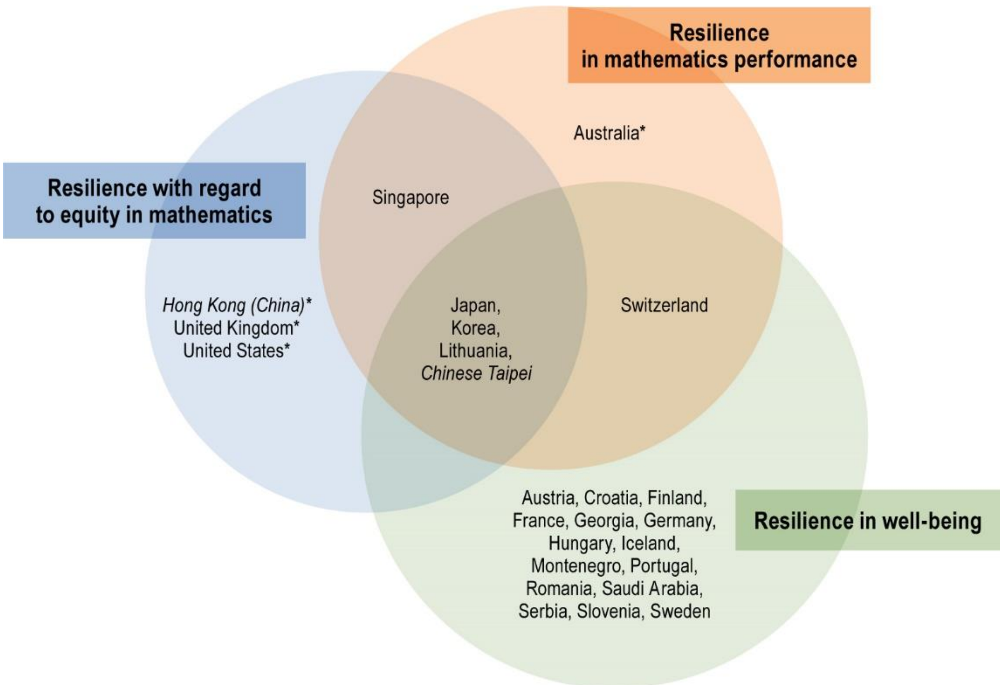
What PISA 2022 tells us about the resilience of education systems

Education systems that were resilient in 2022

This volume identifies four overall resilient education systems among the 81 countries/economies that participated in PISA 2022 (see Figure II.1.1). Japan, Korea, Lithuania and Chinese Taipei performed well, were equitable and students reported a sense of belonging at school that was at or above the OECD average in 2022. In addition, these systems showed no deterioration in these aspects between 2018 and 2022 (i.e. they were resistant; see Box II.1.1). Twenty-one education systems were resilient in one or two of the three aspects considered.

Fifteen education systems (Austria, Croatia, Finland, France, Georgia, Germany, Hungary, Iceland, Montenegro, Portugal, Romania, Saudi Arabia, Serbia, Slovenia and Sweden) were resilient in well-being. Students' sense of belonging was at or above the OECD average with no negative short-term trend since 2018. Australia* was resilient in mathematics, showing high performance in mathematics (i.e. above the OECD average) with no negative short-term trend, while Switzerland was resilient in both mathematics and students' well-being. Hong Kong (China)*, the United Kingdom*, the United States* were considered resilient in equity because they were socio-economically fair (the variance unexplained by students' socio-economic status as well as students' average mathematics performance were at or above the OECD average) in 2022 and advantaged and disadvantaged students maintained their level of performance between 2018 and 2022. Singapore was resilient in mathematics and in equity, meaning it showed high performance and socio-economical fairness (the latter at the OECD average in 2022). Between 2018 and 2022, the performance of advantaged students in Singapore improved while the performance of disadvantaged students remained stable.[1]

Figure II.1.1. Resilient education systems



Note: Fifteen countries/economies were missing data for one or more aspects of resilience: Cambodia, Costa Rica, El Salvador, Guatemala, Israel, Jamaica*, Kosovo, Mongolia, North Macedonia, the Palestinian Authority, Paraguay, Spain, Ukrainian regions (18 of 27), Uzbekistan and Viet Nam (see Table II.1).
Source: OECD, PISA 2022 Database.

Box II.1.1. How PISA examines resilience of education systems

Two perspectives on resilience: Strength and preparedness, and resistance

PISA 2022 examined the resilience of education systems from two different angles: how resistant to disruptions systems were shown to be during the pandemic (*resistance*); and how strong and prepared they are for future challenges of a similar nature (*strength and preparedness*).

The analysis of *systems' resistance* aimed to identify systems that bounced back from the pandemic and recovered or gained strength by looking at short-term trends. Data, collected in 2022 when most of the participating countries/economies had lifted social-distancing and health measures, and schools returned to "normal", are compared to pre-COVID data collected in 2018.

The analysis also considers *systems' strength and preparedness* in 2022, since maintaining low levels of performance, equity and well-being from before to after the COVID-19 pandemic cannot be interpreted as a sign of a system's resilience. To succeed and be prepared for future challenges, an education system needs to perform at an adequate level.

Three aspects of resilience: Performance in mathematics, equity and well-being

This analysis focused on three aspects of resilience: performance, equity and well-being. Since mathematics was the main subject assessed in PISA 2022, students' performance and performance trends in the subject were examined. For equity, socio-economic fairness in 2022 and short-term trends in socio-economic parity were examined. To determine *socio-economic fairness*, the proportion of the variation in student performance that was unrelated to students' socio-economic status was considered along with a country's/economy's average performance. Considering both is necessary in order to exclude countries where all students, advantaged and disadvantaged, performed poorly. In education systems with high levels of equity, all students fulfil their potential regardless of their background. *Socio-economic parity* was determined by examining indicators of whether the performance of advantaged and disadvantaged students improved or at least remained stable between 2018 and 2022 (see Annex A1).

The analysis also included well-being, specifically if students, in 2022, felt they belonged at school and whether education systems maintained or improved students' sense of belonging at school between 2018 and 2022 (OECD, 2019[5]).

In PISA 2022 an education system was resilient in:

- **mathematics** if students' average performance in mathematics was stable or improved between 2018 and 2022 and was at or above the OECD average in 2022.
- **equity** if the variation in performance unexplained by students' socio-economic status and average performance were at or above the OECD average in 2022 (socio-economic fairness); and if the performance of disadvantaged and advantaged students remained stable or improved between 2018 and 2022 (trends in socio-economic parity).
- **well-being** if students' average sense of belonging at school was stable or improved between 2018 and 2022 and was at or above the OECD average in 2022.

Note: Annex A1 provides details about each of the measures, including the definition of socio-economic advantage and disadvantage.

Education systems that resisted overall negative trends

While only a few systems could be considered resilient, several other systems showed a remarkable capacity to bounce back from the COVID-19 disruptions.

Less than half of the participating education systems improved or maintained their performance

Between 2018 and 2022, mathematics performance deteriorated by almost 15 score points, on average across OECD countries – an unprecedented decline following a stable trend between 2015 and 2018; and until 2018, changes in performance over consecutive PISA assessments had never exceeded 4 score points (see (OECD, forthcoming[6]) for more information on performance and trends). While this decline was observed in over half of the PISA-participating countries/economies, seven countries/economies, namely Brunei Darussalam, Cambodia, the Dominican Republic, Guatemala, Paraguay, Saudi Arabia and Chinese Taipei, managed to improve their performance by over 10 score points. However, of these, only Chinese Taipei scored above the OECD average in mathematics in 2022 (547 points compared to the OECD average of 472 points. Twenty-four other countries/economies maintained their 2018 performance level, but only Australia*, Japan, Korea, Singapore and Switzerland did so at a high level, with scores ranging from 487 to 575 points. Lithuania maintained its performance at the OECD average level over the period.

These systems may have been able to adapt quickly to pandemic-related upheavals, may have had protective policies and practices in place, or may have used remedial measures to recover rapidly from the disruptions related to COVID-19. In other words, these systems were resistant. Of course, there may be other reasons why these systems maintained or improved their performance over the period (see Box II.1.2).

Box II.1.2. Alternative explanations for stable or improving trends in mathematics performance

The stable or improving trends in mathematics performance observed in some systems may be a sign of resistance to COVID-19 disruptions but there could be other explanations for these results. Differences in the severity and duration of the pandemic and pandemic-related measures imposed in the country/economy as well as unequal access to resources to combat the pandemic (e.g. access to vaccines or testing equipment, preparedness of the healthcare system), over which education systems had no control, may have had an impact on performance trends. These differences are likely to vary by countries'/economies' per capita GDP. Figure II.1.2 shows that, although all countries were affected by COVID-19 to some extent, the evolution of the pandemic varied widely.

The performance trends observed between 2018 and 2022 may be linked to other causes that are not directly related to the pandemic. In some cases, stable trends between 2018 and 2022 could be a reflection of an education system's lack of effectiveness or efficiency prior to the pandemic; thus the disruptions and school closures caused by COVID-19 may not have affected learning to a great extent. In other cases, disruptions such as earthquakes or war may have already led to cancelled classes or school closures, which, in turn, led to similar learning losses in the past. In all of these cases, performance would have been maintained, but at low levels. In fact, PISA 2022 data show that three out of four education systems whose performance did not deteriorate over the period had low scores in 2022.

By contrast, some systems showed signs of long-term performance decline even before the pandemic. In these systems, the deterioration in performance between 2018 and 2022 may not be solely due to the pandemic. Nevertheless, as shown in Volume I of the PISA 2022 Results, for many countries/economies, the change in PISA performance observed between 2018 and 2022 deviates significantly from the trends observed over earlier assessments (OECD, forthcoming[6]). While the context of the 2018-2022 trends is important, countries/economies should be focused on working towards or maintaining a high level of performance. Therefore, PISA 2022 focuses on the actual 2018-2022 trends (i.e. without considering the long-term trends) and also considers the level of performance, equity and well-being attained in 2022 when identifying resilient education systems.

Figure II.1.2. Confirmed COVID-19 cases and deaths

Notes: Only countries and economies with available data are shown.

Deaths are not included in the count of cases. The number of deaths does not take into account the number of deaths recorded in countries/economies during a three-year period under "normal" conditions (unaffected by the COVID-19 pandemic).

Countries and economies are ranked in descending order of the total cumulative COVID-19 cases per million as of 14 June 2023.

Sources: a. WHO.

b. https://github.com/owid/covid-19-data/blob/master/scripts/input/un/population_latest.csv, consulted on 14 June 2023.

While some systems improved equity and students' sense of belonging, few reached high levels

In most of the education systems that showed declines in performance, disadvantaged students performed less well in 2022 than in 2018; in around half of these systems the performance among both disadvantaged and advantaged students deteriorated (see (OECD, forthcoming[6]) for more information on equity and trends). More important, in around one in three education systems with available data the performance of both disadvantaged and advantaged students remained stable or improved. In fact, only in Argentina, Brunei Darussalam, the Dominican Republic, the Philippines and Saudi Arabia, did the performance of disadvantaged students improve during the period, and by 12 to 27 points. Brunei Darussalam is the only country where both advantaged and disadvantaged students scored higher (by 13 points) in 2022 than in 2018. Despite these remarkable improvements, performance and fairness remained low in 2022. Only eight education systems had stable or improving trends in the performance of advantaged and disadvantaged students and attained an average performance level at (Lithuania and the United States*) or above (Hong Kong (China)*, Japan, Korea, Singapore, Chinese Taipei and the United Kingdom*) the OECD average in 2022. While in Lithuania, Singapore, Chinese Taipei, the United States* socio-economic fairness was at the OECD average level (i.e. the share of variation in students' performance unrelated to students' socio-economic status was around 85%), fairness was above the OECD average level in Hong Kong (China)*, Japan, Korea and the United Kingdom*.

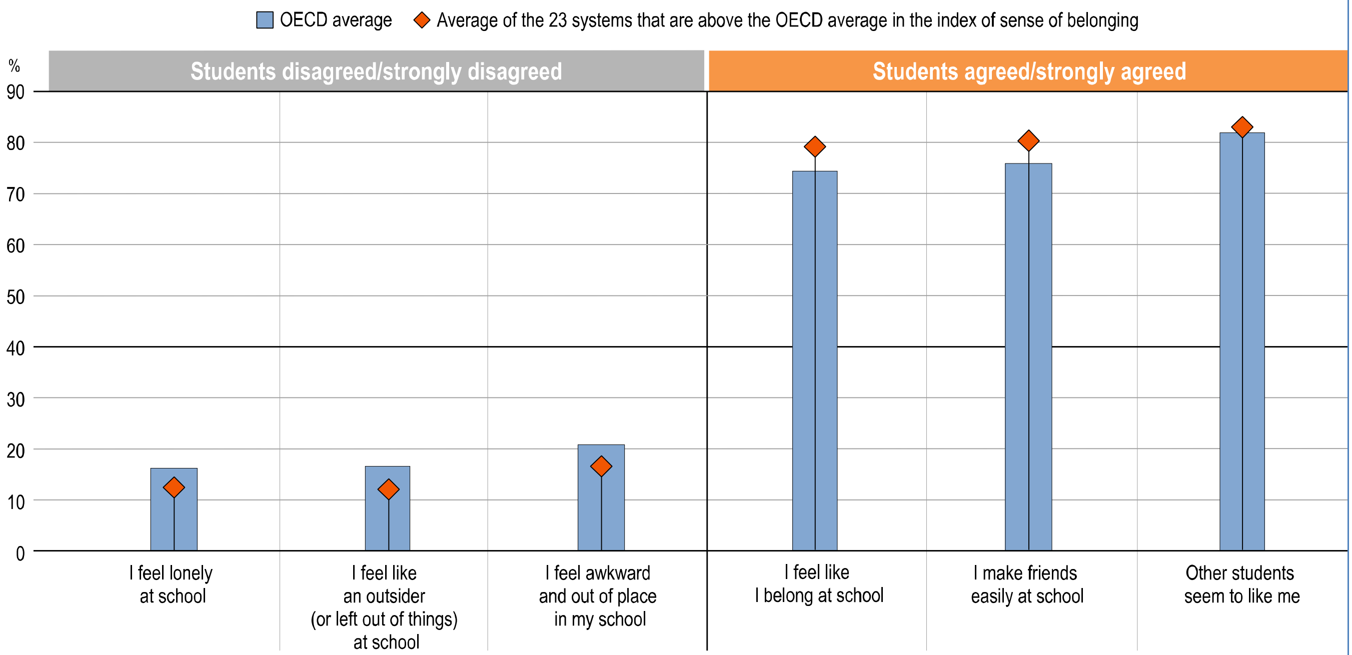
On average across OECD countries, students' sense of belonging at school deteriorated between 2018 and 2022 after a stable trend between 2015 and 2018 (Table II.B1.1.5, (OECD, 2019[5]). However, the more recent trend across countries/economies is mixed, with equal proportions of countries/economies showing stable, improved or deteriorating trends in students' sense of belonging. Out of the 47 education systems with improving or stable trends, five systems maintained or reached a level of sense of belonging at school similar to the OECD average and 15 systems maintained or attained above-average levels. In systems where students reported an above-average sense of belonging at school, students were less likely to report feeling lonely at school and more likely to report that they make friends easily (Box II.1.3). The four countries/economies with the largest improvement in students' sense of belonging were Japan, Montenegro, Serbia and Slovenia. In all of these countries/economies the share of students who reported feeling connected to school was larger than the average share across OECD countries.

Box II.1.3. Students feel less lonely at school and make friends more easily in education systems where students have a greater sense of belonging at school

Students' sense of belonging at school was at or above the OECD average in 28 education systems; in 23 of those systems students' sense of belonging at school was above the OECD average. In these systems, most students reported feeling socially connected at school. A larger share of students reported feeling that they make friends easily at school (81% as compared to the OECD average of 76%) and that they belong at school (79% as compared to the OECD average of 75%; Figure II.1.3 and Table II.B1.1.1). Moreover, smaller proportions of students reported feeling socially disconnected at school: while one in five students, on average across OECD countries, reported feeling lonely or like an outsider or left out of things at school, only one in ten students so reported in school systems where students' sense of belonging at school was above the OECD average.

Figure II.1.3. Students' sense of belonging at school

Percentage of students who agreed/strongly agreed or disagreed/strongly disagreed with the statements below



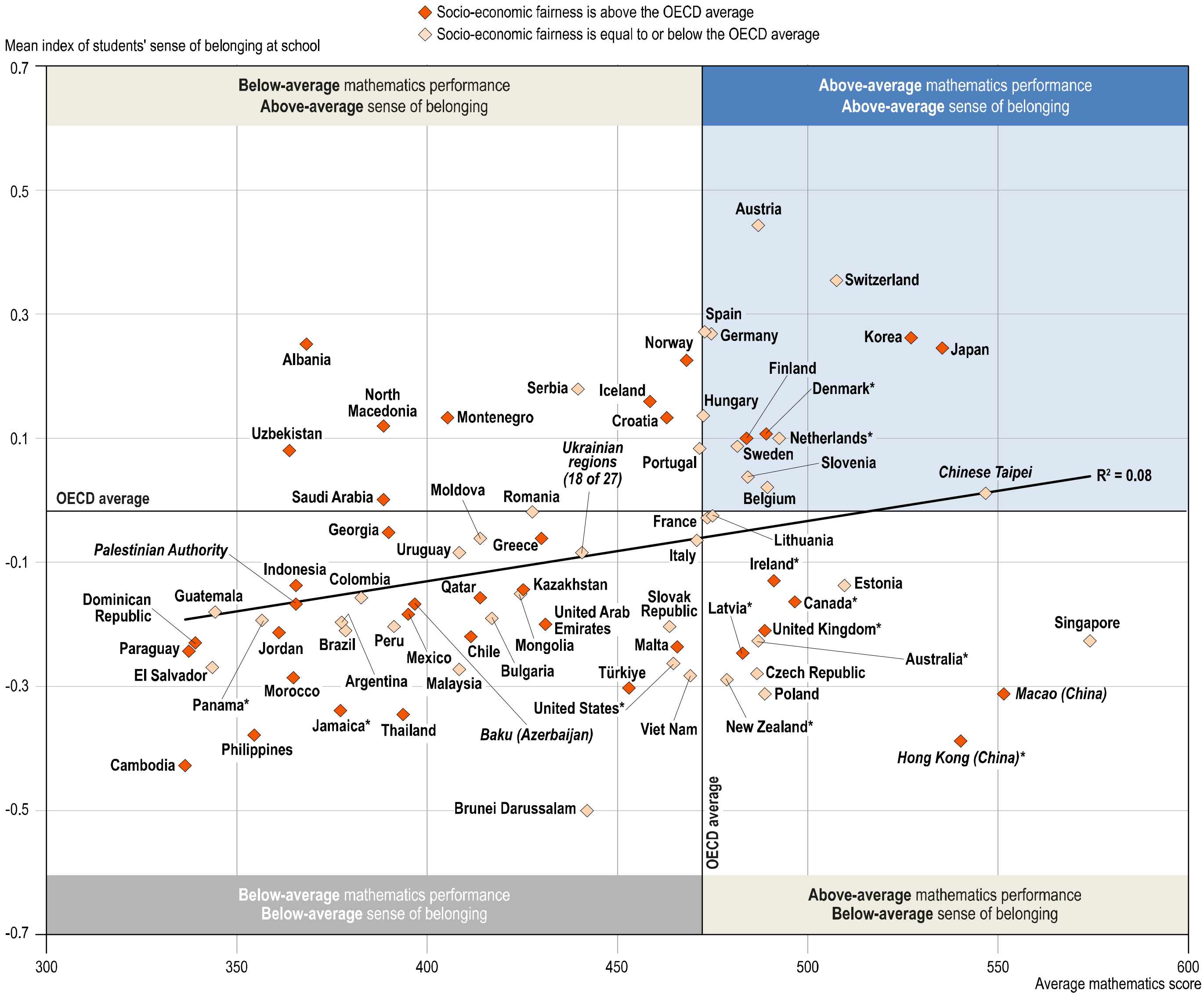
Items are ranked in ascending order at the OECD average.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 1.

Education systems that combine high performance, equity and well-being

Few systems combine high performance, equity and well-being

It is essential to consider the trio of performance, equity and sense of belonging simultaneously when examining an education system's strength and preparedness for disruption because high performance is not necessarily related to a greater sense of belonging at school, nor is low performance a sign of a weaker sense of belonging at school. Across education systems, students' average performance in mathematics is only moderately related to students' sense of belonging at school, and mostly before accounting for countries'/economies' per capita GDP (Figure II.1.4 and Table II.B1.1.13). This means that the association between performance and sense of belonging at school may reflect the tendency for wealthier countries/economies to perform better in mathematics and for the students in those countries to feel a greater sense of belonging at school.

Figure II.1.4. Sense of belonging, and performance and equity in mathematics



Notes: Socio-economic fairness is measured by the percentage of variation in student performance that is not accounted for by differences in students' socio-economic status. For further information on socio-economic fairness, please refer to PISA 2022 results, Volume I, Chapter 4.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 1; and Volume I, Annex B1, Chapter 4.

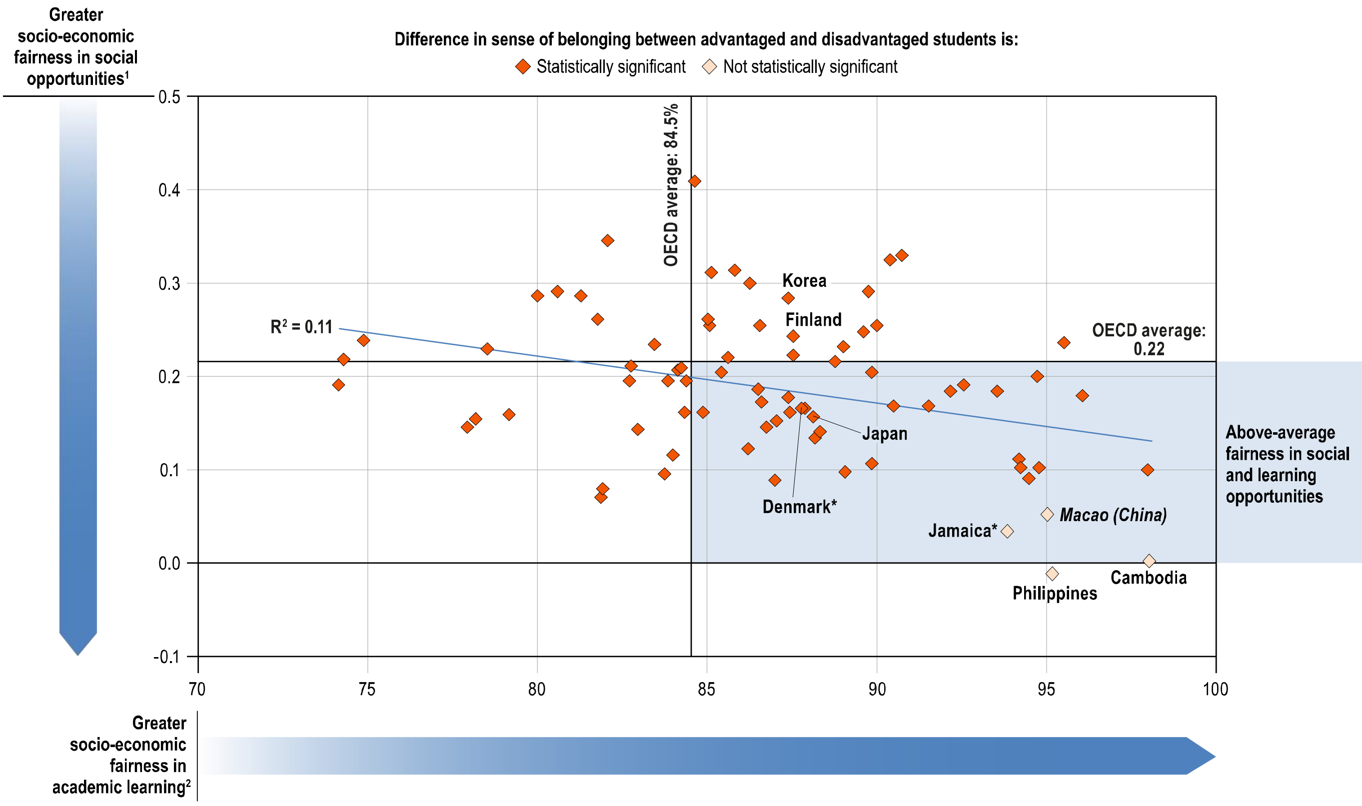
Equally important, better performance is no guarantee of greater equity (OECD, forthcoming[6]); and greater equity in performance does not necessarily lead to a stronger sense of belonging at school. In fact, systems' socio-economic fairness and students' average sense of belonging at school were found to be unrelated (Table II.B1.1.13). Nonetheless, Denmark*, Finland, Japan and Korea achieved all three: above OECD average performance, fairness and sense of belonging at school (Figure II.1.4).

Systems offering greater fairness in learning opportunities also offer greater fairness in social opportunities

On average across OECD countries disadvantaged students' sense of belonging at school deteriorated between 2018 and 2022, while advantaged students' sense of belonging remained stable. However, in most education systems, the sense of belonging among these two groups of students developed in similar directions during the period (Table II.B1.1.7), such that disadvantaged students in 2022 were more likely than their advantaged peers to report feeling that they have fewer opportunities to form close bonds at and with school (Table II.B1.1.2).

PISA 2022 results show that disadvantaged students' sense of belonging at school was more similar to that of their advantaged peers in those education systems that were more socio-economically fair (Figure II.1.5 and Table II.B1.1.13). Equally important, socio-economic differences in sense of belonging at school shrank in those systems where the performance of disadvantaged students improved. The results suggest that working towards socio-economic fairness in learning opportunities may help establish fairness in social opportunities at school as well, or vice versa.

Figure II.1.5. Performance in mathematics and sense of belonging at school, by students' socio-economic status



1. Socio-economic fairness in social opportunities is measured by the percentage-point difference in sense of belonging between socio-economically advantaged and disadvantaged students. Smaller differences indicate greater fairness in social opportunities.
2. Socio-economic fairness in academic learning is measured by the percentage of variation in student performance that is not accounted for by differences in students' socio-economic status. Higher percentages indicate greater fairness in academic learning.
Note: Each dot represents a PISA-participating country/economy.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 1.

Nevertheless, no system achieved absolute fairness in both mathematics performance and students' sense of belonging at school (Tables II.B.1 and II.B1.1.2). For example, Cambodia, Jamaica*, the Philippines and Macao

(China) were the only systems where disadvantaged students reported feeling as socially connected at school as their advantaged peers. However, the average sense of belonging among all students in these systems was below the OECD average, and performance in mathematics was also below the OECD average except for Macao (China). In Denmark*, Finland, Japan, Korea by contrast, students' average sense of belonging at school and performance in mathematics were above the OECD average. These systems are also fair in terms of performance, but disadvantaged students were less likely than their advantaged peers to report that they feel socially connected at school.

Components of resilience

This volume identifies several "components of resilience". These policies, practices and school characteristics are shown to be related to the resistance and strength of education systems, as discussed in detail in the remaining chapters (see Box II.1.1 for details). Thus, they may be key to promoting learning, equity and well-being in schools, even in challenging circumstances.

Resilient systems differ in certain school policies, practices and characteristics

Table II.1.1 shows that the seven education systems that were resilient in mathematics (the systems in the orange circle in Figure II.1.1 differ in school policies, practices and characteristics compared to other countries/economies. For instance, in their response to COVID-19, all resilient systems avoided longer school closures (longer than three months) for a majority of their students, while one in two students attended a school that was closed for a longer period, on average across all education systems. When schools had to be closed, students in these systems (except Australia*) faced fewer obstacles to remote learning than students on average did (e.g. fewer problems with access to digital devices, or finding someone who could help with school work).

Students in most resilient systems also benefitted from more parental support and a school climate that is more favourable to students' learning and well-being, such as safer schools and greater discipline in classes. For example, less than 4% of students in Japan reported that, in most or every lesson, they become distracted by fellow students' use of digital devices in mathematics lessons, while in most other countries, 25% of students so reported (Table II.B1.3.9). Teachers in most resilient systems also continued to inform parents about their children's progress, to ensure that parents stayed involved in their child's learning.

Resilient systems also differed in their approach to selecting and grouping students. In most of the resilient systems, especially those that ensured that equity remained stable or improved, students are tracked into different educational programmes after the age of 14, the average age for tracking across countries/economies. Students are also less likely to have repeated a grade.

Resilient systems also seem to have invested into a solid foundation for student learning and well-being in schools, providing better qualified staff and high-quality digital resources for their students. Most resilient systems also increased peer-to-peer tutoring in school more than did all education systems on average. For instance, in Lithuania four out of five students were tutored by peers in 2022 while in 2018 only three out of five students were (an increase of 15 percentage points) (Table II.B1.5.82). Resilient systems also stood out in their approach to school governance, relying more strongly on internal evaluation and self-evaluation as a quality-assurance mechanism and more on schools to shape the curriculum (e.g. deciding on courses, course content and learning materials).

Table II.1.1. Key characteristics of the school environment in resilient education systems

	OECD average	Overall average	Japan	*Chinese Taipei*	Korea	Lithuania	Singapore	Switzerland	Australia*
Chapter 2: How learning continued when schools were closed									
Percentage of students whose school building was closed for less than three months because of COVID-19	49%	49%	84%	90%	79%	67%	m	76%	53%
Problems with remote learning (mean index) [1]	-0.01	0.14	-0.65	-0.56	-0.44	-0.12	m	-0.19	0.19
Chapter 3: Life at school and support from home									
Disciplinary climate in mathematics (mean index) [1]	0.02	0.04	1.09	0.34	0.84	0.21	0.22	0.11	-0.24
School safety risks (mean index) [1]	0.01	0.04	m	-0.35	-0.41	-0.14	-0.15	-0.05	m
Change in the percentage of students in schools where teachers initiated discussions on child's progress with most parents [2]	-7.6% dif.	-5.3% dif.	-5.6% dif.	-0.9% dif.	-2.8% dif.	-7.3% dif.	0.3% dif.	-19.6% dif.	-5.2% dif.
Chapter 4: Selecting and grouping students									
Age at first selection into different education programmes	14.3	14.5	15	15	15	14	12	12	16 [4]
Percentage of students who had repeated a grade at least once in primary, lower and/or upper secondary school [3]	9%	11%	0%	1%	3%	2%	4%	13%	5%
Chapter 5: Investments in a solid foundation for learning and well-being									
Percentage of students in schools with adequate and qualified teaching staff	0.7	0.8	0.6	0.8	0.8	1.0	0.9	0.8	0.7
Percentage of students in schools with adequate and high-quality digital resources	0.8	0.6	0.5	0.9	0.7	0.9	1.0	0.9	0.9
Change in the percentage of students with peer-to-peer tutoring in school [2]	3.1% dif.	2.3% dif.	25.5% dif.	-3.3% dif.	7.3% dif.	15.0% dif.	7.8% dif.	6.6% dif.	-2.4% dif.
Chapter 6: Governing education systems									
Percentage of students in schools that use internal evaluation/ self-evaluation as a quality-assurance mechanism	95%	97%	99%	98%	100%	100%	99%	85%	98%
School responsibility for curriculum (mean index) [1]	2.43	1.99	4.45	2.95	2.39	2.17	2.18	1.23	3.38

1. Higher values in these indices indicate a better disciplinary climate, more problems with remote learning, more school safety risks and greater responsibility of schools for the curriculum. More information on how the indices were built, including the statements that were included, can be found in Annex A1.
2. The questions on grade repetition were not distributed in Japan and Norway. The share of grade repeaters has been set to zero in agreement with countries since there is a policy of automatic grade progression and more than 99.5% of students were enrolled in the same grade level.
3. Information on age at first selection comes from PISA 2018.
Source: OECD, PISA 2022 Database.

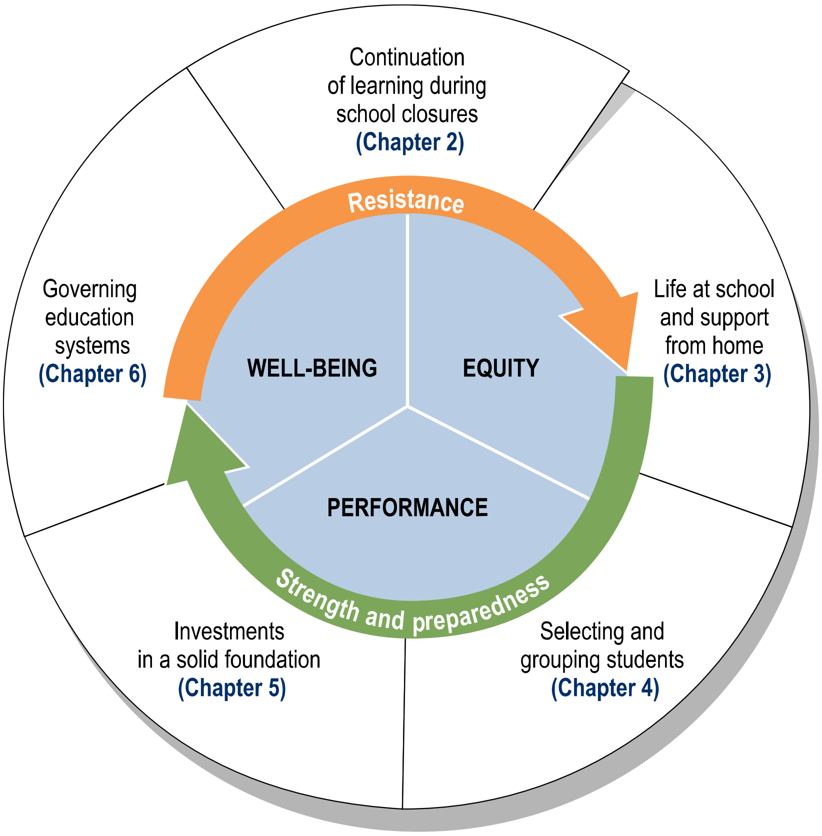
Various school policies, practices and characteristics are related to systems' resilience and students' learning and well-being

The remaining chapters of this volume discuss in greater detail important differences in policies and practices across education systems and schools, and how they are related to systems' resilience, and students' learning and well-being (see Figure II.1.6). Drawing on past PISA reports (OECD, 2016[7]; OECD, 2013[8]; OECD, 2016[9]; OECD, 2017[10]; OECD, 2020[11]) the volume focuses on five areas:

- **Continuing learning when schools are closed (Chapter 2)** – school closures due to COVID-19; how students learned and their impressions and feelings about learning remotely; how systems and schools supported students' learning and well-being; whether students acquired the skills to learn independently; and whether schools built their capacities to support learning remotely in the event of future school closures.
- **Life at school and support from home (Chapter 3)** – student truancy and lateness after school reopening; whether schools team up with parents and provide a safe environment for learning that minimises bullying; teacher support and the disciplinary climate in mathematics lessons.
- **Selecting and grouping students (Chapter 4)** – attendance at pre-primary education; the structure of grades and programmes that students must complete in order to graduate from school (i.e. vertical stratification); how students are grouped and selected into different curricular programmes, schools and ability groups (i.e. horizontal stratification).

- **Investments in a solid foundation for learning and well-being (Chapter 5)** – resources invested in education systems (education expenditure per student, education staff and educational material, including digital devices) and how they are related to student outcomes; how students allocate their time, at and outside of school, for learning and leisure activities, using digital devices or not.
- **Governing education systems (Chapter 6)** – how responsibilities for education are shared among stakeholders; how public and private organisations are involved in the administration and funding of schools; the degree of school choice and school competition in the system; the policies and practices through which education systems ensure that learning standards are met, such as through student assessments, teacher and principal appraisals, and school evaluations.

Figure II.1.6. Aspects and areas of resilience in education examined in this volume



In addition to students' sense of belonging at school, which is closely related to their life at school and school policies (Box II.1.4), other indicators of subjective well-being were examined, including students' beliefs about their abilities (e.g. confidence in their capacity for self-directed learning), their feelings (e.g. mathematics anxiety) and their overall satisfaction with life.

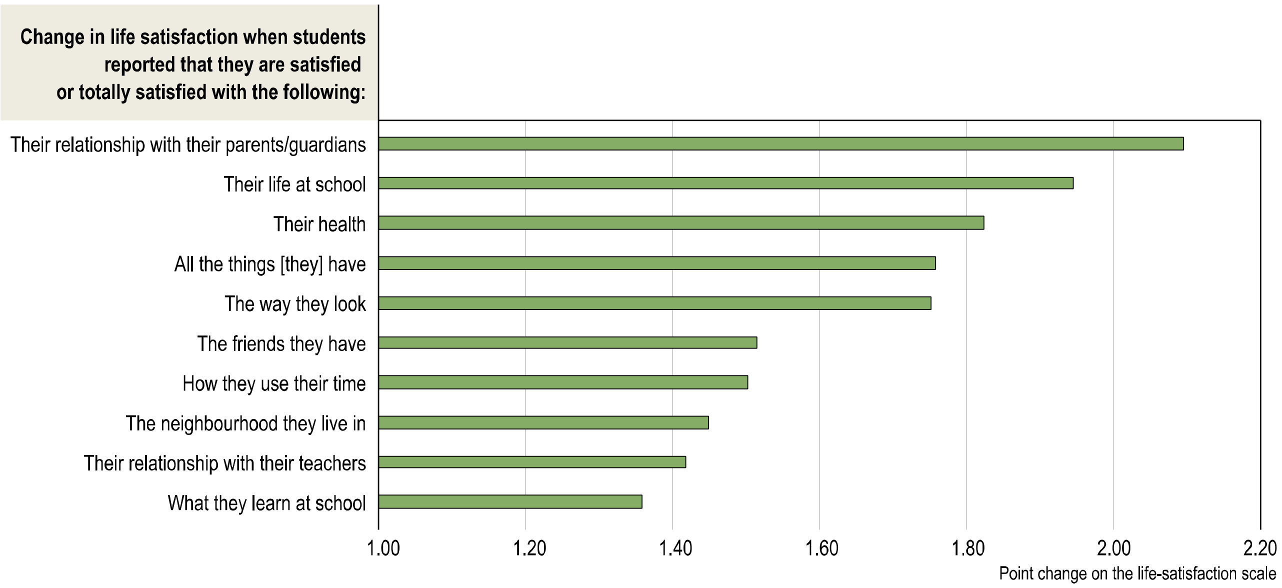
Box II.1.4. The role of school life and relationships in students' satisfaction with life

The importance of having close and diverse relationships with peers and adults for students' overall life satisfaction is also reflected when analysing different aspects of their lives. In 13 countries/economies[2] that distributed the well-being questionnaire, students were asked how satisfied they were with different aspects of their lives.

On average, the best predictors of students' satisfaction with life were how satisfied they were with their relationship with their parents or guardians, their life at school, their health, all the things they have, and the way they look, after accounting for student and school characteristics (see Figure II.1.7). Other aspects of their life, such as the friends they have, how they use their time, the neighbourhood they live in, their relationship with teachers, and what they learn at school are also positively associated with their satisfaction with life. In addition to personal life experiences, cultural differences may also shape how adolescents evaluate their lives. For example, studies that compare adolescents' life satisfaction across cultures find that adolescents in Western countries report higher levels of life satisfaction than those in East-Asian states (Park and Huebner, 2005[12]). Nonetheless, PISA results show that school is important to students' life satisfaction, and that students in learning environments where they have good relationships with parents, friends and teachers, and enjoy good physical and psychological health, may be more likely to be satisfied with their lives regardless of their socio-economic background.

Figure II.1.7. Life satisfaction and satisfaction with different aspects of life

Average of countries/economies with available data



Notes: All values are statistically significant (see Annex A3).
All linear regression models account for students' and schools' socio-economic profile. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).
The scale on life satisfaction ranges from 0 (not at all satisfied) to 10 (completely satisfied).
Source: OECD, PISA 2022 Database, Annex B1, Chapter 1.

Strengthening resilience is a complex endeavor, requiring a panoply of policies as well as strategic planning (Box II.1.5). Rather than exhaustively detailing results for each question in the subsequent chapters, the volume highlights the results that are most relevant for the overarching question of which policies and practices are common to resilient systems and schools. The concluding Chapter 7 provides a synthesis of the main findings and implications for policy and practice on how to strengthen resilience in education systems. PISA assesses where systems are situated in the process of strengthening their capacity to overcome adversity and meet challenges. Resilience does not guarantee faster recovery and adaptation in the future, but it does make those outcomes more likely. Systems could still fail, even if they have invested in strong defences against adversity and disruption.

Box II.1.5. Strategic planning builds on the analyses of trends and scenarios for the future of education

Developing resilience in education involves anticipating future changes and their potential cascading effects to inform present strategies (Burns and Köster, 2016[13]). For this, the analysis of social, economic and environmental trends is key. However, long-term planning is becoming more difficult because of rising complexity and uncertainty. While demographic trends develop slowly, other trends do not. In recent years, global economic shocks, like the Great Recession, the rapid spread of COVID-19 and the millions of children and young refugees requiring access to education following Russia's aggression against Ukraine, show that, as the interdependence of social and natural systems grows, so do the risks people face. Evolving global trends, such as climate change, Artificial Intelligence (AI) and changing social values, suggest that the future may be different, but no less challenging (OECD, 2022[14]). For instance, more frequent and extreme weather events will increasingly endanger human health and physical infrastructure (IPCC, 2023[15]), putting education operations at risk of severe disruption. Similarly, the fast-evolving capabilities of AI and robotics raise questions about the competences students need to develop, and whether current approaches to curriculum, pedagogy and assessment will continue to be fit for purpose (OECD, 2023[16]).

In an increasingly uncertain environment, policy makers need to consider the changes that could be highly impactful, not just those that seem most probable (OECD, forthcoming[17]). The discipline of strategic foresight offers several tools to do this, including scanning the horizon for emergent signals of change and building visions of desirable futures to "trace back" the steps that would be needed to realise them. Discussing multiple scenarios, that is, sets of alternative futures, is also useful. Scenario planning recognises that trends are dynamic and interconnected, and often influenced by changes in culture that are seemingly marginal or unlikely at present. Scenarios can reveal desirable futures as well as potential shocks and surprises, both of which can be used to act in the present, stress-testing current strategies and planning for contingencies.

Source: OECD (2022[14]), Trends Shaping Education 2022, https://doi.org/10.1787/6ae8771a-en.

Table II.1.2. The resilience of education systems, schools and students figures and tables

Figure II.1.1	Resilient education systems
Figure II.1.2	Confirmed COVID-19 cases and deaths
Figure II.1.3	Students' sense of belonging at school
Figure II.1.4	Sense of belonging, and performance and equity in mathematics
Figure II.1.5	Performance in mathematics and sense of belonging at school, by students' socio-economic status
Table II.1.1	Key characteristics of the school environment in resilient education systems
Figure II.1.6	Aspects and areas of resilience in education examined in this volume
Figure II.1.7	Life satisfaction and satisfaction with different aspects of life

StatLink https://stat.link/zdfqpn

Notes

1 A socio-economically disadvantaged (advantaged) student is a student in the bottom (top) quarter of the PISA index of economic, social and cultural status (ESCS) in his or her own country/economy (see Annex A1).

2 The 13 countries/economies that distributed the well-being questionnaire were Brazil, Hong Kong (China)*, Hungary, Ireland*, Macao (China), Mexico, the Netherlands*, New Zealand*, Panama*, Saudi Arabia, Slovenia, Spain and the United Arab Emirates. The average results across these countries may not be representative of the OECD average.

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2 How learning continued when schools were closed

This chapter explores how education systems, schools and students handled the school closures imposed as a response to the COVID-19 pandemic, and the relationships between those reponses and school systems' resilience to disruption. The chapter examines how the duration of school closures is related to student performance and well-being, and to equity in the school system. It also explores whether education systems prepared their students for autonomous and remote learning, and how the support provided, and students' experiences, during remote learning may have differed in more resilient school systems. The chapter concludes with a look at specific policies that education systems designed and implemented to support students in their learning and well-being during school closures.

For Australia*, Canada*, Denmark*, Hong Kong (China)*, Ireland*, Jamaica*, Latvia*, the Netherlands*, New Zealand*, Panama*, the United Kingdom* and the United States*, caution is advised when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

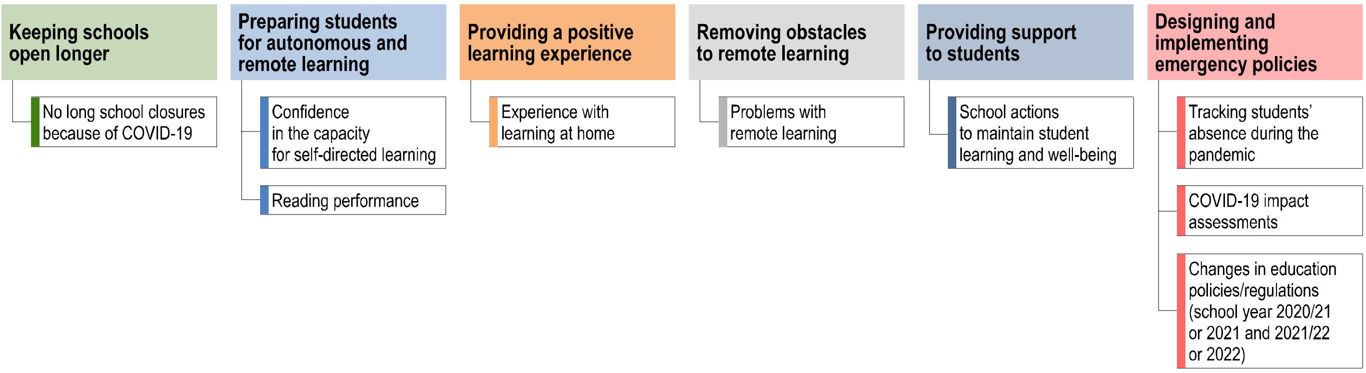
The COVID-19 pandemic revealed, in stark relief, just how important it is for education systems to be resilient to disruption. No country was spared the sudden social upheaval that followed in the wake of the virus; every country was obliged to rethink how to support its students, especially those most vulnerable, in such adverse circumstances. This chapter focuses on the most common response to the pandemic – school closures[1] - and what enabled some education systems to be more successful than others in their efforts to keep learning alive and students engaged in school, particularly when schools were closed (see Chapter 1).

What the data tell us

- Two out of three countries/economies closed their schools for longer than three months for a majority of their students during the COVID-19 pandemic. Students in systems that spared more students from longer closures scored higher in mathematics and reported a greater sense of belonging at school in 2022 as compared to 2018.
- Students reported feeling less confident about taking responsibility for their own learning than they felt about using digital technology when learning remotely, on average across OECD countries and in most education systems.
- Students' experience with learning at home was more positive in systems that were better prepared for remote learning. However, when learning remotely, 40% of all students reported feeling lonely and 50% of all students reported feeling anxious about schoolwork and that they fell behind in their studies; and three in ten students reported that teachers were not available when needed, on average across OECD countries.
- Almost one in two students indicated that, when learning at home, they frequently had difficulty motivating themselves to do schoolwork, and one in three students frequently did not fully understand school assignments, on average across OECD countries.
- Students in education systems whose schools provided more activities to maintain learning and well-being during school closures reported feeling more confident in their ability to learn autonomously and remotely if their school has to close again in the future.

This chapter examines how education systems responded to the COVID-19 pandemic, focusing on aspects that are associated with resilience (Figure II.2.1). The chapter begins with an examination of the duration of school closures and how that is related to differences in student performance and well-being, and to the system's capacity to ensure that all students, regardless of their socio-economic background, can achieve at high levels (socio-economic fairness). PISA 2022 results show that resilient systems kept more students in school through the pandemic and closed schools for shorter periods of time (less than three months). The chapter also examines whether students are prepared for remote and more autonomous learning, and how this is related to an education system's resilience. PISA 2022 data show that schools in resilient education systems provided students with more support and positive experiences during remote learning, allowing all students, including disadvantaged students, to continue learning, remain engaged, and develop confidence in their ability to learn autonomously. Details on the indices covered here are provided in Annex A1.

Figure II.2.1. How learning continued when schools were closed as covered in PISA 2022



The chapter also reviews some of the emergency policies adopted by education systems to support schools as they continued with their programmes remotely (see Annex B3 for more information) (OECD, 2021[1]; OECD, 2021[2]; UNESCO Institute for Statistics UNICEF The World Bank OECD, 2022[3]).

Components of resilience: Keeping schools open longer

When schools shut their doors, students often missed out on opportunities to learn. This was particularly true at the beginning of the pandemic when remote teaching was often not provided or not well-functioning. As school closures are all but certain to occur in the future, understanding the consequences for student learning is vital.

High-performing systems and those where students' sense of belonging at school strengthened over time were also those that kept schools open longer

Although most countries around the world closed schools for some period of time at least once during the pandemic, PISA 2022 data show that the duration of school closures varied widely across countries (UNESCO Institute for Statistics UNICEF The World Bank OECD, 2022[3]). According to students' reports, the duration of COVID-19 school closures also varied substantially within countries/economies (Table II.B1.2.1).

In PISA 2022, students were asked whether their school building was closed to students for more than a week (some schools closed and reopened multiple times during the period) in the previous three years due to COVID-19. In most countries/economies, schools were closed for several months because of the pandemic (Table II.B1.2.1). On average across OECD countries, fewer than one in two students reported that their school was closed for less than three months. In fact, only one in three countries/economies with available data avoided longer school closures for a majority of their students. In Iceland, Japan, Korea, Sweden, Switzerland and Chinese Taipei more than three out of four students indicated that their school was closed for less than three months, while in Brazil, Ireland*, Jamaica* and Latvia* only one out of four students or fewer who responded to the question reported so. As much of the analysis about school closures is based on responses from students, caution is advised when interpreting the data (Box II.2.1).

Box II.2.1. Interpreting the data from students on school closures

This chapter focuses on responses from students (via the student questionnaire) rather than from school principals since many students were enrolled in different schools during the COVID-19 school closures (Table II.B1.2.3). For those students, the information about the experiences and responses provided by principals may not characterise what happened at their schools during school closures. On average across OECD countries, only 44% of students were enrolled at their school three or more years and the share is below 10% in a number of countries (Table II.B1.2.3).

As with any information gleaned from questionnaires, students' responses to the questions on school closures are subject to various biases, including social desirability and cultural bias. In addition, students answered the questions on school closures retrospectively, making it more difficult for some students to remember the details of their school's closure if it occurred early in the pandemic. Since the timing and duration of school closures varied across countries, systemic bias should also be considered. In some education systems, half of the student body alternated with the other half in attending classes in person. Hence, the duration of school closures, defined as the closure of the building itself, does not capture all the time that individual students were not permitted to enter the school building. The support provided by schools varies, depending on when and for how long schools were closed. Schools in education systems where closures were relatively rare and brief may have provided fewer supportive actions, since schools may have resumed in-person classes before support was considered necessary. In these cases, the values on the indicators for school support may be low.

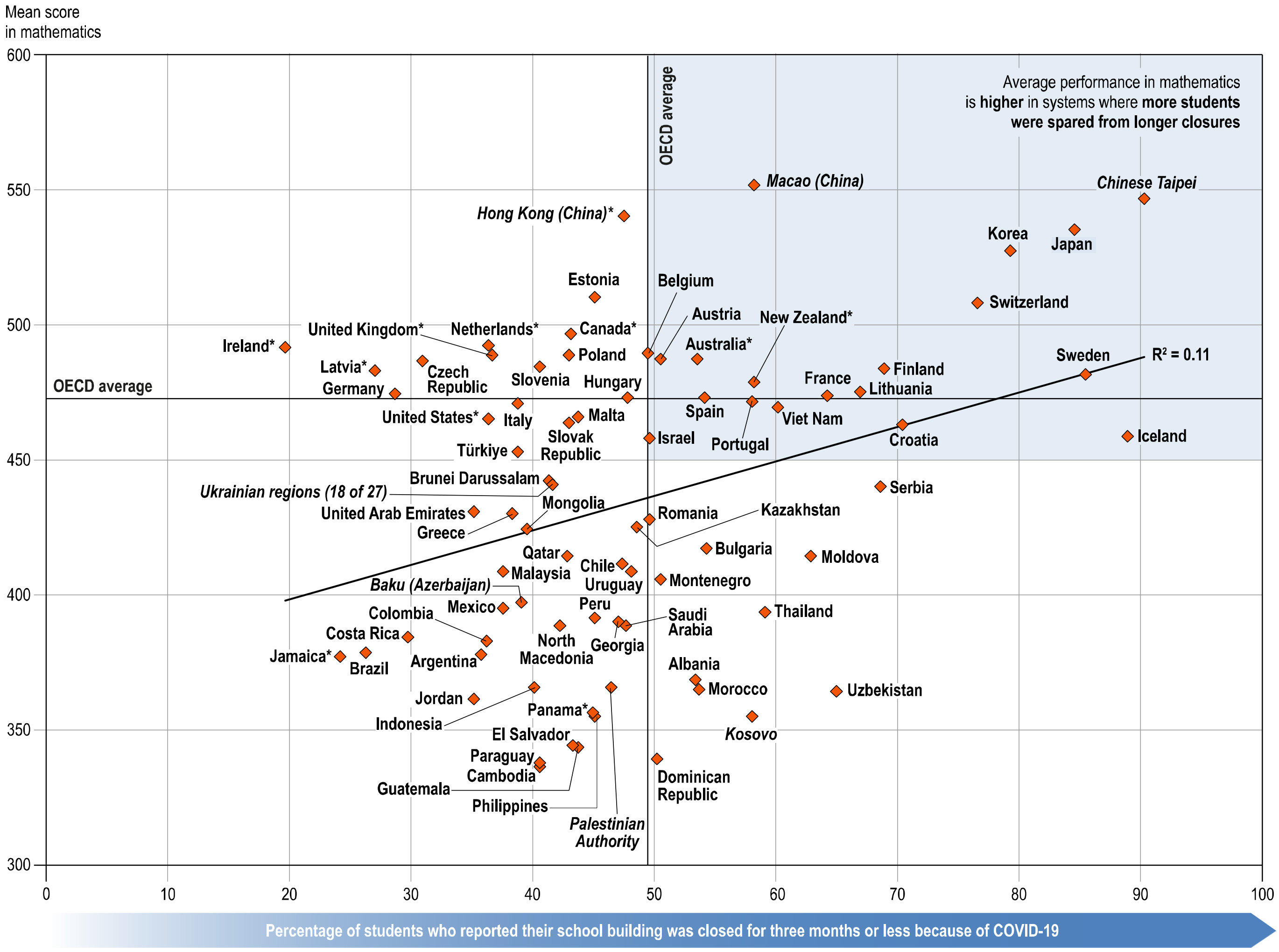
The share of non-responses was particularly high for questions about COVID-19 school closures.This limits the representative nature of the data reported in this chapter and results in less precise estimates since standard errors are higher than for other parts of the questionnaire. This should be kept in mind when drawing conclusions from the results presented in this chapter. A comparison of the characteristics of students who responded to the question on the duration of COVID-19 school closures with those who did not respond showed that non-responding students reported greater life satisfaction, were of lower socio-economic status and scored lower in mathematics, science and particularly in reading (Table II.B1.2.2). Boys, students in lower secondary school, those with an immigrant background and those not enrolled in the modal grade for 15-year-olds were over-represented among the group of non-responding students.

At the system level, students' responses were strongly related to principals' responses (collected via the school questionnaire) to questions about the duration of school closures (r = 0.78 across all systems, Table II.B1.2.1). Even though the responses of students have to be interpreted with caution, the strong relationships suggest that students' and principals' responses provide a similar picture of the average duration that schools were closed in countries/economies. The slight differences between students' and principals' reports probably reflect disparities in school closure policies in the countries/economies. During the pandemic, many countries/economies closed schools partially to try to contain the virus while allowing face-to-face teaching and learning for as many students as possible (OECD, 2021[2]). In many countries, schools opened for certain grades, levels or age groups, often giving preference to students at lower levels of education (OECD, 2021[1]). School closures were often only imposed in affected regions, schools or classes, not nationwide (e.g. teaching shifted to remote mode for classes where COVID-19 cases were detected or for contact cases within these classes).

Not all of the changes in performance, equity and well-being between 2018 and 2022 are due to the pandemic. Therefore, short-term trends were additionally analysed in relation to longer-term trends (whenever those were available) using data from PISA assessments prior to 2018 to see if they diverge from the overall trends observed in countries/economies (i.e. "adjusted short-term trends"). The percentage of students who reported school closures of three months or less was more strongly and positively related to the adjusted short-term trends for performance as compared to the unadjusted trends (Tables II.B1.2.46 and II.B1.2.48). However, the relationship was not significant. Performance improved significantly more in education systems where students reported fewer problems with remote learning than in systems where more students encountered more problems, after accounting for the pre-2018 trends in the analysis.

Overall, PISA 2022 student-reported data show that systems that spared more students from longer closures (longer than three months) showed higher average performance in mathematics and a greater sense of belonging at school as compared to education systems where more schools were closed for longer periods (Figure II.2.2 and Table II.B1.2.46).

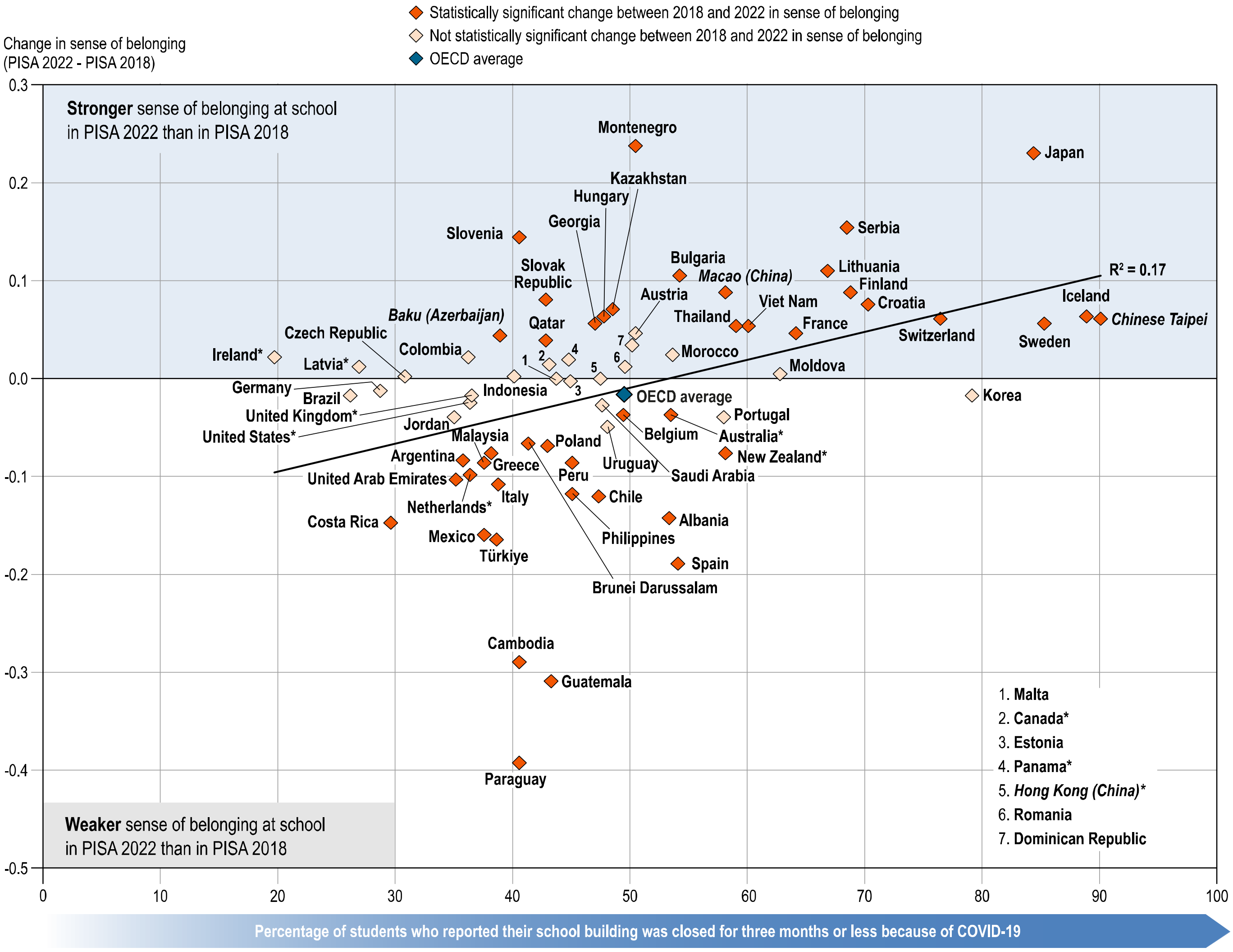
Figure II.2.2. COVID-19 school closures and mathematics performance



Source: OECD, PISA 2022 Database, Annex B1, Chapter 2; and Volume I, Annex B1.

Countries/economies that avoided long school closures for more of their students, according to student reports, had more stable or improving trends in their sense of belonging at school (Figure II.2.3). Japan, which closed its schools for only three months or less to 84% of its students, as reported by students, had one of the greatest improvements in students' sense of belonging at school, reaching a level above the OECD average in 2022. The PISA results concur with findings from several reviews that linked COVID-19 school closure policies to adverse health effects and behaviours among adolescents (Hume, Brown and Mahtani, 2023[4]; Lehmann, Lechner and Scheithauer, 2022[5]; Rajmil et al., 2021[6]; Saulle et al., 2022[7]; Viner et al., 2022[8]). These include psychological issues, such as anxiety, loneliness, depression, dissatisfaction with life and a higher risk of suicidal thoughts or attempts at suicide. Obesity, unhealthy food consumption and decreased physical activity have also been observed. However, the effects of the duration of school closures are less well researched. PISA 2022 data also show that there was a shift in many countries in students' interest in working in the health sector between 2018 and 2022 while interest in other sectors, such as ICT, followed a steady trend (Box II.2.2). PISA 2022 results point to the far-reaching consequences that the COVID-19 pandemic may have had on students' lives.

Figure II.2.3. COVID-19 school closures and change between 2018 and 2022 in sense of belonging



Source: OECD, PISA 2022 Database, Annex B1, Chapters 1 and 2.

Box II.2.2. How the pandemic changed students' career expectations

PISA 2022 results suggest that 15-year-olds may be susceptible to the public image of professions when deciding on their career path. The digital sector rose to prominence as a critical determinant of economic growth and international competitiveness a while ago and provides good career prospects. In one out of two PISA-participating countries/economies, the share of 15-year-olds who expect to work in an ICT-related profession (e.g. software and web developers, data miner) when they are about 30 years old grew between 2018 and 2022 (Table II.B1.2.4). In fact, interest in working in the ICT sector decreased only in Baku (Azerbaijan) and the Netherlands*.

In the wake of COVID-19, the health sector has attracted a lot of attention – and not all of it good. For example, while the work of health professionals during the pandemic was acknowledged to be indispensable, the public also learned of the long working hours and stress involved, and the low pay for nurses and medical support staff. PISA 2022 results concerning students' interest in working in this field were equally mixed (Figure II.2.4). In a quarter of countries/economies, the share of students interested in working as a health professional (e.g. doctors, nurses, veterinarians) grew since 2018, but in another quarter of countries/economies that share decreased. In the rest of the participating countries/economies, the share of students interested in working in the health sector remained stable over the period.

Students' interest in the health sector decreased more in systems that had higher absolute numbers of COVID-19 cases and deaths between 2020 and 2022 as well as relative numbers of COVID-19 cases (i.e. cases per million inhabitants); but their change in career interest was unrelated to the relative number of COVID-19 deaths (Table II.B1.2.4 and Figure II.1.2). The fact that reporting on COVID-19 cases and deaths in the public realm often focused on absolute, rather than relative, numbers may explain these findings. One of the reasons for the decrease in students' interest in pursuing a health-related career in highly affected countries/economies may be that trust in the health profession and science declined when students felt that the sector was overwhelmed by the COVID-19 pandemic. The pandemic also no doubt highlighted some of the disadvantages of working in this sector.

Figure II.2.4. Change between 2018 and 2022 in expectation of a career in health and ICT

Percentage-point change of students who expect to work as the following when they are about 30 years old

Notes: Only countries and economies with available data are shown.
Statistically significant differences between PISA 2018 and PISA 2022 (PISA 2022 – PISA 2018) are shown in a darker tone (see Annex A3).
Countries and economies are ranked in descending order of the change between 2018 and 2022 in the percentage of students who expect to work as a health professional.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

Components of resilience: Preparing students for autonomous and remote learning

In situations where schools have to be closed, systems and schools have to ensure that education can continue effectively in remote mode to avoid severe learning losses. Remote education forces students to learn more independently – and to draw on self-directed learning skills (Lab, 2021[9]; Schleicher, 2020[10]). These skills enable learners to assume primary responsibility for their learning, set objectives, create a learning plan, and develop techniques to get and stay motivated to learn (Boyer et al., 2013[11]; Cazan and Schiopca, 2014[12]). Systems that support their students in developing these skills help their students be successful not only in school but also, later on, in the labour market (Cazan and Schiopca, 2014[12]; Morris, 2019[13]). Today's workers are expected to maintain and upgrade their knowledge and skills throughout their lives – and assume most, if not all, of the responsibility for doing so.

Self-directed learning skills can be improved through personalised and collaborative online or offline learning that helps students plan, organise and monitor their learning activities (Khodaei et al., 2022[14]; Kim et al., 2014[15]; Lee et al., 2014[16]). Promoting the acquisition of these skills in school is also an investment in the resilience of education systems. School closures are not just history; they are likely to be endured in the future too. Students' ability to learn autonomously thus ensures that learning continues even in adverse circumstances. In Viet Nam, for example, students with greater confidence in their own capacity for self-directed instruction spent more time learning during the COVID-19 school closures than their peers with less confidence did (Tran et al., 2020[17]).

Students were more confident about using digital technology for remote learning than about taking responsibility for their own learning

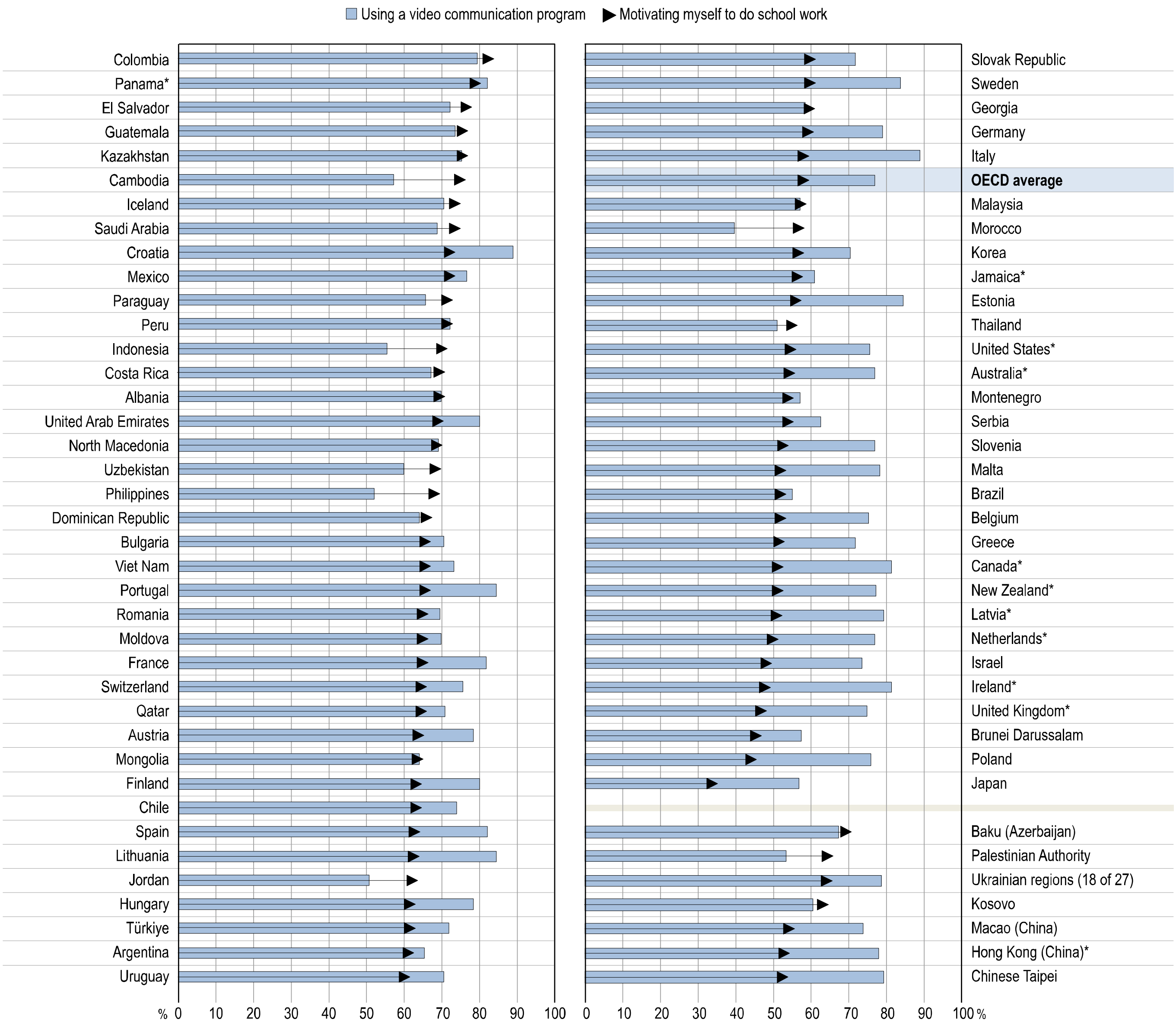
PISA 2022 explored whether education systems prepared students for self-directed learning by asking students to report on their confidence in their capacity for self-directed learning in case their school building has to close again in the future. Overall, students felt more confident about using digital technology for learning remotely during future school closures than they felt about taking responsibility for their own learning (Figure II.2.5 and Table II.B1.2.5). For instance, on average across OECD countries, about three out of four students reported that they feel confident or very confident about using a learning-management system, a school learning platform or a video communication program, as well as about finding learning resources on line on their own. Seven out of ten students felt confident or very confident about completing schoolwork independently or planning when to do schoolwork on their own and assessing their progress with learning. Only six out of ten students felt so about motivating themselves to do schoolwork and focusing on it without reminders.

There were large differences between countries/economies in terms of students' confidence in their capacity for self-directed learning. For instance, in Cambodia, Colombia, El Salvador, Guatemala, Kazakhstan and Panama*, over 75% of students felt confident that they can motivate themselves to do school work, but in Brunei Darussalam, Ireland*, Israel, Japan, Poland and the United Kingdom* less than 50% of students felt this way (Figure II.2.5 and Table II.B1.2.5). In Jordan, Morocco, the Palestinian Authority, the Philippines, Thailand only around 50% of students felt confident or very confident about using a video communication program, while in Croatia, Estonia, Italy, Lithuania, Portugal and Sweden 84% of all students or more felt confident about doing so. Moreover, in Japan and Malaysia less than 50% of students felt confident about completing schoolwork independently, while in Colombia, Croatia, Italy, Panama* and Portugal more than 80% of students felt confident in this regard.

On average across OECD countries, socio-economically advantaged students and those in upper secondary education (ISCED-3) were more confident than disadvantaged students and those in lower secondary school (ISCED-2) that they could learn well autonomously and remotely if schools have to close in the future. These differences, in favour of advantaged students, were observed in almost all education systems with available data and remained even after accounting for student performance in mathematics (Table II.B1.2.11). The differences related to socio-economic status in students' confidence in self-directed learning were largest in the Dominican Republic, Germany, Korea, Malaysia and Peru; they were not observed in Baku (Azerbaijan) or Jamaica* (Table II.B1.2.6). Students with an immigrant background reported similar levels of confidence in their capacity for self-directed learning as non-immigrant students, on average across OECD countries. Interestingly, girls had greater confidence in their capacity for self-directed learning than boys, on average across OECD countries and in around a third of all participating education systems. The largest gender differences in students' confidence in their capacity for self-directed learning, in favour of girls, were observed in Austria, Germany and Saudi Arabia.

Figure II.2.5. Students' confidence in self-directed learning

Percentage of students who reported feeling confident/very confident in taking the following actions if their school building closes again in the future



Note: Only countries and economies with available data are shown in this figure.
Items are ranked in descending order of the percentage of students who reported feeling confident or very confident in motivating themselves to do school work.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

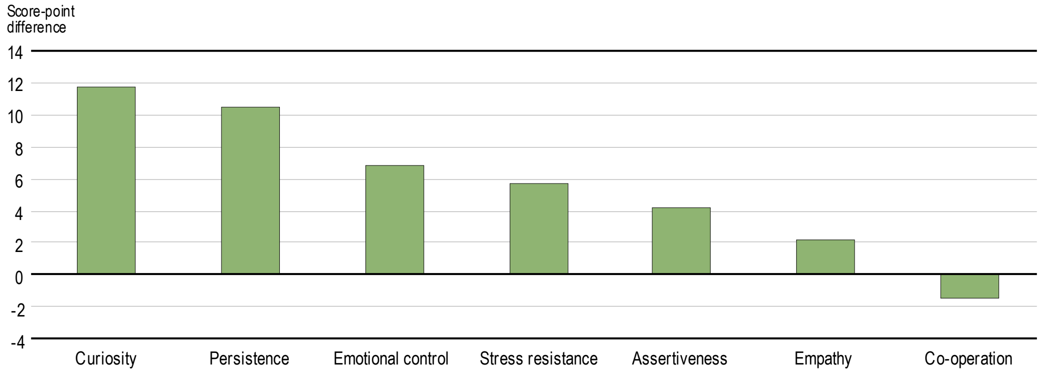
Promoting other skills, such as social and emotional skills, is important for ensuring that students can learn more independently and remotely. PISA 2022 results show that students with better social and emotional skills were more engaged in remote learning and scored higher in mathematics (see Box II.2.3).

Box II.2.3. The value of social and emotional skills

PISA 2022 shows that social and emotional skills are related to students' mathematics performance in all countries/economies with available data (Table II.B1.2.19). As shown in Figure II.2.6, students that are intellectually curious, persistent and better able to control their emotions outperform their peers. These findings show that cognition and emotion are intwined ingredients of academic success (OECD, 2021[18]; OECD, 2020[19]); they also show how important it is to invest in cultivating intellectual curiosity, a strong determination in pursuing goals and tasks, and the ability to regulate emotions in the face of challenges and frustrations.

Figure II.2.6. Social and emotional skills, and mathematics performance

Change in mathematics performance associated with a one-unit increase in the following indices; OECD average

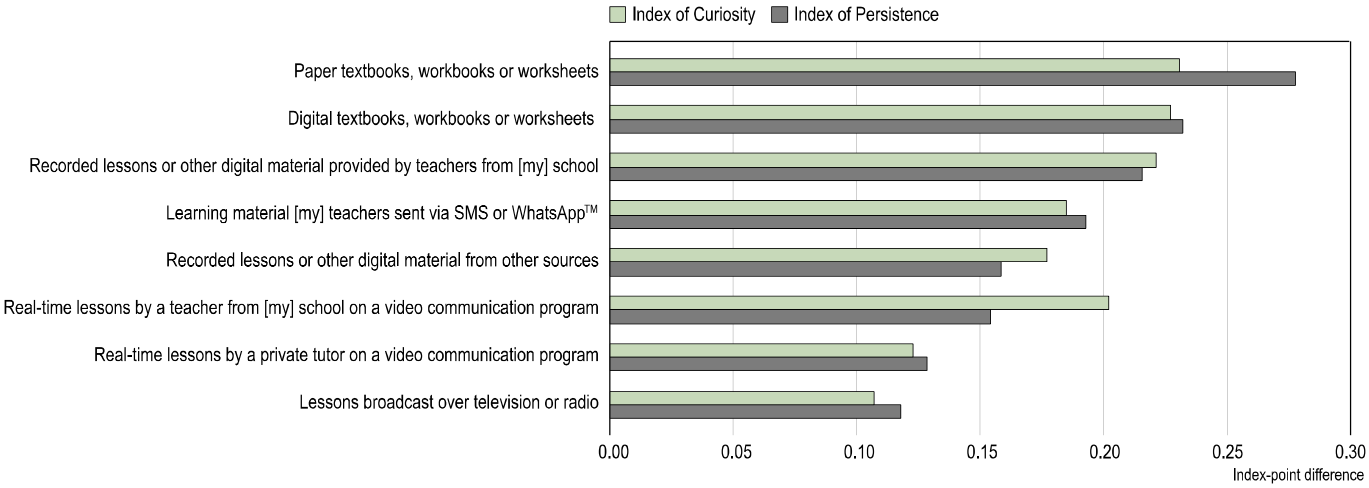


Notes: All values are statistically significant (see Annex A3).
All linear regression models account for students' and schools' socio-economic profile. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).
Items are ranked in descending order of the change in mathematics performance.
Source: OECD, PISA 2022 Database, Chapter 2.

PISA 2022 also shows that schools play an essential role in fostering social and emotional skills even when school buildings are closed. For example, providing interesting learning material can fuel curiosity as more curious students are willing to invest more time in learning. Figure II.2.7 shows, for example that students who used textbooks, workbooks or worksheets, whether on paper or digital, every day or almost every day during COVID-19 school closures showed greater persistence and curiosity. The relationship between social and emotional skills, and academic performance might be small, but even small effects can have a major impact on outcomes over time. Behaviours are reinforced and maintained as positive outcomes accrue (Roberts, Caspi and Moffitt, 2003[20]). More curious and persistent students are willing to invest more time and effort in learning, beyond obligatory assignments, which helps them perform better academically, personally and professionally long after their school days are over.

Figure II.2.7. Persistence, curiosity and learning resources during COVID-19 school closures

Change in the index of persistence and curiosity when students reported using the following learning resources during COVID-19 school closures every day or almost every day compared to those who reported using them about once or twice a week or less; OECD average



Notes: All values are statistically significant (see Annex A3).

All linear regression models account for students' and schools' socio-economic profile. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

Learning resources are ranked in descending order of the change in the index of persistence.

Source: OECD, PISA 2022 Database, Chapter 2.

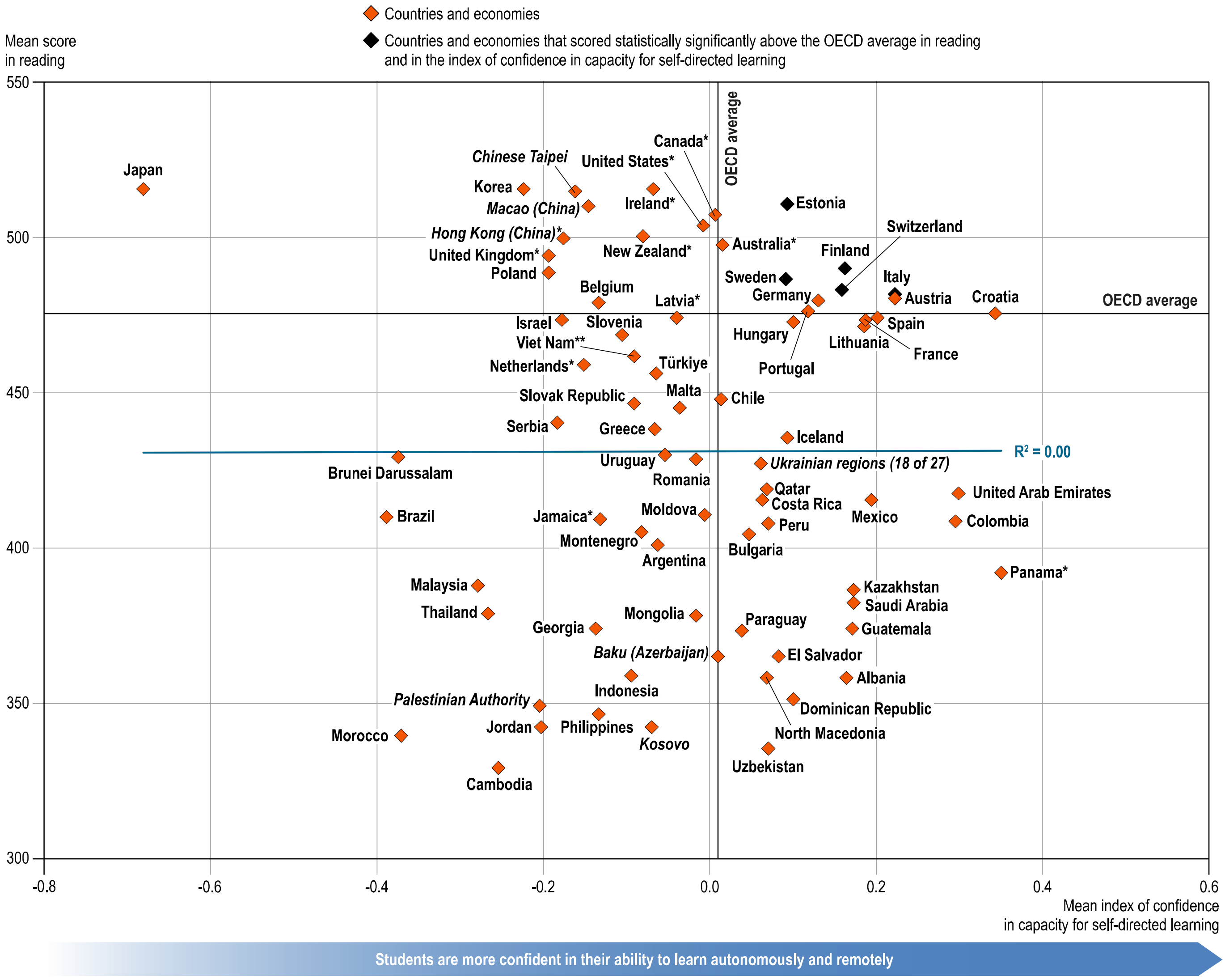
Few systems prepared their students well for remote learning

Students in most of the education systems that have shown to be resilient in mathematics from pre- to post-COVID did not have above-average confidence in their capacity for self-directed learning. The pre- to post-COVID trends observed in PISA 2022 were unrelated to students' average confidence in these practices.

Students in Colombia, Croatia, Panama* and the United Arab Emirates, on the other hand, reported feeling particularly confident, on average, about their capacity to learn remotely and autonomously if their school building has to close again in the future (Table II.B1.2.5 and Figure II.2.8). However, in all of these countries the average performance in reading was below the OECD average in 2022 (see Table I.2.2 Volume I (OECD, forthcoming[21])); only in Croatia was reading performance close to the OECD average in 2022. Sufficient reading skills are required if students are to learn on their own, since digital and non-digital learning resources are heavily text-based.

In contrast, in Estonia, Finland, Italy, Sweden and Switzerland students' confidence in their capacity for self-directed learning and average performance in reading were both above the OECD average, indicating a solid foundation for remote and more autonomous learning. In all of these education systems mathematics performance was also close to or above the OECD average in 2022 (Table II.1).

Figure II.2.8. Reading performance and students' confidence in their capacity for self-directed learning



** Caution is required when comparing estimates based on PISA 2022 with other countries/economies as a strong linkage to the international PISA reading scale could not be established (see Reader's Guide and Annex A4).

Note: Countries and economies that scored statistically significantly above the OECD average in reading and in the index of confidence in capacity for self-directed learning are marked in a darker tone (see Annex A3).

Source: OECD, PISA 2022 Database, Annex B1, Chapter 2; and Volume I, Annex B1.

To ensure effective learning in remote mode, schools also need to be prepared for remote instruction. PISA 2022 found that schools' preparedness for remote instruction differed across countries/economies and that schools that took actions to adjust remote instruction before or in response to COVID-19 are better prepared for remote instruction in the future (see Box II.2.4).

Box II.2.4. Easing the shift to remote learning

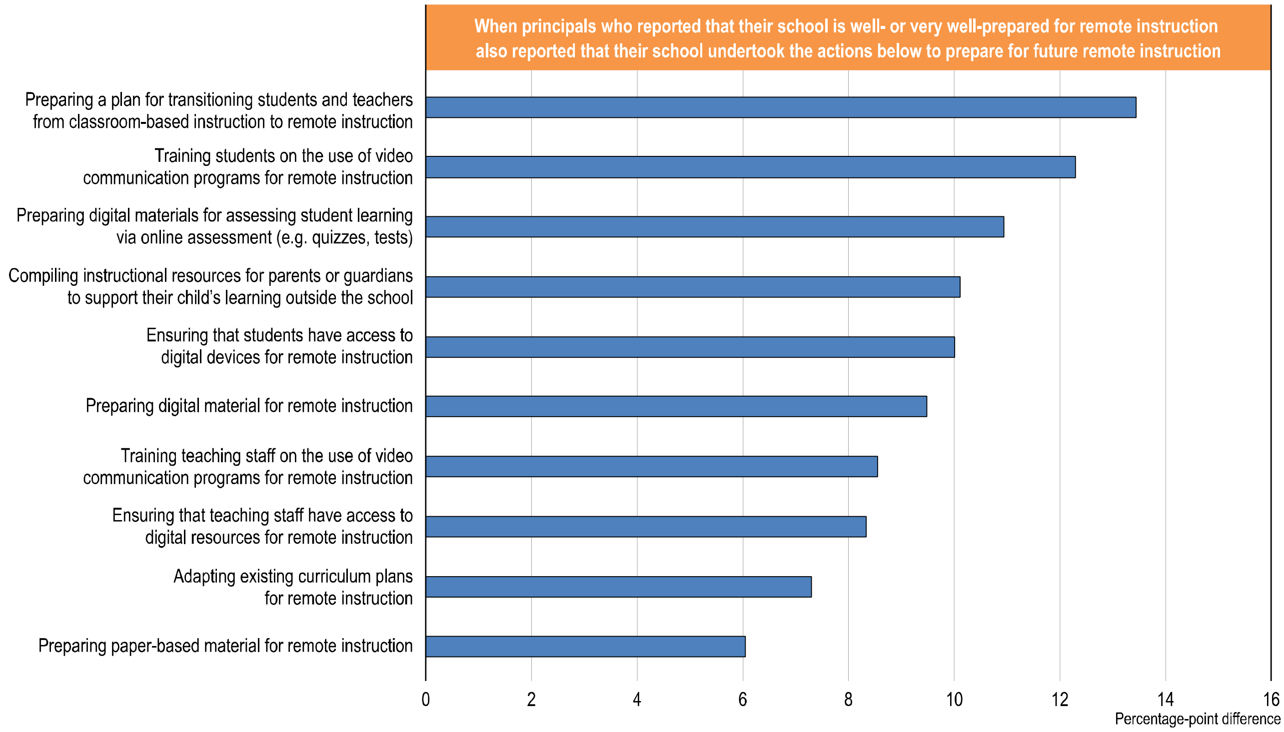
Schools' preparedness for future remote learning varied significantly across countries/economies in 2022. Principals in the Dominican Republic, North Macedonia, the Philippines, Saudi Arabia and Thailand reported that their schools were very well-prepared for remote learning after the pandemic, while principals in France, Greece, Iceland and Morocco reported that their schools were not well-prepared (Table II.1.2.22). In some countries/economies, including Saudi Arabia and Thailand, principals reported that their schools were already well-prepared for remote instruction before COVID-19. This suggests that these school systems both managed school closures due to the pandemic better than others and appear prepared for remote learning in the future.

However, overall results suggest some schools struggled to shift to remote learning during school closures while others grew from this experience. Principals in several countries, including Iceland and Morocco, reported that their schools were less prepared for remote instruction after the pandemic, whereas principals in Albania, Brazil, Cambodia and Romania reported that their schools were more prepared after the pandemic. Figure II.2.9 shows that a possible explanation for these perceptions is that some schools took actions to adjust to remote instruction while others did not, leading their principals to feel more or less prepared for remote instruction in the future (Table II.1.2.23).

The largest difference in preparedness was observed for schools that prepared a plan for transitioning students and teachers from classroom-based instruction to remote instruction before or in response to COVID-19 compared to those that did not. More students were in schools whose principal reported feeling well- or very well-prepared for future remote instruction when the principal also reported that the school prepared a transitioning plan (a difference of 13 percentage points compared with the percentage of students in schools that had not prepared a transitioning plan). Other actions that are related to a school's preparedness for remote learning are the use of video communication programs for remote instruction and preparing digital material for remote education (e.g. reorganising existing resources and/or designing new resources). PISA 2022 data suggest that preparing paper-based material for remote instruction or adjusting existing curriculum plans is less relevant, on average across OECD countries. However, in the Netherlands* and the United Kingdom* more students were in schools whose principal reported feeling well- or very well-prepared for future remote instruction and who also reported that the school prepared paper-based material for remote instruction (a difference of 48 and 41 percentage points, respectively). In Japan and Morocco more students were in schools whose principal reported feeling well- or very well-prepared for future remote instruction and who also reported that the school adapted existing curriculum plans (a difference of 37 and 40 percentage points, respectively). The bottom line is that using available resources and undertaking concrete actions to use those resources to prepare for remote education helped principals feel better prepared for remote instruction if their school building has to close to students for an extended period in the future.

Figure II.2.9. Perceived preparedness for remote instruction, by actions taken

OECD average



Note: All values are statistically significant (see Annex A3).

Items are ranked in descending order of the percentage-point difference between the share of students in schools whose principal reported that their school is well-prepared or very well-prepared to provide remote instruction, compared to the share of students in schools whose principal reported that their school is not very prepared or not prepared at all to provide remote instruction.

Source: OECD, PISA 2022 Database, Chapter 2.

Components of resilience: Providing positive learning experiences

Students' experiences with remote learning vary widely, with important implications for their engagement with online learning, their performance and their psychological well-being (Deng et al., 2021[22]; Ineval Ecuador, 2022[23]; McKellar and Wang, 2023[24]; Walters et al., 2021[25]). Education systems and schools need to ensure that those students affected by school closures have the support necessary to benefit from remote learning and remain healthy.

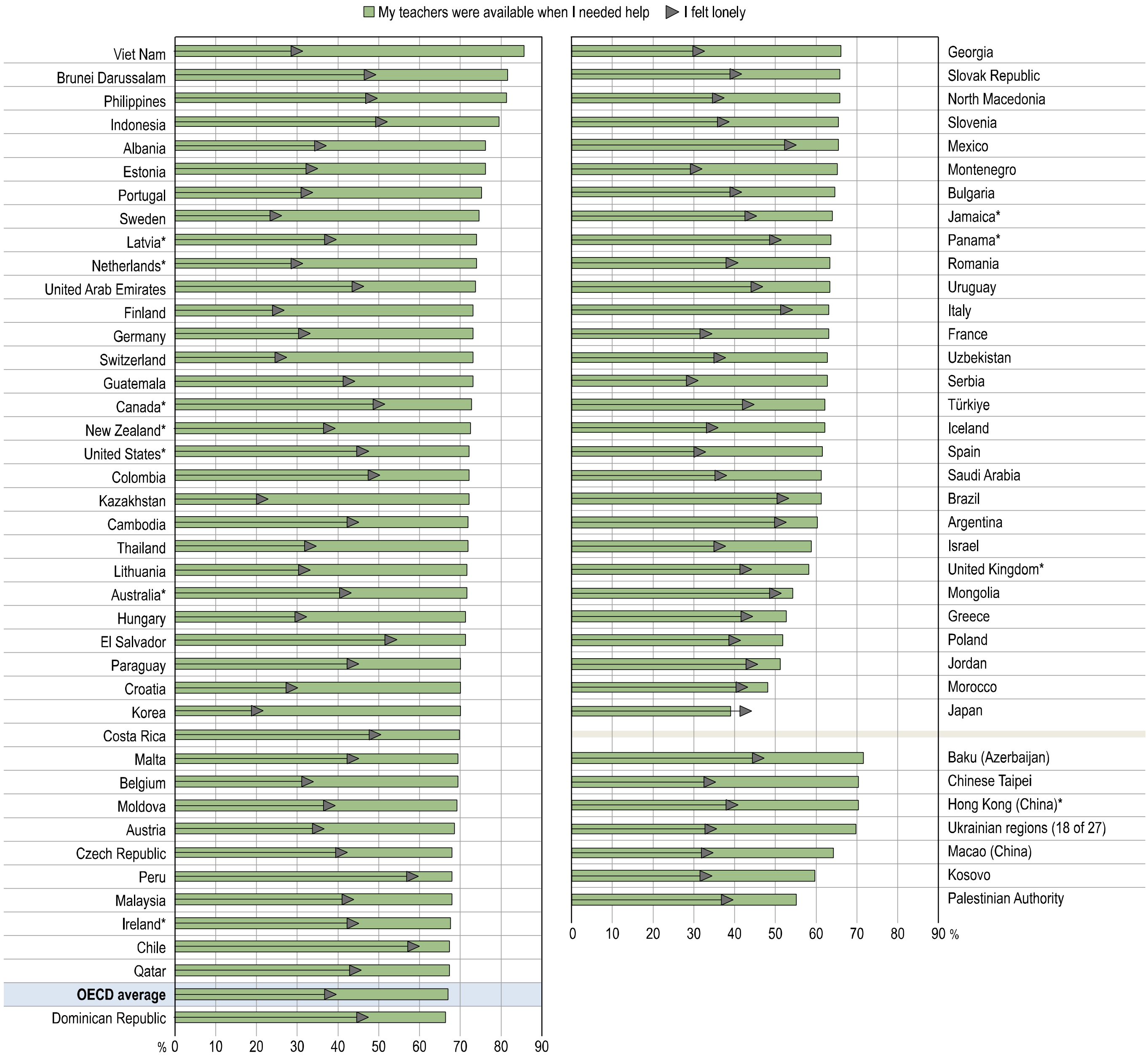
Three in ten students reported that teachers were not available when needed during school closures

Overall, PISA 2022 results suggest that students' experience with remote learning was not positive (Table II.B1.2.24). On average across OECD countries, less than 70% of 15-year-old students agreed or strongly agreed that their teachers were available when they needed help and that they improved their skills in using digital devices for learning purposes. Only around half of all students enjoyed learning by themselves, felt well-prepared for learning remotely or that their teachers were well-prepared to provide instruction remotely. At the same time, 40% of all students felt lonely, and 50% of all students felt anxious about school work and reported that they fell behind in their school work and that they missed sports and other physical activities organised by their school. Only around four in ten students were motivated to learn.

Students from different education systems differed in their experiences with remote learning. For example, teachers across education systems were not equally available when students needed help (Figure II.2.10). Over 80% of students in Brunei Darussalam, the Philippines and Viet Nam agreed or strongly agreed that their teachers were available when they needed help, whereas in Japan and Morocco less than 50% of students so reported.

Figure II.2.10. Teacher support and students' loneliness

Percentage of students who agreed or strongly agreed with the following statements about the time when their school building was closed because of COVID-19; based on students' reports



Countries and economies are ranked in descending order of the percentage of students who reported that their teachers were available when they needed help.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

On average across OECD countries, socio-economically advantaged students and students attending upper secondary school (ISCED-3) agreed or strongly agreed more often than disadvantaged students and those in lower secondary school (ISCED-2) that, when their school building was closed because of COVID-19, their teachers were available when they needed help (Table II.B1.2.25). Similarly, girls indicated more often than boys, on average, that their teachers were available when needed. Large variations were also observed across countries/economies. For instance, around 70% of advantaged students but only 64% of disadvantaged students reported that their teachers were available when needed – a significant difference of 6 percentage points, on average across OECD countries/economies (Table II.B1.2.25). Yet this difference was observed in less than half of all participating countries/economies, and differed in magnitude. For example, in Korea, Malaysia, New Zealand*, Türkiye and Ukrainian regions (18 of 27) the percentage-point difference was over or close to 15 points, whereas it was less than 8 points in Argentina, Brunei Darussalam, Finland, Ireland*, Morocco, Qatar, the Palestinian Authority, the United Arab Emirates and the United Kingdom*. Equally important, in North Macedonia and Paraguay the difference related to socio-economic status was reversed: disadvantaged students agreed more often than their advantaged peers that their teachers were available when needed.

Students' experience with learning at home was more positive in systems that were fair and better prepared for remote learning

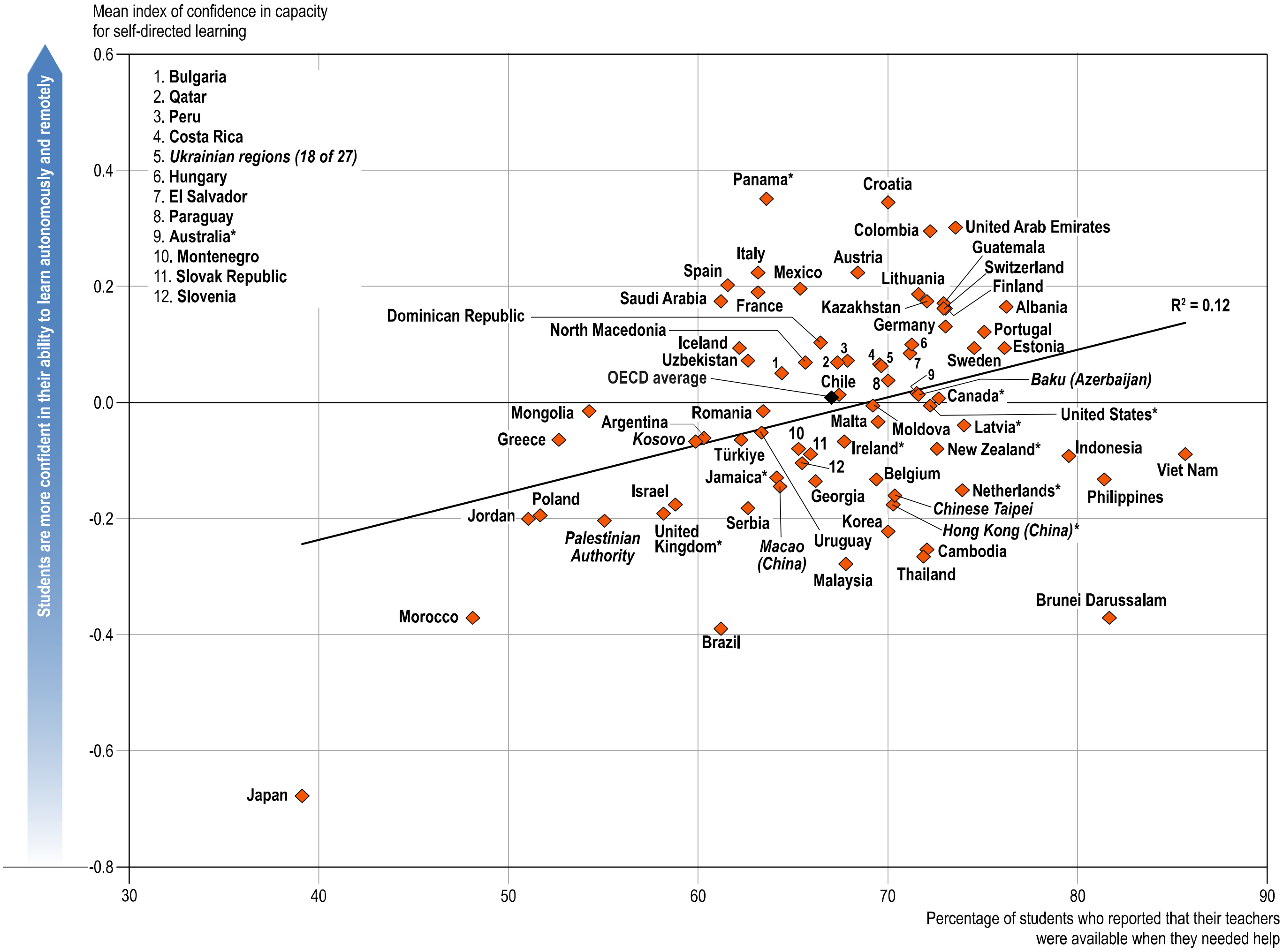
Students in education systems that ensured a more positive experience with remote learning during school closures were more confident that they could learn independently and remotely if their school has to close again in the future (Figure II.2.11). For instance, in Estonia, Finland, Sweden and Switzerland students scored above the OECD average in reading and reported above-average confidence in their capacity for self-directed learning in 2022 (Figure II.2.8). Students in these countries also reported that their experience with remote learning was particularly positive, with 73% or more of all students reporting that their teacher was available when they needed help.

Findings for students' experience with learning at home and education system's resilience were mixed. Students in low-performing systems reported more positive experiences with learning at home (Table II.B1.2.45) – as did students in systems that were more socio-economically fair. More important, students' experience with learning at home was unrelated to performance trends (Table II.B1.2.46).

When interpreting the relationship between the index of students' experience with learning at home and both performance and well-being, it is important to keep in mind that the index comprises a variety of experiences with learning at home, and their relationship with students' performance within countries/economies varies substantially. However, their association with students' confidence in self-directed learning point in a similar direction overall (see below and Tables II.B1.2.26 and II.B1.2.29).

Figure II.2.11. Teacher support and students' confidence in their capacity for self-directed learning

Based on students' reports of their experience during COVID-19 school closures



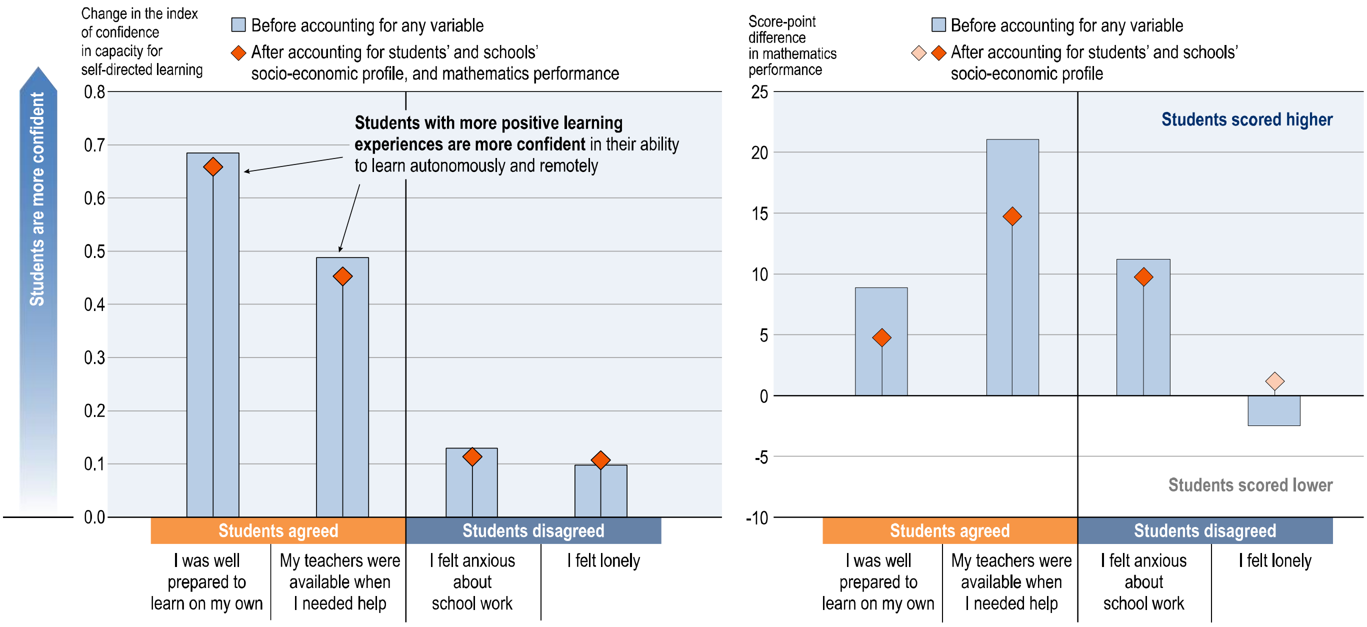
Note: Positive values on the vertical axis mean students are more confident in their capacity for self-directed learning.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

Students whose teachers were available for help when schools were closed scored higher in mathematics and were more confident in their capacity for self-directed learning

As in the system-level findings, students' experiences were related to their confidence in their capacity for self-directed learning, before and after accounting for students' and schools' socio-economic profile, and performance in mathematics (Figure II.2.12, Tables II.B1.2.26, II.B1.2.27 and II.B1.2.28). On average across OECD countries, students with more positive experiences – for example, students who agreed or strongly agreed that they feel well-prepared to learn on their own or that their teachers were available when they needed help – felt more confident about learning independently if their school has to close again in the future. Experiences more closely related to learning remotely (e.g. students' and teachers' preparedness and teachers' availability) were strongly related to students' confidence, whereas more general experiences were weakly or even negatively related (e.g. feeling lonely or anxious about schoolwork, missing sports and physical activities organised by schools).

Figure II.2.12. Remote learning, mathematics performance and confidence in self-directed learning

Change in the index of confidence in students' capacity for self-directed learning/in mathematics performance, when students agreed or disagreed with the following statements about the time when their school building was closed because of COVID-19; OECD average



Notes: Changes in the index of confidence in students' capacity for self-directed learning are all statistically significant (see Annex A3).
Score-point differences in mathematics that are statistically significant are shown in a darker tone (see Annex A3).
The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).
Items are ranked in descending order of the change in the index of students' confidence in their capacity for self-directed learning, after accounting for students' and schools' socio-economic profile, and mathematics performance.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

In line with the system-level results, findings for the relationship between students' experiences on the one hand, and performance in mathematics, on the other, were mixed (Table II.B1.2.26). Teachers' availability when students needed help had the strongest relationship to both average mathematics performance and students' confidence in self-directed learning, on average across OECD systems. Students who agreed or strongly agreed that their teacher was available scored 15 points higher in mathematics and were more confident than their peers that they can learn autonomously and remotely.

Components of resilience: Removing obstacles to remote learning

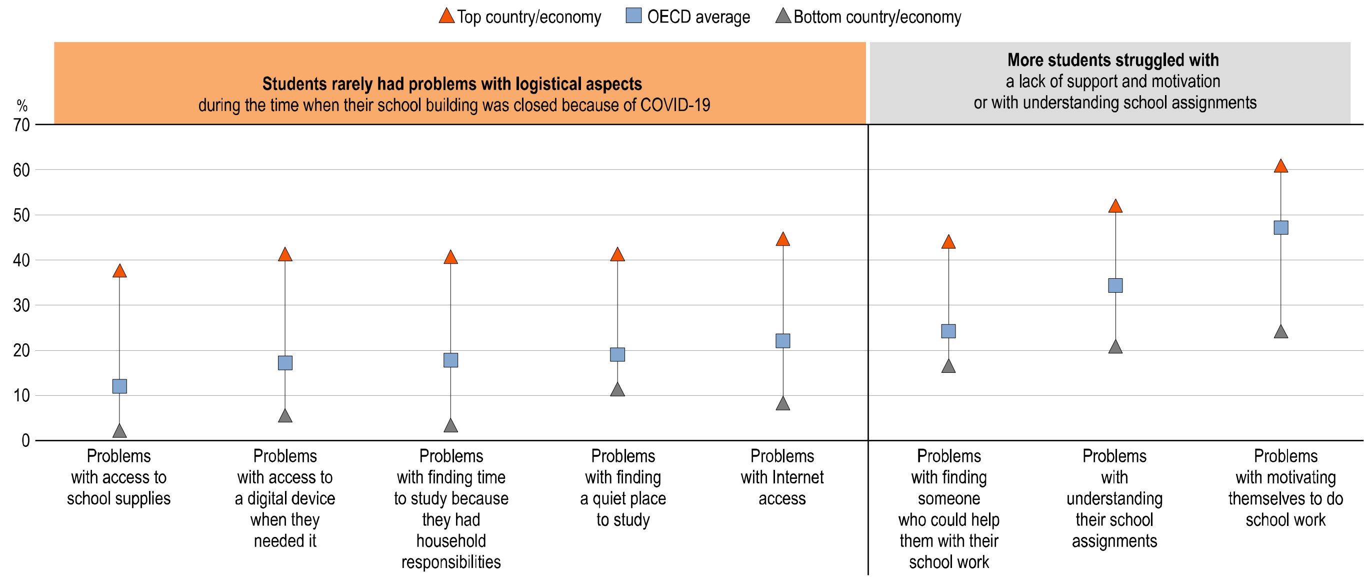
Some students, often those who were already having difficulties in face-to-face learning settings, such as socio-economically disadvantaged or low-achieving students, struggled even more during COVID-19-related school closures. Low-achieving students, for example, found it hard to motivate themselves to learn remotely (Berger et al., 2021[26]; Mælan et al., 2021[27]). Disadvantaged students tend to have limited access to digital devices and the Internet at home, and their families might not be able to provide the same kinds of support that more advantaged families can offer (Irwin, 2021[28]; Shi et al., 2022[29]). Removing obstacles to remote learning is essential for ensuring that students can continue to learn and remain connected to schools throughout the distance-learning period.

Remote learning left many students struggling to understand assignments and motivate themselves

PISA 2022 results show that most students across OECD countries reported that they rarely had problems learning remotely and independently during the time when their school building was closed because of COVID-19; however many students struggled with motivating themselves to do schoolwork or with understanding school assignments (Figure II.2.13 and Table II.B1.2.30). At least three out of four students reported that they never or only a few times had problems with access to a digital device when they needed it, with Internet access, with finding a quiet place to study, with time to study because of household responsibilities or with finding someone who could help them with schoolwork. In contrast, almost one in two students indicated that they had problems at least once a week with motivating themselves to do schoolwork. One in three students had problems at least once a week with understanding school assignments. Students across education systems were not troubled by these problems to the same extent. For instance, in Australia* and the United Kingdom* six out of ten students reported having frequent problems to motivate themselves to do schoolwork – more than double the share of students in Guatemala, Iceland, Indonesia, Kazakhstan, Korea, Moldova and Chinese Taipei who so reported.

Figure II.2.13. Problems with remote learning

Percentage of students who reported that when their school building was closed because of COVID-19 they had the following problems when completing their school work once a week or every day or almost every day; OECD average



Items are ranked in ascending order of the percentage of students at the OECD average.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

There were also large disparities between students of different socio-economic status within countries. Across OECD countries and in over half of all countries/economies, more disadvantaged students than advantaged students reported that they had frequent problems with remote learning; but in over a third of all countries/economies there was no significant difference between these two groups of students (Table II.B1.2.31). Interestingly, in Cambodia and Korea advantaged students were more likely than disadvantaged students to report frequent problems with remote learning.

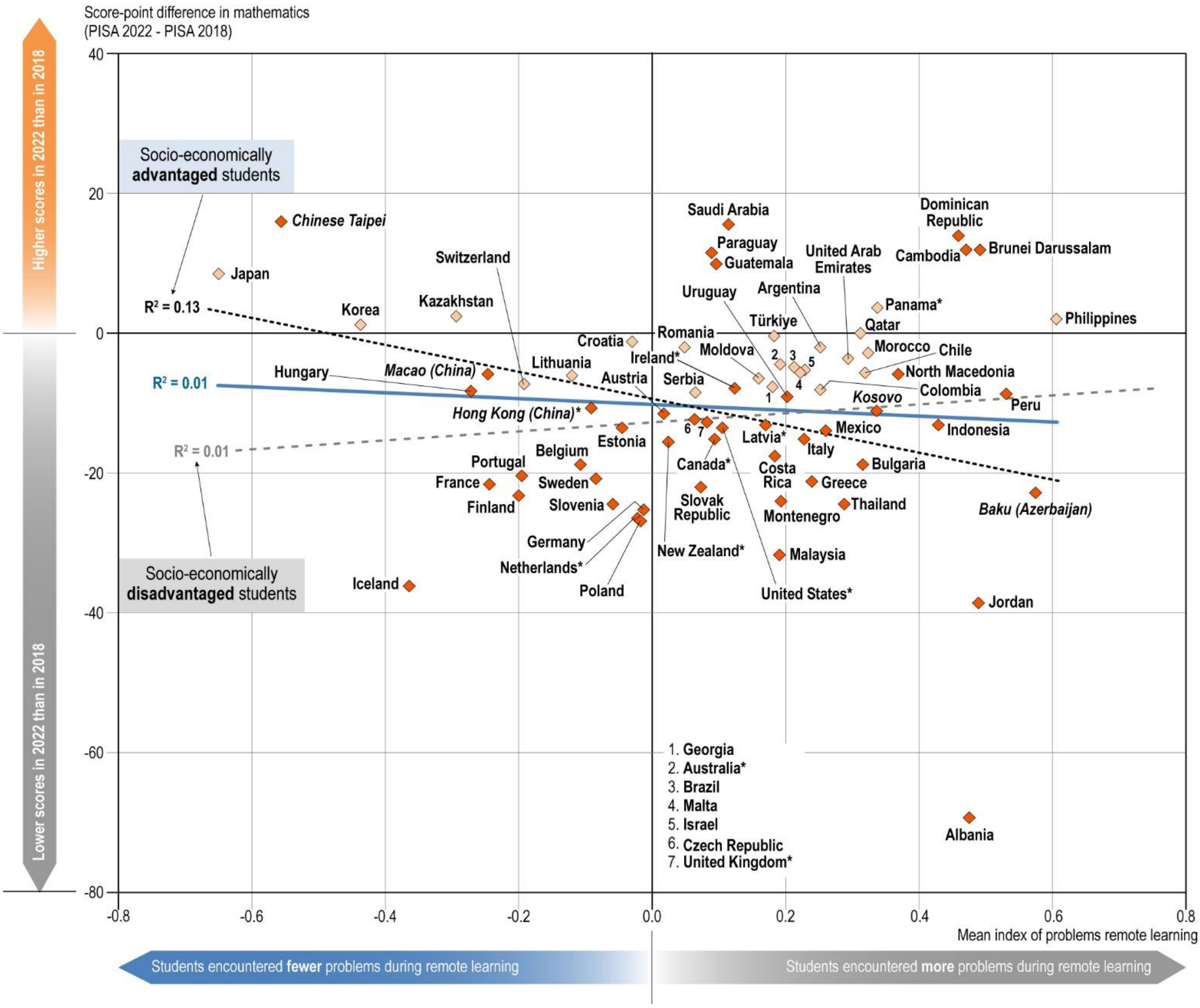
In resilient education systems, students encountered fewer problems during remote learning

Education systems in which students encountered fewer problems during remote learning also saw improvements in their students' sense of belonging at school pre- to post-COVID (Table II.B1.2.46). This could be a sign that removing obstacles to remote learning helps keep students engaged with school. These systems also tended to be high performers in 2022 (Table II.B1.2.45).

Systems where students faced fewer problems during remote learning showed more positive trends in mathematics performance from pre- to post-COVID for advantaged students (Figure II.2.14). At the same time, problems with remote learning were unrelated to disadvantaged students' performance. Students in Japan, Korea and Chinese Taipei, where average performance in mathematics between 2018 and 2022 improved or remained stable, including those of advantaged and disadvantaged students, reported fewer problems with remote learning than did students across OECD countries. In these systems over 88% of students – 6 percentage points or higher than the OECD average – reported that they rarely had problems finding time to study because they had household responsibilities. Education systems in which fewer students reported problems with remote learning also had more positive 2018-2022 performance trends (Table II.B1.2.48), when analysed in relation to longer-term trends (i.e. "adjusted short-term trends"), even though no significant relationship was observed to the 2018-2022 performance trends, when longer-term trends were not considered (i.e. "unadjusted short-term trends", see Box II.2.1 for an explanation).

Figure II.2.14. Problems with remote learning and mathematics performance, by students' socio-economic status

Change between 2018 and 2022



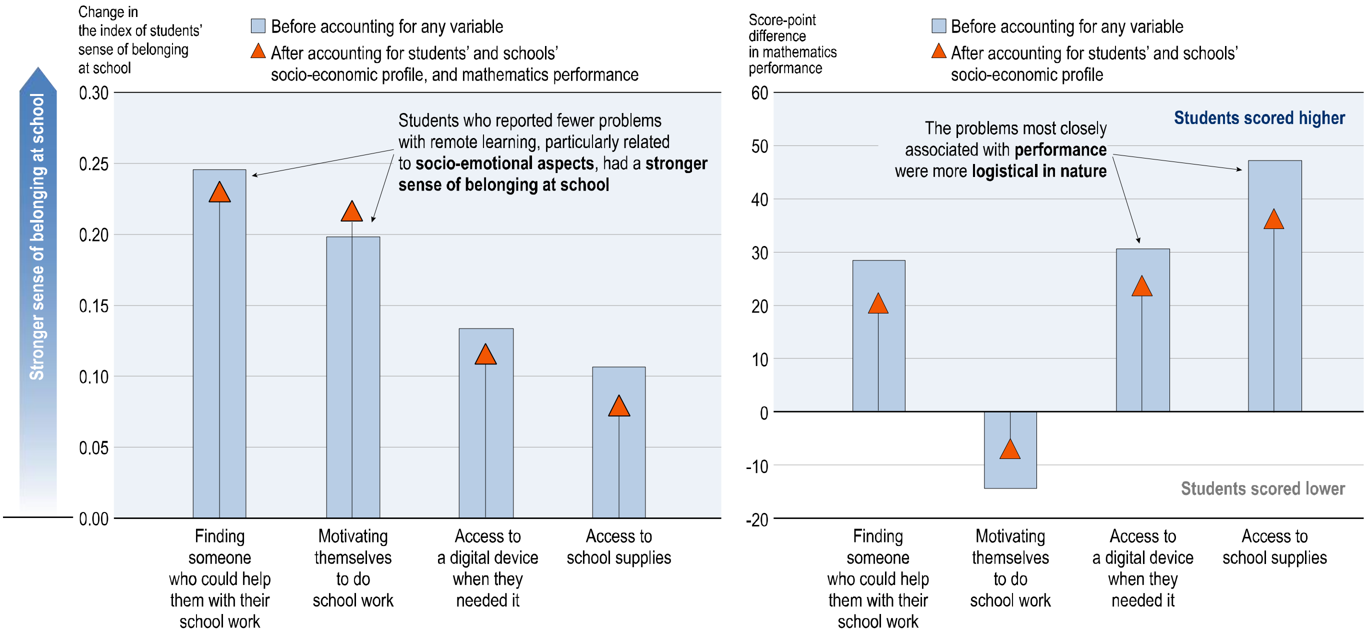
Notes: Statistically significant changes in mathematics performance between 2018 and 2022 are shown in a darker tone (see Annex A3).
Positive values in the index of problems with remote learning indicate that the student encountered more problems during remote learning. Negative values indicate that the student encountered fewer problems.
A socio-economically disadvantaged (advantaged) student is a student in the bottom (top) quarter of the PISA index of economic, social and cultural status (ESCS) in his or her own country/economy.
Source: OECD, PISA 2022 Database, Annex B1,

Students who faced fewer problems with remote learning felt more connected to their school and performed better

Students in education systems with fewer problems with remote learning reported a stronger sense of belonging at school (Table II.B1.2.45). Similar results were observed within countries/economies. On average across OECD countries, PISA 2022 found that students who had fewer problems with remote learning had a stronger sense of belonging at school, before and after accounting for students’ and schools’ socio-economic profile and performance in mathematics (Table II.B1.2.35). More socio-emotional aspects, such as problems finding someone who could help with their schoolwork or motivating themselves to do schoolwork, were more strongly related to students’ sense of belonging than to more logistical aspects, such as problems with Internet access or with access to a digital device when they needed it (Figure II.2.15).

Figure II.2.15. Problems with remote learning, and sense of belonging and mathematics performance

Change in the index of students' sense of belonging at school/in mathematics performance, when students faced the following problems only a few times or never when their school building was closed because of COVID-19; OECD average



Notes: Changes in the index of students' sense of belonging at school and score-point differences in mathematics are all statistically significant (see Annex A3).
The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).
Items are ranked in descending order of the change in the index of students' sense of belonging at school, after accounting for students' and schools' socio-economic profile, and mathematics performance.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

On average across OECD countries, high-performing students reported fewer problems with remote learning, such as problems with Internet access and problems with finding a quiet place to study (Figure II.2.15 and Tables II.B1.2.32, II.B1.2.33 and II.B1.2.34). Students with fewer problems scored eight points higher in mathematics than did students with more problems. The problems most closely related to performance were more logistical in nature: access to school supplies, finding time to study because of household responsibilities or access to a digital device when they needed it. The only aspect negatively related to mathematics performance was motivation: students who rarely had problems motivating themselves to do schoolwork scored lower in mathematics. A possible explanation is that those students are generally less motivated to engage in school so that the shift to distance learning was not seen as particularly problematic.

Components of resilience: Providing support to maintain students’ learning and well-being

Many countries were obliged to learn “on the job”, as the pandemic was progressing, how best to educate their students while safeguarding their students’ health and psychological well-being. Inevitably, approaches to assisting schools and students in managing the pandemic and distance learning varied widely across countries and, within countries, across individual schools (Lab, 2021[9]; OECD, 2021[1]; OECD, 2021[2]; Schleicher, 2020[10]; UNESCO Institute for Statistics UNICEF The World Bank OECD, 2022[3]).

When their schools were closed, education staff focused more on curriculum goals than on students' well-being

PISA 2022 results for OECD countries show that the most common daily school actions and activities to support students ensured that curriculum goals are met, while actions to promote students' well-being and self-directed learning skills were less common. On average, schools supported most students daily through live virtual classes on a video communication program (51% of students attended such schools), uploads of material on a learning-management system or school learning platform (46%), by sending assignments (45%) or asking for a submission of completed school assignments (40%; Figure II.2.16 and Table II.B1.2.36).

Figure II.2.16. School actions and activities to maintain learning and well-being

Percentage of students who reported that someone from their school did the following daily when their school building was closed because of COVID-19; OECD average

Items are ranked in ascending order of the percentage of students at the OECD average.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

Other forms of daily support were less common, such as sending learning materials to students to study independently (33% of students attended such schools), checking in with students to ensure that they were completing their assignments (24%) or giving helpful tips about how to study independently (17%). Only around one in ten students (13%) was asked daily, by someone from the school, how they were feeling. Schools across education systems varied substantially in their daily support. For instance, in Hong Kong (China)*, Macao (China), the Netherlands* and Sweden schools checked in with less than 7% of students to ask them how they were feeling, while schools in Albania and Uzbekistan did so for around 40% of students.

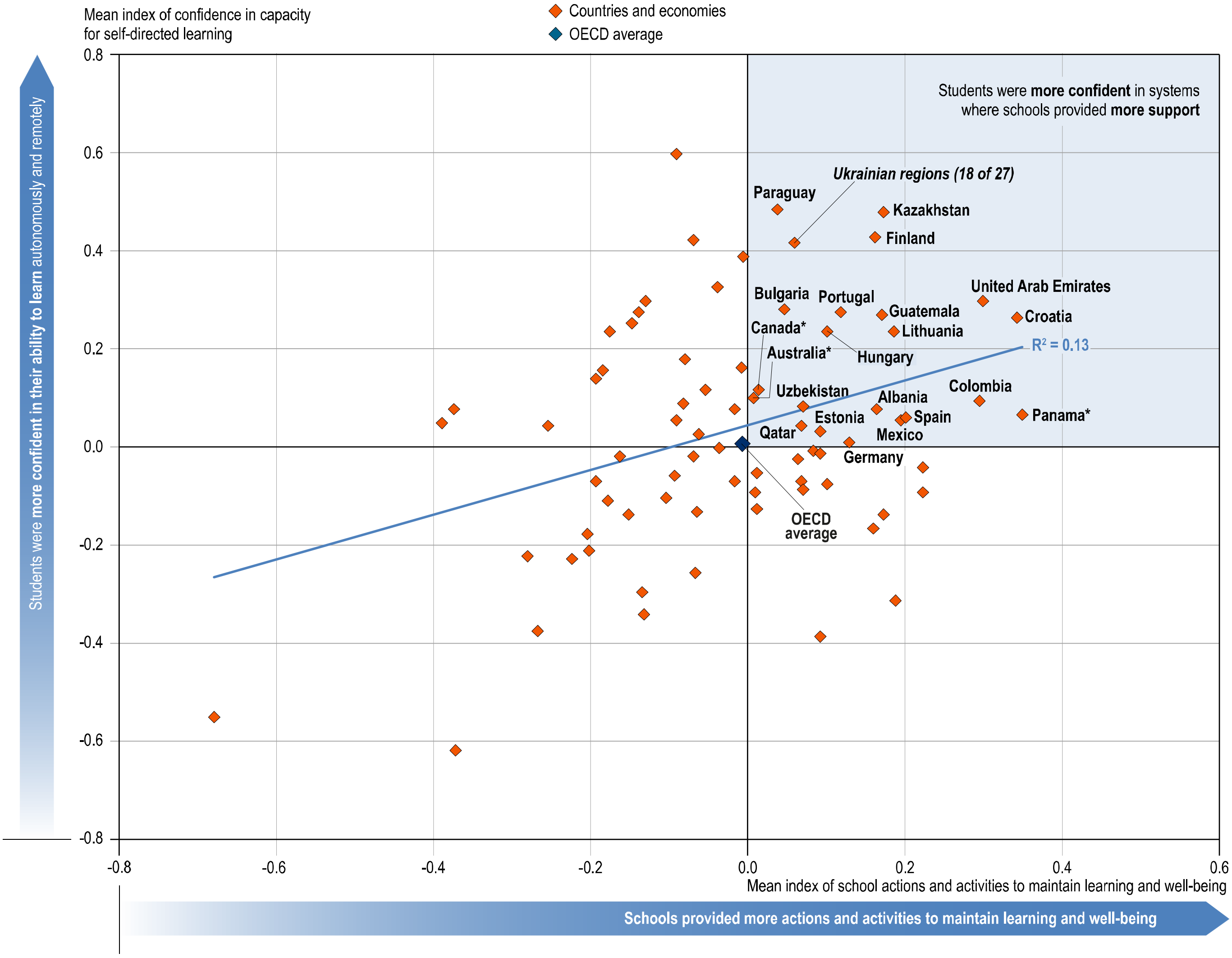
Not only did schools in different countries/economies vary in how they supported students in their learning and well-being during school closures, but schools within the same countries/economies varied as well (Table II.B1.2.37). On average across OECD countries and in all countries/economies except for Paraguay and Ukrainian regions (18 of 27), disadvantaged students were less likely than their advantaged peers to report that their school undertook actions and activities to maintain learning and well-being during the COVID-19 school closures. The widest socio-economic gaps were observed in Baku (Azerbaijan), Brunei Darussalam, Korea, Malaysia, Mongolia, Morocco and Qatar.

Moreover, girls reported more school actions and activities during the COVID-19 school closures than boys did, on average across OECD countries and in all participating countries/economies (Table II.B1.2.37). The only exceptions were Albania, Baku (Azerbaijan), the Czech Republic, Korea, Malta, Panama*, Peru, the United Kingdom* and Viet Nam, where no significant gender disparities were observed. On average across OECD countries, students in upper secondary education (ISCED-3) and those without an immigrant background reported more school activities and actions than students in lower secondary education (ISCED-2) and students with an immigrant background. Overall, findings were more mixed, with many education systems not showing any differences, while in Kazakhstan and Chinese Taipei students in lower secondary education reported more school actions and activities to maintain learning than did students in upper secondary school. In addition, in Australia*, Brunei Darussalam, Canada*, Estonia, Macao (China), New Zealand*, Qatar and the United Arab Emirates students with an immigrant background were more likely than those without an immigrant background to report that schools took actions to maintain their learning during the COVID-19 school closures.

Students were more confident in their capacity for self-directed learning in those systems that provided more support during school closures

Students in education systems whose schools provided more actions and activities to maintain learning and well-being during school closures were more confident in their ability to learn autonomously and remotely if their school has to close again in the future (Figure II.2.17). In Finland, for example, students' confidence in their capacity for self-directed learning and reading performance was above the OECD average as well as the support actions and activities by schools that students reported for the time learning happened remotely. Over 30% of students in Finland reported that someone from their school daily or almost daily gave them helpful tips about how to study on their own during the COVID-19 school closures, which is almost double the share as on average across OECD countries.

Figure II.2.17. Actions to maintain students' learning and well-being, and students' confidence in self-directed learning



Notes: Positive values on the vertical axis mean students are more confident in their capacity for self-directed learning.
Positive values on the horizontal axis mean schools provided more actions and activities to maintain learning.
Only countries and economies that show positive values on both indices are shown in the figure.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

Schools' actions to support students during closures were related to better performance and well-being

On average across OECD countries, students who reported that schools did more to maintain students' learning and well-being during school closures scored 6 to 9 points higher in mathematics, science and reading, after accounting for students' and schools' socio-economic profile (Tables II.B1.2.38, II.B1.2.39 and II.B1.2.40). In Brunei Darussalam and Thailand the difference in mathematics performance was as large as 15 score points.

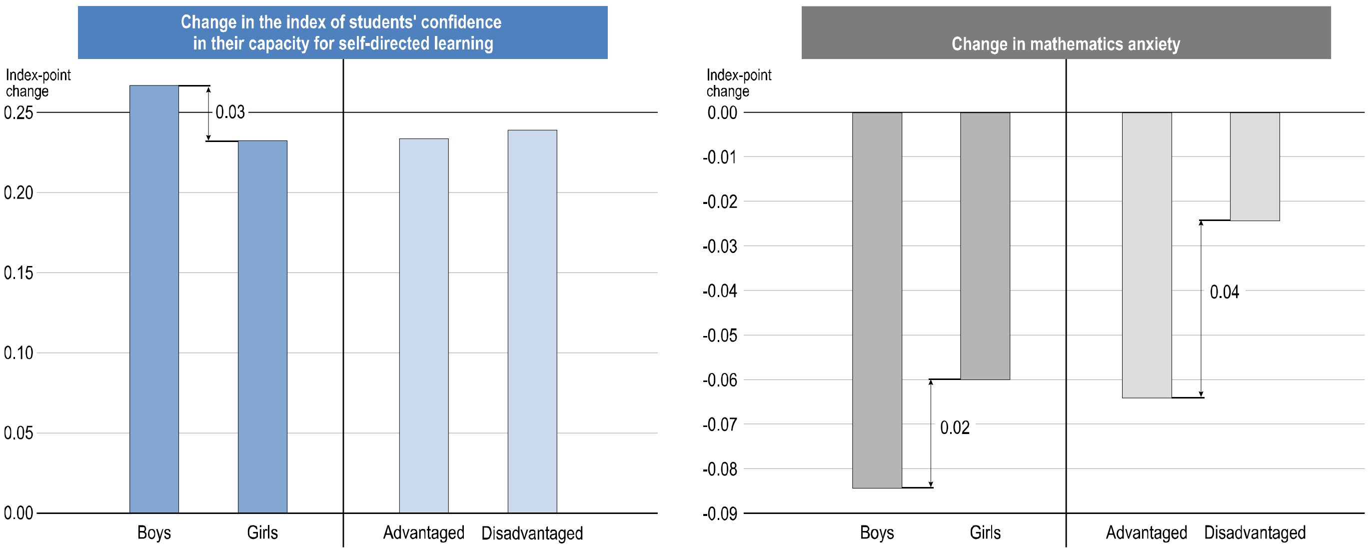
Students who reported more support from schools during school closures also reported greater well-being than students who reported less support from their schools, on average across OECD countries and after accounting for students' and schools' socio-economic profile, and students' performance in mathematics. More specifically, students who received greater support were more satisfied with life, felt more strongly that they belong at school and felt more confident about their capacity for self-directed learning (Table II.B1.2.41). They also reported less anxiety towards mathematics.

There were large differences in type of support received. On average across OECD countries, students who received daily live virtual classes scored higher in mathematics and reported a greater sense of belonging (Tables II.B1.2.38 and II.B1.2.42). However, students who were daily asked how they were feeling or provided with helpful tips about how to study on their own by someone from their school scored lower in mathematics. These findings may indicate that schools targeted extra support from school staff to low-performing students or that low-performing students requested more support from school staff. After accounting for students' and schools' socio-economic profile, and mathematics performance, this kind of support was among the most strongly and positively related to students' well-being, including sense of belonging and life satisfaction.

On average across OECD countries in 2022, and among all groups of students, the relationship between school actions and activities to maintain learning and students' confidence in their capacity for self-directed learning was positive, while the association between school actions and students' anxiety towards mathematics was negative. However, there were significant, though small, differences between particular groups of students (Figure II.2.18). For instance, the relationships were somewhat stronger among boys than among girls. When considering self-directed learning, the gender gap, in favour of boys, was particularly large in Baku (Azerbaijan) and Malta; when considering mathematics anxiety, the difference, in favour of boys' attitudes towards mathematics (i.e. boys reported much less anxiety towards mathematics if their school undertook more of these actions), was largest in the Dominican Republic and Hong Kong (China) (Tables II.B1.2.43 and II.B1.2.44).

Figure II.2.18. School actions to maintain learning and well-being, and selected student outcomes, by student characteristics

Change in the index of students' confidence in their capacity for self-directed learning/index of mathematics anxiety, associated with a one-unit increase in the index of school actions and activities to maintain learning and well-being; OECD average



Notes: All values are statistically significant (see Annex A3).

Only differences between boys and girls and advantaged and disadvantaged students that are statistically significant are shown in the figure.

A socio-economically disadvantaged (advantaged) student is a student in the bottom (top) quarter of the PISA index of economic, social and cultural status (ESCS) in his or her own country/economy.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 2.

On average across OECD countries, the relationship between schools' actions to maintain learning and mathematics anxiety was considerably stronger among socio-economically advantaged students than among disadvantaged students (Figure II.2.18 and Table II.B1.2.44). The difference in the strength of the relationship with mathematics anxiety, in favour of advantaged students (i.e. advantaged students reported much less anxiety towards mathematics if their school undertook more of these actions), was particularly large in Hungary, Jamaica* and the Ukrainian regions (18 of 27) even though the relationship was not observed in the majority of education systems. Across OECD countries, the relationships with students' confidence in their capacity for self-directed learning and with mathematics anxiety were similar in magnitude between immigrant and non-immigrant students and between those in upper and lower secondary schools.

Components of resilience: Designing and implementing emergency policies

In times of crisis, countries and schools benefit from prior investments made in improving school policies and practices, and creating a nurturing, safe environment for students (see Chapters 3 to 6). Nonetheless, specific emergency measures are sometimes needed to weather sudden disruptions.

Some countries used the disruption caused by the pandemic as an opportunity to change policies about digitalisation in education

Table II.2.1 shows the percentage of PISA 2022-participating countries/economies with available system-level data on education responses to the COVID-19 school closures2 (See Annex B3 for more information). About half of OECD countries (52%) reported that they continued standardised testing in the 2020/21 academic year; most OECD countries (84%) reported that they continued standardised testing in 2021/22. Among the countries that implemented standardised testing, the vast majority assessed mathematics (95%) and reading (95%) but only two-thirds assessed science (65%). This trend is consistent across all PISA 2022-participating countries/economies with available system-level data (89% assessed mathematics, 91% assessed reading, and 65% assessed science).

Most countries/economies also reported undertaking studies about the impact of COVID-19 on the mental health and well-being of students (85% of OECD countries; 63% of all countries/economies) (Table II.2.1). However, only 46% of OECD countries and 34% of all countries/economies reported studying the impact of COVID-19 on non-cognitive skills. Given the inter-related development of cognitive and non-cognitive skills (OECD, 2021[30]), countries/economies that examined both cognitive and non-cognitive skills may have a more comprehensive understanding of the impact of COVID-19 on students' learning outcomes. These countries include Colombia, France, Korea, Latvia*, the Netherlands*, Norway, Portugal and Slovenia. See Annex B3 (Table B3.3.3.) for more information.

The three learning-recovery policies that a large number of countries/economies implemented during the 2020/21 school year were (Table II.2.1): providing psychological and mental health support to students (73% of OECD countries; 68% of all countries/economies), offering structured pedagogy (63% of OECD countries; 71% of all countries/economies) and providing teacher training in how to support students' mental health and well-being (61% of OECD countries; 65% of all countries/economies). The results remained consistent during the 2021/22 school year with one exception: early warning systems to identify students at risk of dropping out replaced teacher training in how to support students' mental health as one of the top three policies implemented across all countries/economies. A relatively small percentage of countries/economies offered individualised self-learning programmes across both school years (OECD countries/all countries: 22%/39% for the school year 2020/21 or 2021 and 10%/30% for the school year 2021/22 or 2022). The biggest difference in learning-recovery policies observed between OECD countries and all countries/economies is adjusting the curriculum (17% of OECD countries; 43% of all countries/economies).

Various countries/economies around the globe used the COVID-19 disruption as an opportunity to change policies concerning digitalisation in education (Table II.2.1). OECD countries that reported that they changed (or plan to change) digitalisation policies are Austria, the French Community of Belgium3, Costa Rica, Denmark*, Israel, Italy, Japan, Korea, Lithuania, Poland, Portugal, the Slovak Republic, Wales (the United Kingdom*) and the United States*. Yet most countries/economies reported that they have not changed the regulatory framework governing digital education and that there are no plans to do so (57% of OECD countries; 30% of all countries/economies). Similar results were also reported for the institutional framework governing digital education (57% of OECD countries; 34% of all countries/economies). See Annex B3 (Table B3.3.2) for more information.

Table II.2.1. How education systems supported students and schools during the pandemic

Based on system-level information

		OECD countries		All countries and economies	
		Yes, at the national/ central level.	Schools/ districts/the most local level of governance could decide at their own discretion.	Yes, at the national/ central level.	Schools/ districts/the most local level of governance could decide at their own discretion.
		%	%	%	%
Tracking students' absence during the pandemic (2019/20, 2020/21, and 2021/22)	Has your education system collected statistics on student absence over the three school years covered by the pandemic?	50	23	57	25
Assessment of impact of COVID-19 crisis on education (2020/21 and 2021/22)	Did standardised testing programmes continue to take place in 2020-21 / 2021-22?	52 / 84	4 / 0	60 / 84	7 / 4
	Have there been studies about the impact of school closures on learning outcomes (standardised national assessment)?	52	0	46	5
	Have there been studies about the impact of school closures on learning outcomes (standardised subnational assessment)?	13	8	20	7
	Have there been studies about the impact of COVID on mental health and well-being of students (levels of stress, anxiety and depression)?	85	0	63	5
	Have there been studies about the impact of COVID on non-cognitive skills?	46	4	34	7
	Has mathematics been assessed in a standardised way?	95	0	89	4
	Has reading been assessed in a standardised way?	95	0	91	4
	Have sciences been assessed in a standardised way?	65	0	65	6
Changes in education policies/ regulations to mitigate the impact of learning loss/ disruption and student well-being (school year 2020/21 or 2021/ school year 2021/22 or 2022)	Early Warning Systems to identify students at risk of dropping out	41 / 47	18 / 21	58 / 64	17 / 19
	Adjustments to the curriculum in any subject or grade	33 / 17	23 / 21	52 / 43	16 / 15
	Increased instruction time (e.g. through summer schools, extended school day, school week or academic year)	43 / 25	20 / 13	41 / 31	18 / 15
	Individualised self-learning programmes (computer-assisted or pencil-and-paper based)	22 / 10	33 / 33	39 / 30	26 / 26
	Accelerated education programmes (covering instructional content in a shorter timeframe) or catch-up programmes for students who dropped out of school	46 / 19	15 / 19	50 / 36	18 / 19
	Psychosocial and mental health support to students (e.g. counselling)	73 / 59	23 / 23	68 / 63	24 / 23
	Additional school nutrition services (e.g. school feeding programmes, free or discount on school meals) strengthened/provided	26 / 30	13 / 15	43 / 42	16 / 19
	Structured pedagogy (e.g. programmes to improve instruction with teachers' guides, lesson plans, student materials and teacher training)	63 / 61	19 / 17	71 / 69	11 / 11
	Teacher training in how to support students' mental health and well-being	61 / 50	25 / 27	65 / 62	21 / 21
	Recruitment of specific personnel to support students' mental health and well-being (e.g. psychologists, counsellors)	41 / 26	34 / 39	41 / 42	31 / 30

Note: Only countries and economies with available data from the Survey on National Education Responses to COVID-19 School Closures are shown. The data in this table correspond to lower secondary education.
Source: OECD, PISA 2022 Database, Annex B3, Tables B3.3.1, B3.3.3, and B3.3.4.

Table II.2.2. How learning continued when schools were closed figures and tables

Figure II.2.1	How learning continued when schools were closed as covered in PISA 2022
Figure II.2.2	COVID-19 school closures and mathematics performance
Figure II.2.3	COVID-19 school closures and change between 2018 and 2022 in sense of belonging
Figure II.2.4	Change between 2018 and 2022 in expectation of a career in health and ICT
Figure II.2.5	Students' confidence in self-directed learning
Figure II.2.6	Social and emotional skills, and mathematics performance
Figure II.2.7	Persistence, curiosity and learning resources during COVID-19 school closures
Figure II.2.8	Reading performance and students' confidence in their capacity for self-directed learning
Figure II.2.9	Perceived preparedness for remote instruction, by actions taken
Figure II.2.10	Teacher support and students' loneliness
Figure II.2.11	Teacher support and students' confidence in their capacity for self-directed learning
Figure II.2.12	Remote learning, mathematics performance and confidence in self-directed learning
Figure II.2.13	Problems with remote learning
Figure II.2.14	Problems with remote learning and mathematics performance, by students' socio-economic status
Figure II.2.15	Problems with remote learning, and sense of belonging and mathematics performance
Figure II.2.16	School actions and activities to maintain learning and well-being
Figure II.2.17	Actions to maintain students' learning and well-being, and students' confidence in self-directed learning
Figure II.2.18	School actions to maintain learning and well-being, and selected student outcomes, by student characteristics
Table II.2.1	How education systems supported students and schools during the pandemic

StatLink https://stat.link/5nrsfl

Notes

[1] In this chapter "school closure" refers to the period that school buildings were closed to students.

[2] This information is from the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Children's Fund (UNICEF), the World Bank, and the Organisation for Economic Co-operation and Development (OECD) Survey on National Education Responses to COVID-19 School Closures. The mission of this survey was to collect information on national education responses to school closures related to the COVID-19 pandemic.

[3] Data for the Flemish Community of Belgium were not available in the Survey on National Education Responses to COVID-19 School Closures.

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3 Life at school and support from home

This chapter examines students' experiences and behaviour at school, and how these changed during and after the pandemic. It also explores whether schools provide a climate that nurtures learning and well-being, and whether they involve parents in their children's education. The chapter also provides data and analyses on violence and bullying at school, and on pre- to post-COVID shifts in the incidence of bullying.

For Australia*, Canada*, Denmark*, Hong Kong (China)*, Ireland*, Jamaica*, Latvia*, the Netherlands*, New Zealand*, Panama*, the United Kingdom* and the United States*, caution is advised when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Schools' contribution to the overall success and resilience of education systems largely depends on their capacity to create and maintain a learning environment that nurtures students' learning and well-being, even in challenging times. PISA 2022 data show that teacher support and parental involvement in student learning decreased in many countries and so did bullying at school. At the same time, results suggest that strengthening support from teachers and parents is vital for improving performance and equity – even during times of disruption – across education systems. Students in resilient education systems also reported feeling safer at school and were less likely to skip school or arrive late for school.[1]

What the data tell us

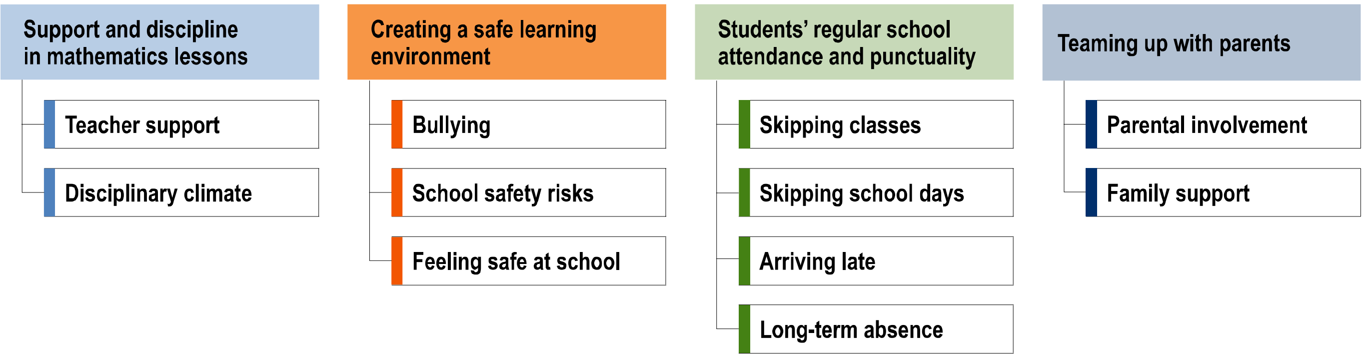
- Teacher support, parental involvement in student learning as well as student truancy decreased in many countries and so did bullying at school. At the same time, results suggest that strengthening support from teachers and parents as well as regular attendance of students and school safety are vital for education systems' resilience.
- Some 30% of students, on average across OECD countries, reported that, in most or every mathematics lesson, they get distracted using digital devices; 25% of students reported that they get distracted by other students using these devices in class.
- Around 10% of students reported feeling unsafe on their way to or from school, or in places outside of the classroom, on average across OECD countries. Some 20% of students reported that they are bullied at least a few times a month and reported observing vandalism and threats from fellow students at school or fights on school property in which someone got hurt. Around 10% of students saw gangs in school or saw a student carrying a gun or knife at school.
- In one in five education systems, more than 50% of students had skipped a class or a day of school in the two weeks prior to the PISA test; in Baku (Azerbaijan), the Dominican Republic, Italy, Kosovo, Paraguay, Romania, Saudi Arabia and Türkiye more than 60% of students had done so.

As displayed in Figure II.3.1, this chapter discusses these and other components of resilience, i.e. characteristics of the climate in schools that were associated with education systems' resilience in PISA 2022 (see Chapter 1). The components pertain to four different areas (Cohen et al., 2009[1]; Wang and Degol, 2016[2]; Thapa et al., 2013[3]):

- **Support and discipline in lessons** – whether students feel supported in their learning and whether the disciplinary climate in class allows for students to concentrate on learning. Since the core subject of PISA 2022 was mathematics, the chapter examines support and discipline in mathematics lessons.
- **Creating a safe environment for learning on line and off line** – whether schools create a safe space where students are protected from physical and emotional harm, such as violence or bullying on line or off line.
- **Students' regular school attendance and punctuality** – whether students attend school regularly and arrive punctually instead of skipping school or arriving late.
- **Teaming up with parents** – whether schools work with parents and families to assist students in their education and development.

Annex A1 provides details about how the indicators examined in this chapter were constructed.

Figure II.3.1. School life as covered in PISA 2022

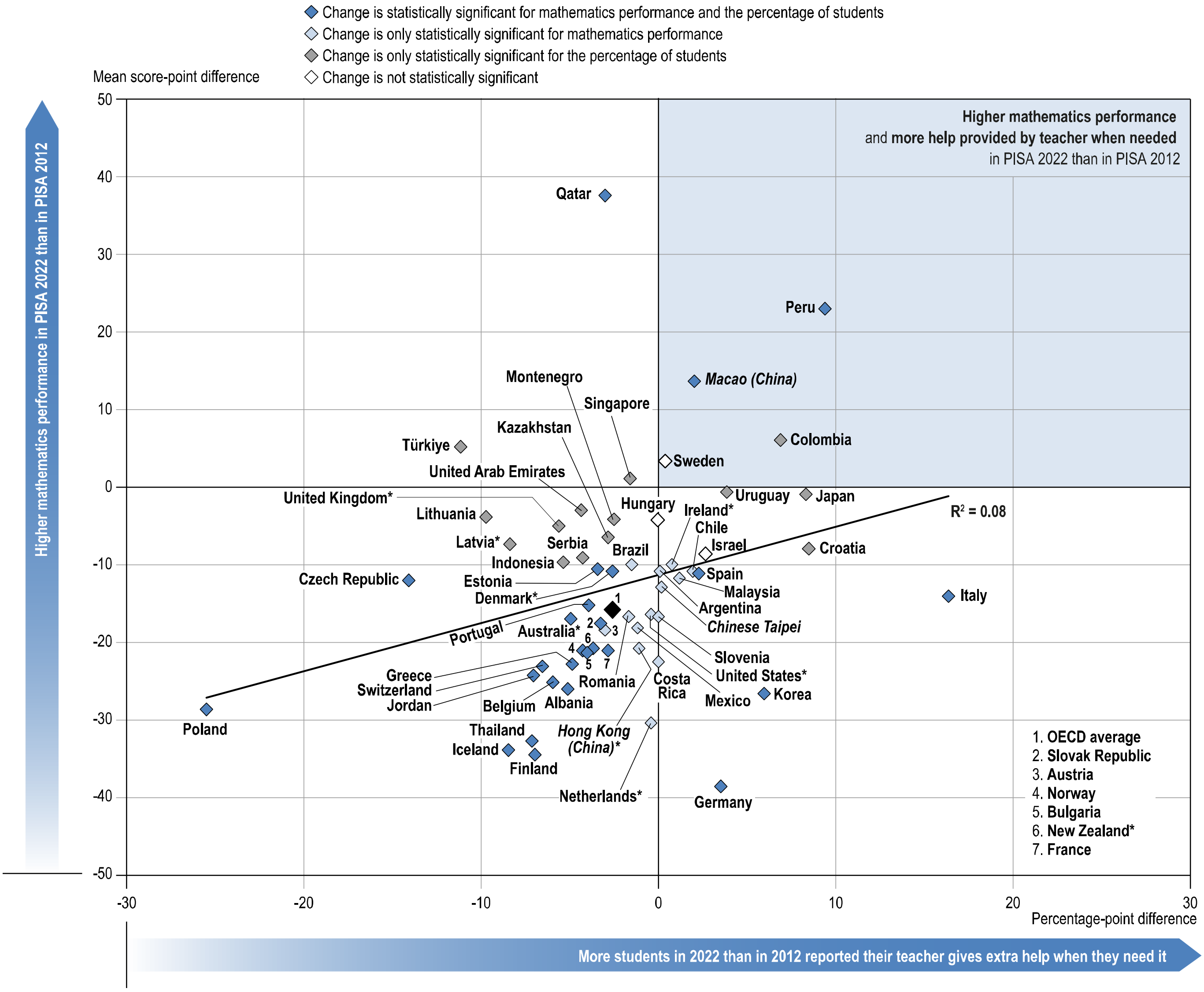


Components of resilience: Providing support and discipline in mathematics lessons

Across all education systems in 2022, students in high-performing systems reported a better disciplinary climate in mathematics lessons (Table II.B1.3.76). Moreover, students in all systems that were resilient in mathematics performance, except Australia*, reported a disciplinary climate better than the OECD average (Figure II.1.1 and Tables II.1.1 and II.B1.3.9). Fewer disruptions in class give teachers more time to cover the curriculum and use diverse teaching strategies, and students' can concentrate better on their tasks (Mostafa, Echazarra and Guillou, 2018[4]).[2]

Students in all systems that were resilient in mathematics performance, except for students in Lithuania and Switzerland, reported teacher support in mathematics lessons that was above the OECD average; however, students in systems where students scored higher and reported a greater sense of belonging at school reported less teacher support (Table II.B1.3.76).[3] More important, education systems that saw no deterioration between 2012 and 2022 in teacher support (no decrease in the percentage of teachers giving extra help when students need it) showed stable or improving mathematics performance (Figure II.3.2 and Table II.B1.3.77). Peru, for example, showed an increase in teacher support of nine percentage points and a 23 score-point improvement in mathematics performance. While many resilient systems did not show a positive trend in teacher support, these data reflect a decade-long evolution in which teacher support remained stable or declined in most countries over this period (see below). No data on teacher support in mathematics were available for the pre- to post-COVID period.[4]

Figure II.3.2. Change between 2012 and 2022 in teachers giving extra help and mathematics performance

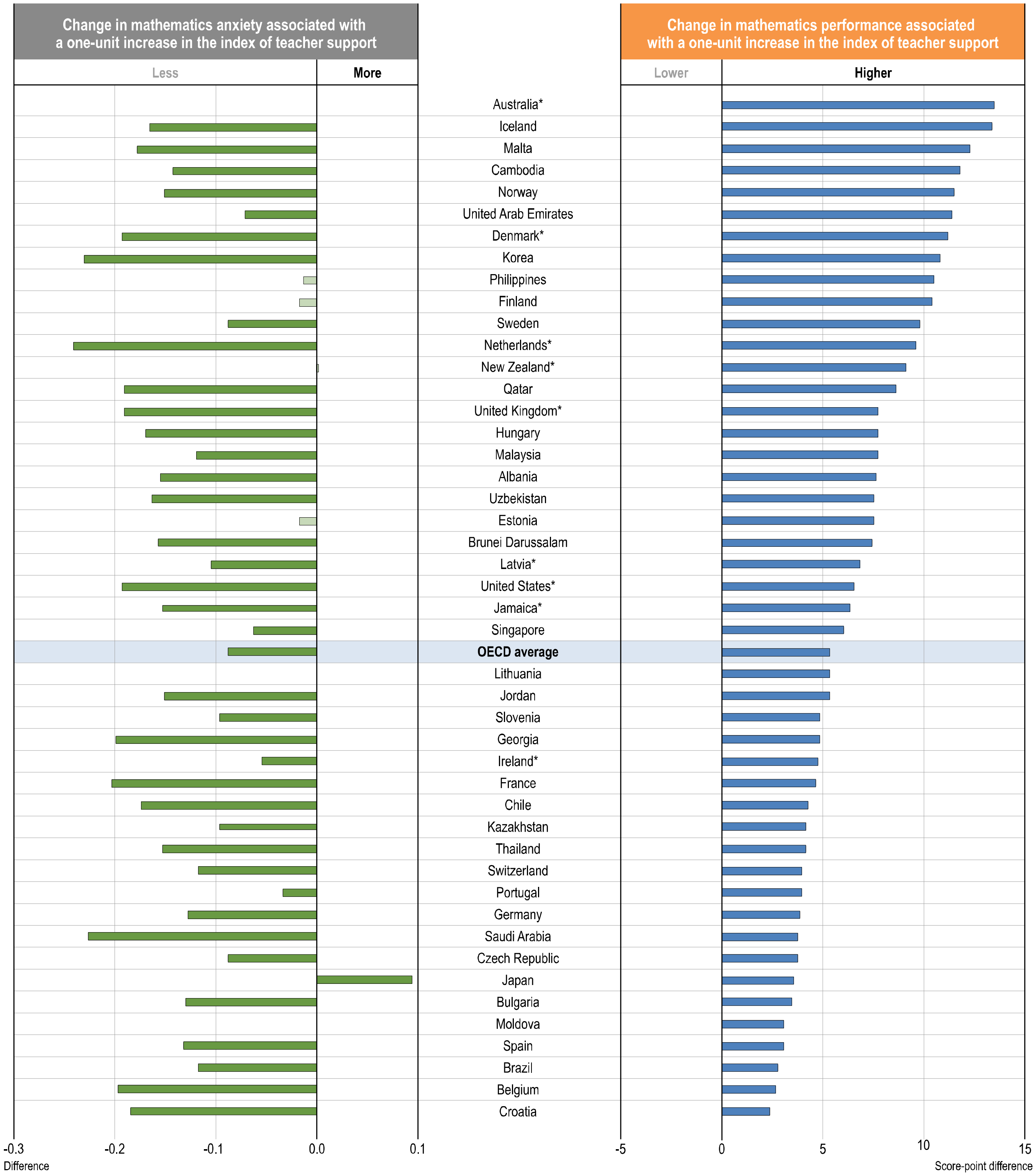


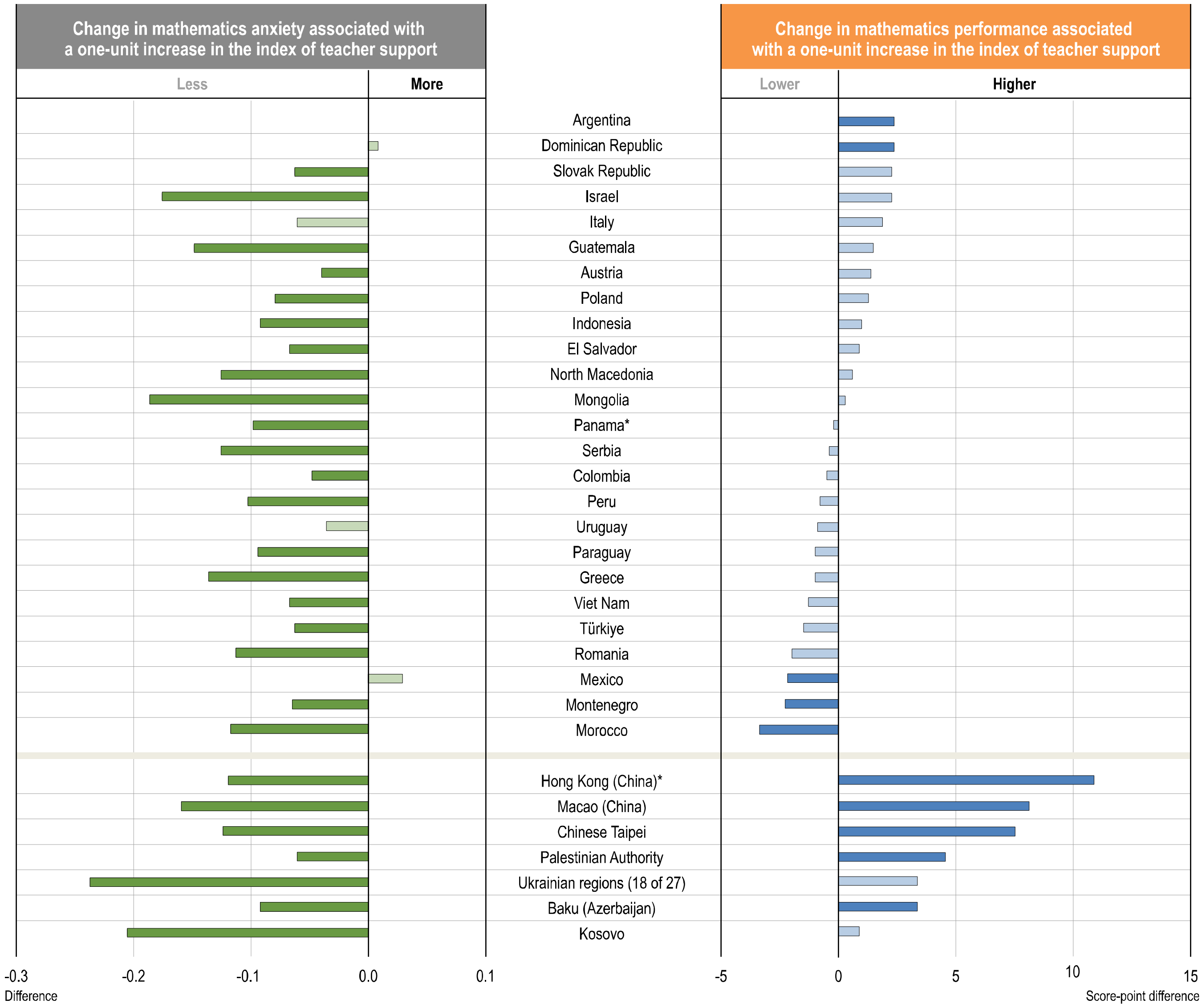
Note: The vertical axis shows the change between 2012 and 2022 in the percentage of students who reported that in most lessons or every lessons their teachers gave them extra help when they needed it.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 3; and Volume I, Annex B1, Chapter 5.

Students with supportive teachers performed better and suffered less from anxiety

In most education systems, students who reported more support from teachers and a better disciplinary climate in mathematics lessons scored higher in mathematics and reported greater well-being (Tables II.B1.3.5, II.B1.3.7, II.B1.3.13, II.B1.3.15). The latter includes students' sense of belonging at school, overall satisfaction with life, confidence in their capacity for self-directed learning and less mathematics anxiety. The association with mathematics performance was particularly strong in Australia*, Cambodia, Denmark*, Finland, Hong Kong (China)*, Iceland, Korea, Malta, Norway, the Philippines and the United Arab Emirates (see Figure II.3.3) where a one-unit increase in the index of teacher support was associated with an improvement in mathematics performance of ten score points or more (on average across OECD countries, the improvement amounted to five score points). Differences in the strength of the association could reflect differences in the degree of support provided by teachers.

Figure II.3.3. Teacher support, and anxiety towards and performance in mathematics





Notes: Statistically significant values are shown in darker tones (see Annex A3).

The results are based on linear regression analysis, after accounting for students' and schools' socio-economic profile. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

Countries and economies are ranked in ascending order of the change in mathematics performance associated with a one-unit increase in the index of teacher support.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

Figure II.3.3 also shows that in most school systems, students who scored higher in mathematics reported less anxiety towards mathematics when they perceived their teachers to be more supportive, after accounting for students' and schools' socio-economic profile (Table II.B1.3.8). The countries with the strongest negative associations (i.e. the more teacher support, the less anxiety towards mathematics) were Croatia, the Czech Republic, Denmark*, Estonia, Hungary and Norway, while the only country with a positive association (i.e. the more teacher support, the more anxiety) was the Dominican Republic.

Many students did not receive the support needed to succeed in school

PISA 2022 results suggest that further efforts are needed to ensure that students receive necessary and relevant support from teachers. In half of all countries/economies and on average across OECD countries, teacher support deteriorated from 2012 to 2022 (Table II.B1.3.4)[5]. For instance, the share of students who reported that the teacher gives extra help when students need it in most or every lesson decreased by three percentage points. In 2022, around 30% of students, on average across OECD countries, said that the teacher only in some lessons, or never or almost never, gives extra help when students need it and helps students with their learning (Table II.B1.3.1). Almost 40% of students reported that, in most lessons, the teacher does not show an interest in every student's learning or does not continue teaching until students understand. In the Czech Republic, Greece and Poland, close to or over 50% of students reported such a lack of teacher support.

Nevertheless, in a few countries/economies, the share of teachers who support their students grew between 2018 and 2022. In Croatia, Italy, Japan and Peru, for example, the share of students who reported that the teacher gives extra help in most or every lesson when students need it grew by over eight percentage points (Table II.B1.3.4). In Guatemala, Paraguay and Singapore over 75% of students in 2022 reported that, in most or every lesson, the teacher gives help when needed and continues until students understand.

One in three students become distracted when using digital devices in class

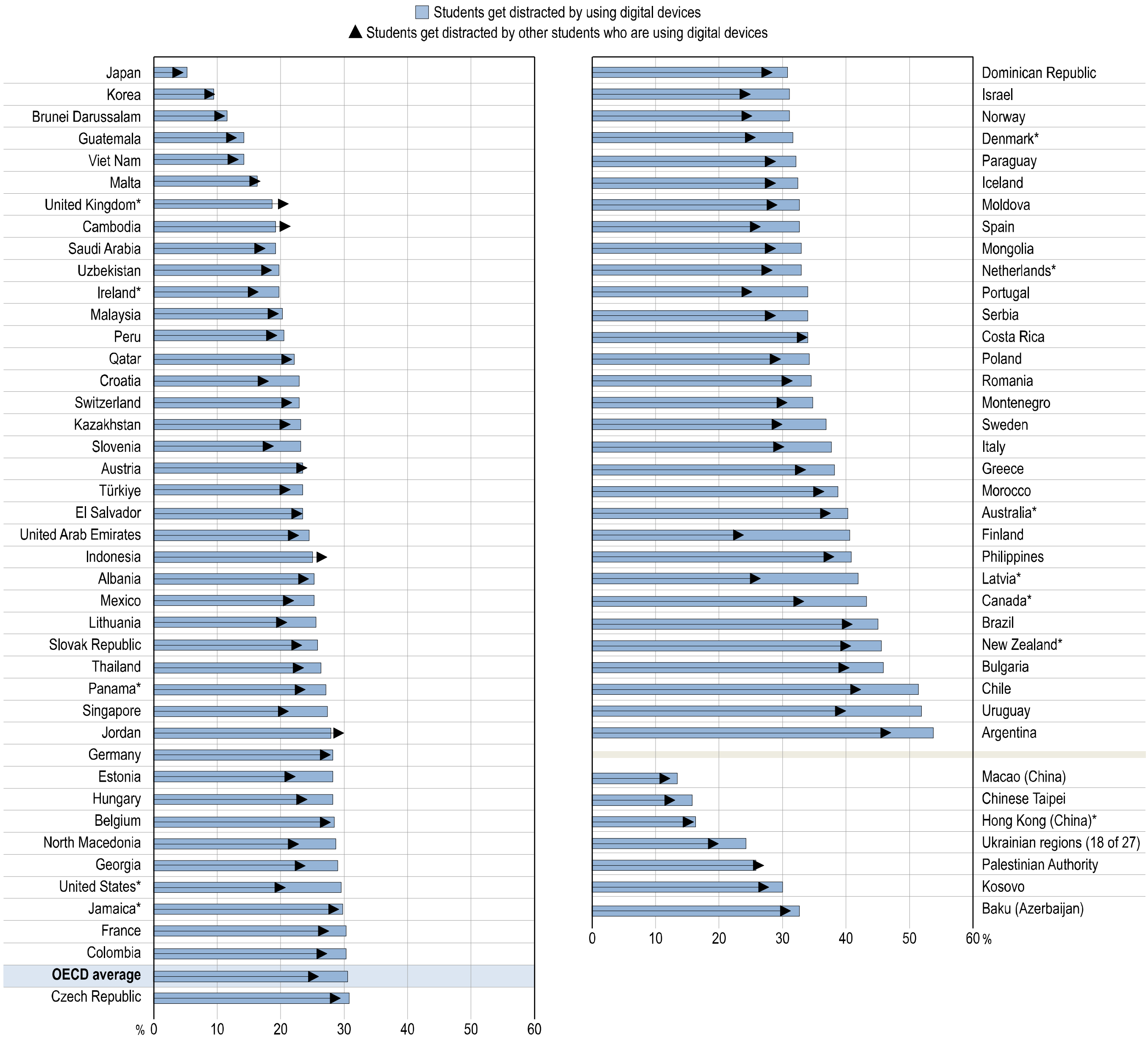
PISA 2022 data show that many students study mathematics in a disciplinary climate that is not favourable to learning even though, on average across OECD countries and in around a third of all education systems, the disciplinary climate improved between 2012 and 2022 (Table II.B1.3.12). However, over 20% of students across OECD countries reported that they cannot work well in most or all lessons; and more than 40% of students in Bulgaria, Morocco and Türkiye reported so (Table II.B1.3.9). Moreover, in over 40% of countries/economies the share of students who reported that students cannot work well in some or every lesson increased during the period – and in Australia*, Indonesia, Kazakhstan, Macao (China) and the United Kingdom* by over ten percentage points. At the same time, in Japan, Korea, Peru, the Slovak Republic, Thailand and Viet Nam the share of students who so reported decreased by the same amount.

Apart from "traditional" disciplinary problems, such as students not listening to what the teacher says, or trying to learn in a noisy and disorderly classroom, one in three students, on average across OECD countries, also reported that, in most or every mathematics lesson, they get distracted using digital devices (Figure II.3.4 and Table II.B1.3.9). Equally important, around one of four students indicated that, in most or every lesson, they get distracted by other students who are using digital devices, the teacher has to wait a long time for students to quiet down, and students do not start working for a long time after the lesson begins.

PISA 2022 results highlight the importance of finding effective ways to limit the distraction caused by using digital devices in class (see Box 5.1. in Chapter 5). The frequency with which students become distracted by other students who are using digital devices in class is among the disciplinary aspects that shows the strongest association with mathematics performance (Table II.B1.3.13). On average across OECD countries, students who reported that this happens in at least in some mathematics lessons scored 15 points lower in mathematics than students who reported that this never or almost never happens, after accounting for students' and schools' socio-economic profile. A similar pattern is observed in 80% of systems with available data. However, this issue does not seem to be as consequential in some systems as it is in others. For example, only 4% of students in Japan and 9% in Korea reported that they become distracted by other students who are using digital devices in every or most mathematics lessons. In these two countries, the difference in mathematics performance related to this type of distraction amounts to 10 score points or less. While on average across OECD countries 25% of students reported that they become distracted in every or most mathematics lessons, less than 15% of students in Brunei Darussalam, Guatemala, Macao (China), Chinese Taipei and Viet Nam so reported (see Figure II.3.4 and Table II.B1.3.9).

Figure II.3.4. Distraction from digital devices in mathematics lessons

Percentage of students who reported that the following happens in every or in most of their mathematics lessons



Countries and economies are ranked in ascending order of the percentage of students who reported that they get distracted by using digital devices.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

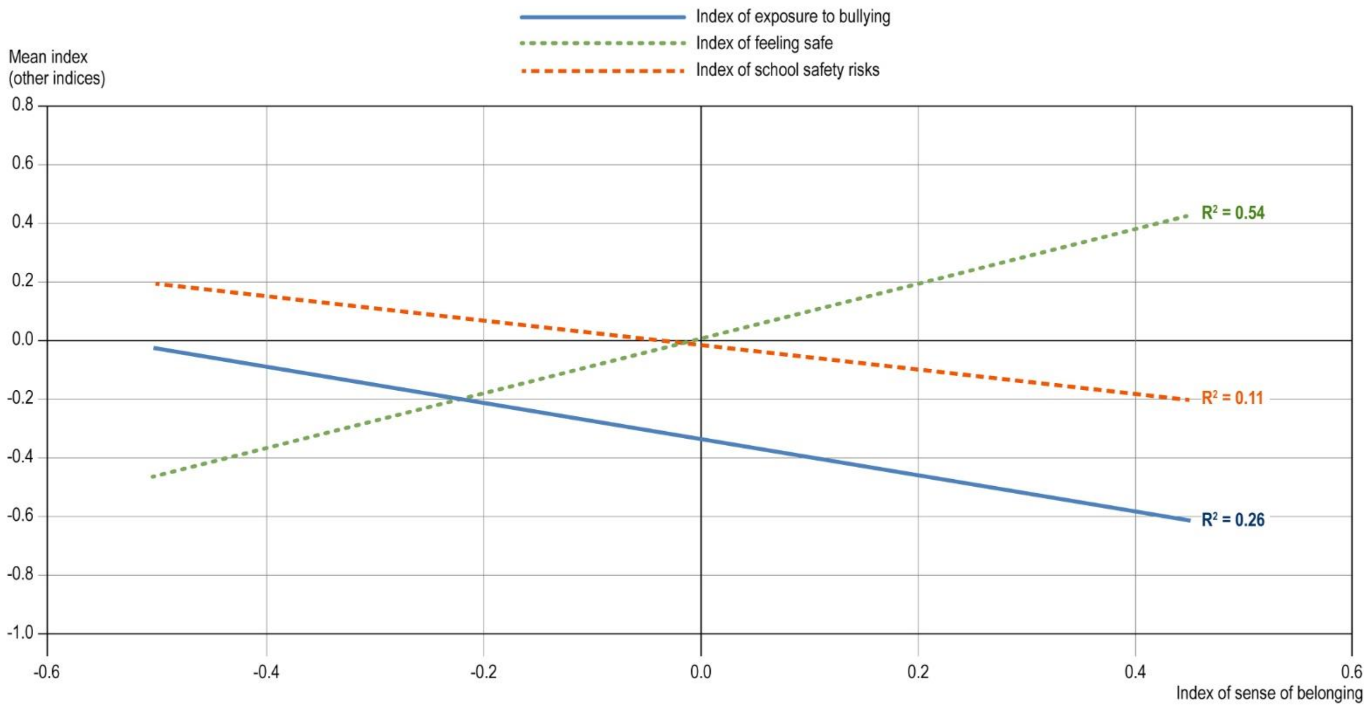
Finding effective ways to limit distractions is also important for student well-being (Tables II.B1.3.15). For example, in all countries/economies students who perceived the climate in their mathematics lessons to be less disruptive were less anxious towards mathematics (Table II.B1.3.16).

Components of resilience: Creating a safe environment for learning on line and off line

PISA 2022 data show that students in high-performing systems and systems with a greater average sense of belonging at school reported feeling safer and less exposed to risks and bullying at their school (Table II.B1.3.76). Figure II.3.5 shows that the relationship between feeling safe at school and sense of belonging at school is particularly strong. The association between all indicators of school safety are stronger in OECD countries than across all countries/economies.6 This could be a sign that the type of risks and safety concerns beyond OECD countries/economies are much more heterogeneous in nature and magnitude. In addition, different cultural and social norms may affect how students in different countries perceive various types of violence and bullying, and whether such behaviour is more accepted socially.

Figure II.3.5. Students' safety at school and sense of belonging

System-level analysis (68 countries and economies)



Note: Positive values in the index of school safety risks indicate that students perceive greater risks at their school. Positive values in the index of bullying indicate that students were exposed to more bullying at their school.
Source: OECD, PISA 2022 Database, Annex B1, Chapters 1 and 3.

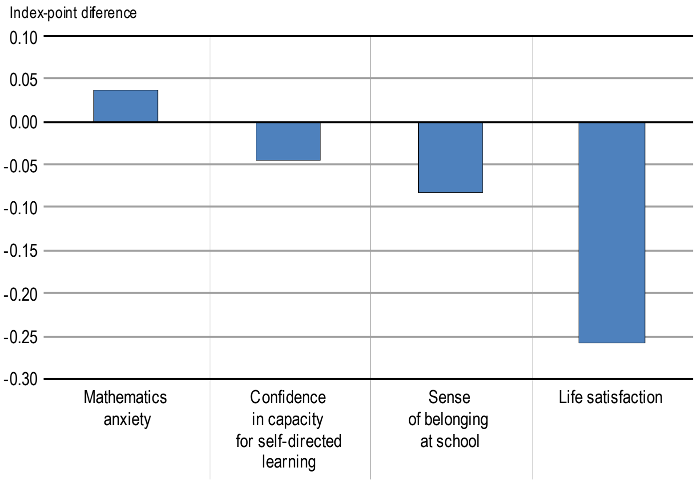
In most systems resilient in well-being (i.e. stable or increasing sense of belonging at school between 2018 and 2022 and above average sense of belonging in 2022) the reported incidence of bullying[7] was below the OECD average, as were reported risks at school (Figure II.1.1 and Tables II.B1.3.23 and II.B1.3.30). Students in most of these systems also reported feeling safer than on average across OECD countries. For example, in Austria, Finland and Switzerland the proportions of students who reported feeling safe at school and who reported a strong sense of belonging at school were well above the OECD average.

Students who reported feeling safer at school performed better and enjoyed a greater sense of well-being

Feeling safe at school was positively related to a range of aspects of well-being, but particularly strongly to sense of belonging and life satisfaction, while negatively related to mathematics anxiety (Tables II.B1.3.22). Conversely, being exposed to bullying and safety risks at school is negatively related to all of these aspects, except for mathematics anxiety (Figure II.3.6 and Tables II.B1.3.28 and II.B1.3.36). On average across OECD countries, students who reported feeling safe and were not exposed to bullying or risks at school have a stronger sense of belonging at school, feel more confident about their capacity for self-directed learning and are overall more satisfied with life. They are also less anxious.

Figure II.3.6. School safety risks and student well-being

Change in the following indices per one-unit increase in the index of school safety risks; OECD average



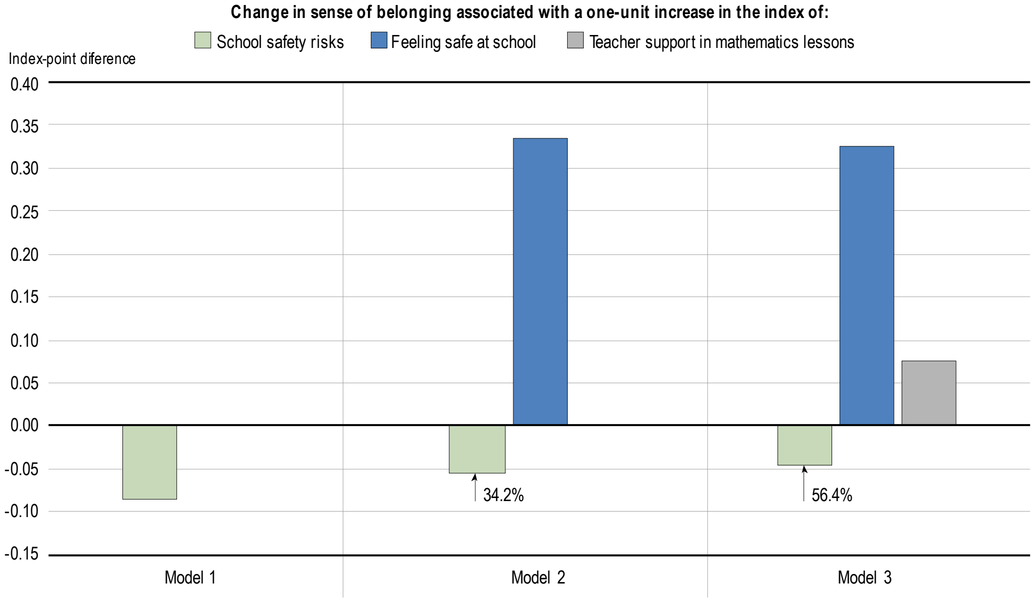
Notes: All values are statistically significant (see Annex A3).
Positive values in the index of school safety risks indicate that the student perceives greater risks at their school than the average student in OECD countries.
All linear regression models account for students' and schools' socio-economic profile, and mathematics performance.
The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).
Items are ranked in descending order of the change in indices per one-unit increase in the index of school safety risks.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

In unsafe schools, teachers provided less support and students felt less safe and connected

Violence at school may make students feel unsafe and make it hard for teachers to work well. Through its adverse effects on teachers and the overall school climate, violence may hinder students from creating strong bonds at and with school. PISA cannot test the causal nature of these relationships, but it can provide an indication of how plausible the hypothesis is. PISA 2022 found a negative association between school safety risks and students' feeling of safety at school, and teacher support at school (Table II.B1.3.29). Albeit relationships being low, they remained significant even after accounting for the socio-economic profile of students and schools. The findings shown in Figure II.3.7 reveal that, on average across OECD countries, the relationship between school safety risks and sense of belonging at school weakens by 36% after accounting for the index of feeling safe at school, and by 53% after also accounting for teacher support. Similar results are observed in many other countries/economies. These findings are in line with the notion that safety risks and sense of belonging at school are, to a great extent, indirectly related through their impact on students' feeling of safety and teachers' capacity to provide students with support.

Figure II.3.7. Association between sense of belonging and selected aspects of school climate

OECD average



Notes: All values are statistically significant (see Annex A3).
Results based on linear regression analysis, after accounting for students' and schools' socio-economic profile.
The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).
The three linear regression models use the same sample.
The percentage of the association between the index of school safety risks and the index of sense of belonging, after accounting for socio-economic profile, that is mediated by the indices of feeling safe at school and teacher support in mathematics lessons is shown above the blue bars.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

Many education systems and schools need to bolster efforts to improve student safety

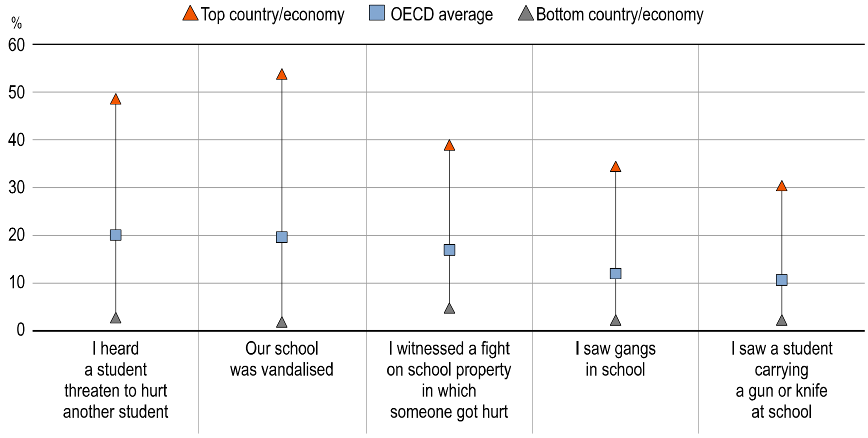
Overall, students feel safe at school, particularly in their classrooms. However, PISA 2022 results suggest that education systems could consider improving safety on students’ way to or from school, or in places outside of the classroom, such as hallways, cafeterias or restrooms. About 10% of students disagreed or strongly disagreed that they feel safe in these places, on average across OECD countries. In Jamaica*, Moldova and Morocco around 25% of students reported feeling unsafe outside the classroom; in Baku (Azerbaijan), Jamaica* and Moldova more than 15% of students felt unsafe even in their classroom. However, in many systems, including Belgium, Croatia, Ireland*, Korea, the Netherlands*, Portugal, Serbia, Singapore, Switzerland and Chinese Taipei, less than 5% of students felt unsafe in their classroom or in other places at school.

Feeling safe at school might also depend on whether students are confronted with risks at school, and PISA shows there are considerable differences across countries in this regard. Figure II.3.8 shows that, on average across OECD countries, the most common risks that students encounter at school are vandalism (20% of students so reported) and threats from fellow students (20%), followed by fights on school property in which someone got hurt (17%). Though less common, one out of ten students saw gangs in school (12%) or saw a student carrying a gun or knife at school (11%).

However, less than 5% of students in Guatemala, Kazakhstan and Korea reported that they have seen gangs in school, while 30% of students or more in Brunei Darussalam, Kosovo and Thailand reported so (Table II.B1.3.23).

Figure II.3.8. School safety risks

Percentage of students who reported that the following happened at school during the four weeks prior to the PISA assessment; OECD average

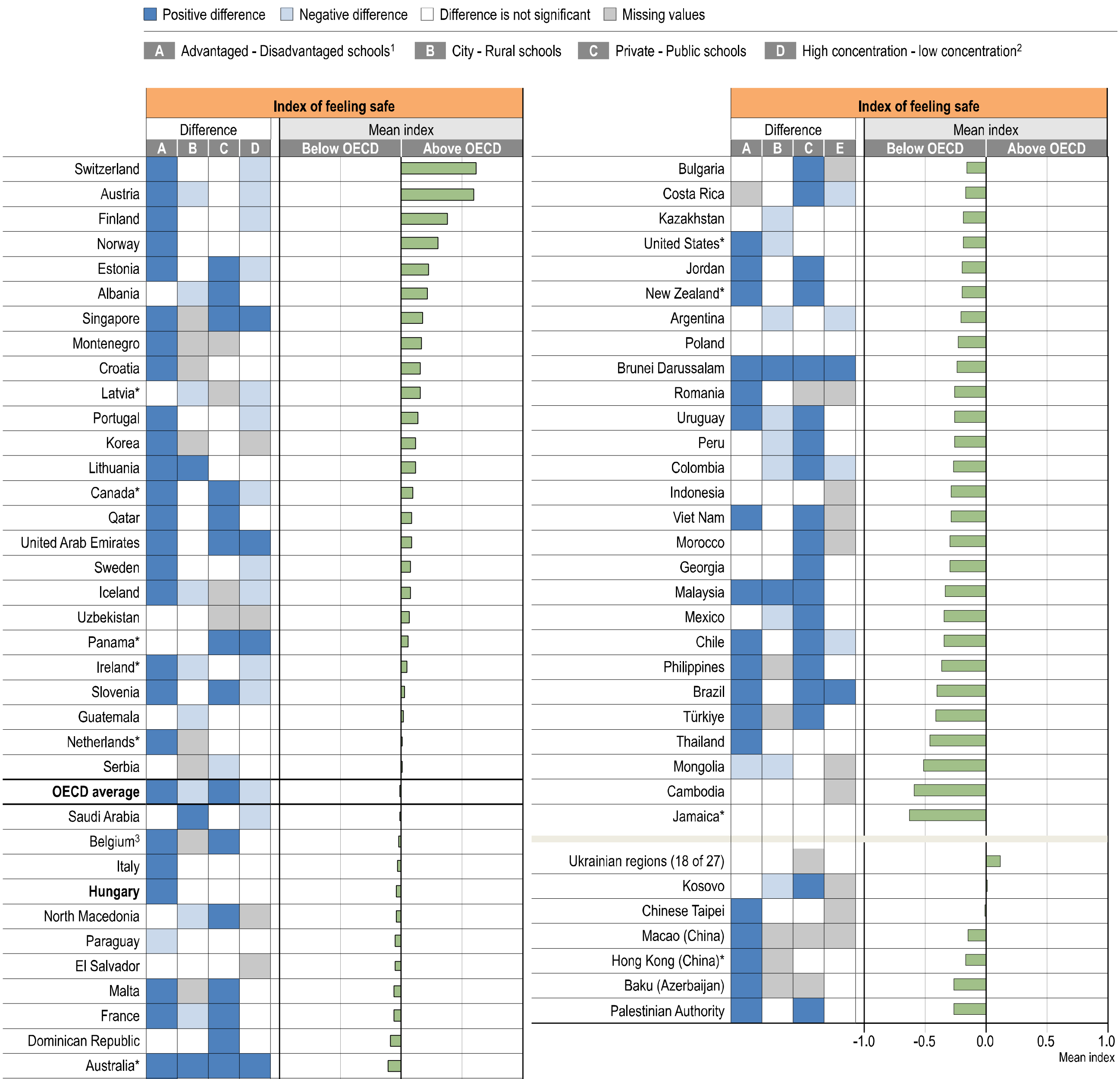


Items are ranked in descending order of the percentage of students at the OECD average.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

PISA results also suggest that certain types of schools require stronger efforts to improve safety. Across OECD countries and in most education systems, students in socio-economically disadvantaged schools were more likely than students in advantaged schools to report feeling unsafe (Figure II.3.9 and Table II.B1.3.19). However, in a third of education systems, students in both types of schools felt equally safe; and in Mongolia and Paraguay more students who attended disadvantaged schools reported feeling safe at school than did their peers in advantaged schools.

Figure II.3.9. Feeling safe, by school characteristics

Based on students' reports



	A	B	C	D
Countries/economies with a positive difference	47	5	34	6
Countries/economies with no difference	24	38	31	37
Countries/economies with a negative difference	2	18	1	17

1. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS). A socio-economically disadvantaged (advantaged) school is a school in the bottom (top) quarter of the index of ESCS in the relevant country/economy.
2. A school with a low (high) concentration of immigrant students is a school where less than (at least) 10% of students have an immigrant background.
3. Questions about the type of school were not asked in the Flemish-speaking Community of Belgium. Data for Belgium represent only the French-speaking and German-speaking Communities.
Countries and economies are ranked in descending order of the index of feeling safe.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

Across OECD countries, students attending urban and public schools, and schools with a high concentration of students with an immigrant background felt less safe than their peers who attended rural and private schools, and those with a low concentration of immigrant students. However, in over 60% of education systems students felt equally safe no matter if they attended private schools or schools with a low or high concentration of immigrant students.

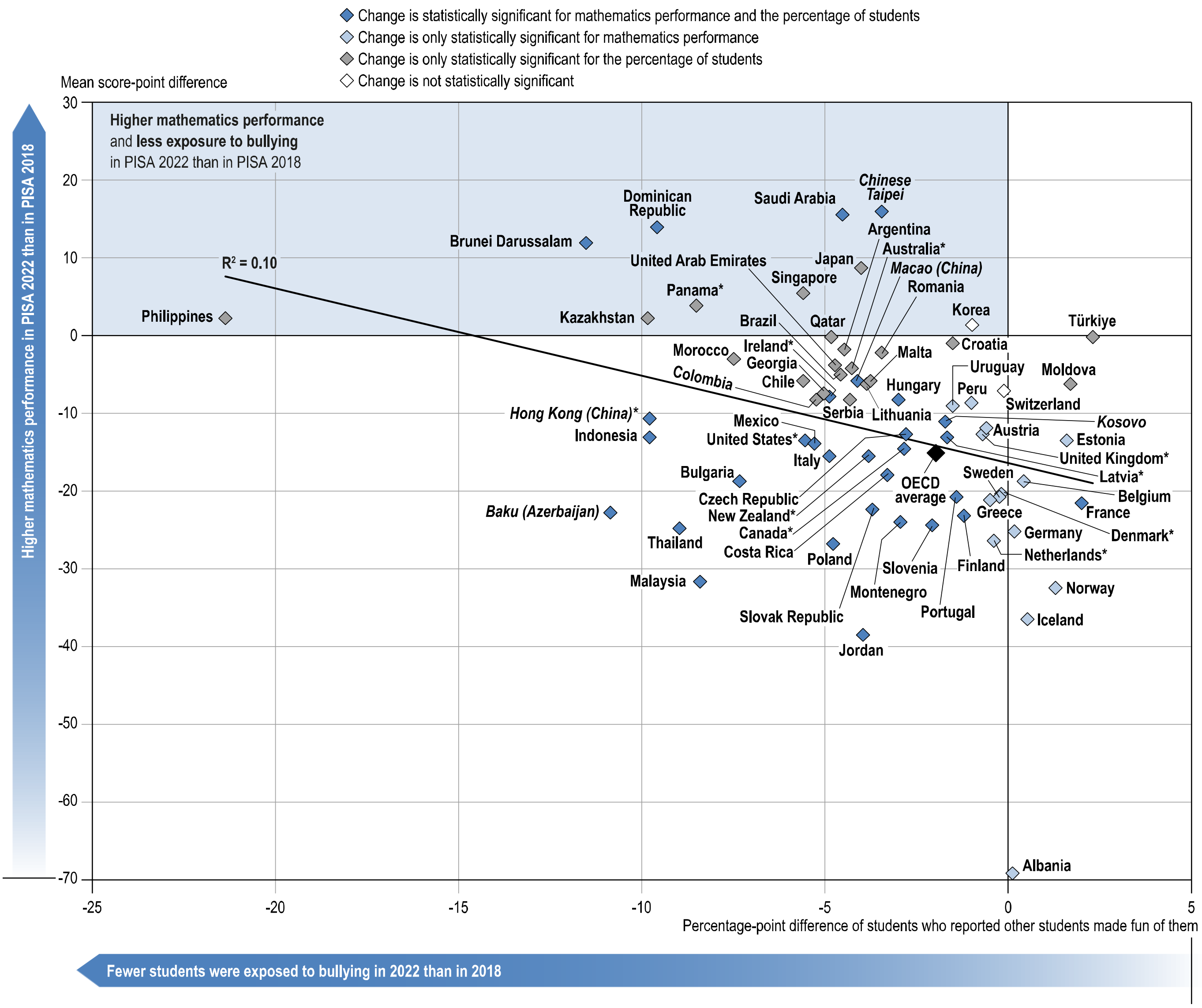
Differences observed between types of schools may partly result from differences in the extent to which students from different groups feel safe at school (Table II.B1.3.18). For example, socio-economically disadvantaged students and those with an immigrant background reported feeling less safe than advantaged students and those without an immigrant background. Girls were more likely than boys to report feeling unsafe at school, on average across OECD countries and in all but one partner education system (United Arab Emirates). The gender gap was particularly wide in Belgium, the Czech Republic and France.

Bullying decreased, especially in resilient systems

Bullying occurs in all PISA-participating countries/economies; but results from PISA 2022 show a break in the previously observed trends of increasing bullying.[8] In 2022, the incidence of all types of bullying examined between 2018 and 2022 decreased by around two to three percentage points, on average across OECD countries (Table II.B1.3.33). However, there were large differences between countries/economies in bullying trends. For instance, the incidence of making fun of others decreased by ten percentage points between 2018 and 2022 in Baku (Azerbaijan), Brunei Darussalam and the Philippines, while it increased by two percentage points in France, Moldova and Türkiye.

Results across all countries/economies also show that the performance in mathematics of students, particularly disadvantaged students, in education systems where bullying decreased between 2018 and 2022 improved more than in other systems (Figure II.3.10 and Table II.B1.3.77). For example, in Brunei Darussalam, the Dominican Republic and Saudi Arabia the percentage of students who reported that other students made fun of them shrank by 5 to 12 percentage points while average mathematics scores in these systems improved by 12 to 16 points (Tables II.1 and II.B1.3.33). Disadvantaged students' performance improved even more – by 13 to 27 score points. However, none of these systems was classified as resilient in equity because none of them was either fair ("fair" meaning that all students, regardless of their background, can achieve at high levels) or high-performing in 2022 (Figure II.1.1 and Table II.1). In all countries/economies that were resilient in mathematics, except Korea, fewer students in 2022 than in 2018 reported that other students made fun of them (Figure II.1.1 and Table II.B1.3.33).

Figure II.3.10. Change between 2018 and 2022 in students' exposure to bullying and mathematics performance



Note: The horizontal axis shows the change between 2018 and 2022 in the percentage of students who reported that at least a few times a month other students made fun of them.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 3; and Volume I, Annex B1, Chapter 5.

Bullying was still pervasive in 2022

Nonetheless, bullying at school remains pervasive. On average across OECD countries, 20% of students reported being bullied at least a few times a month (Table II.B1.3.30). In some systems more students were exposed to frequent bullying: in Brunei Darussalam, Jamaica*, Jordan, Morocco, the Palestinian Authority, the Philippines, Qatar and the United Arab Emirates over 15% of students were frequently bullied, while in Italy, Japan, Kazakhstan, Korea, the Netherlands*, Portugal and Chinese Taipei around 5% of students or less were frequently bullied (i.e. those in the top 10% of students across all countries/economies who reported that they are exposed to bullying; Table II.B1.3.30).

In all countries and economies verbal and relational bullying (e.g. making fun of other students, spreading nasty rumours) occurred more frequently than physical bullying (e.g. hitting or pushing other students around, taking away or destroying things that belong to other students; Table II.B1.3.30). However, there were large differences across countries/economies. For example, in Jamaica* and the Philippines over 10% of students reported that they were threatened by other students at least a few times a month, which is in stark contrast to results in Japan, Korea and Chinese Taipei where only 1% of students reported so. Students are exposed to bullying and threats also on line, despite recent efforts in many countries to keep students safe in digital environments (see Box II.3.1).

Box II.3.1. Policies and programmes to support student safety in the digital environment

Countries implement different policies or programmes to support student safety in the digital environment, including: providing information or implementing awareness-raising activities on digital safety, implementing safe log-in and single sign-in programmes in schools (as is the case in many countries, including Greece, Norway and Switzerland), and using secure content policies and filters (Burns and Gottschalk, 2020[5]). Media and digital literacy education can also be a powerful tool to empower students to tackle pressing challenges they increasingly face, such as separating fact from opinion in the digital environment (Hill, 2022[6]). Countries have different approaches to co-ordinating the media literacy landscape. Many, including Belgium, France and the Netherlands*, have statutory actors who create resources, deliver training and conduct research, in collaboration with schools and other stakeholders. Finland and the United Kingdom*, for example, have dedicated media literacy strategies focused on empowering citizens by mitigating digital risks, such as disinformation, hate speech and digital abuse.

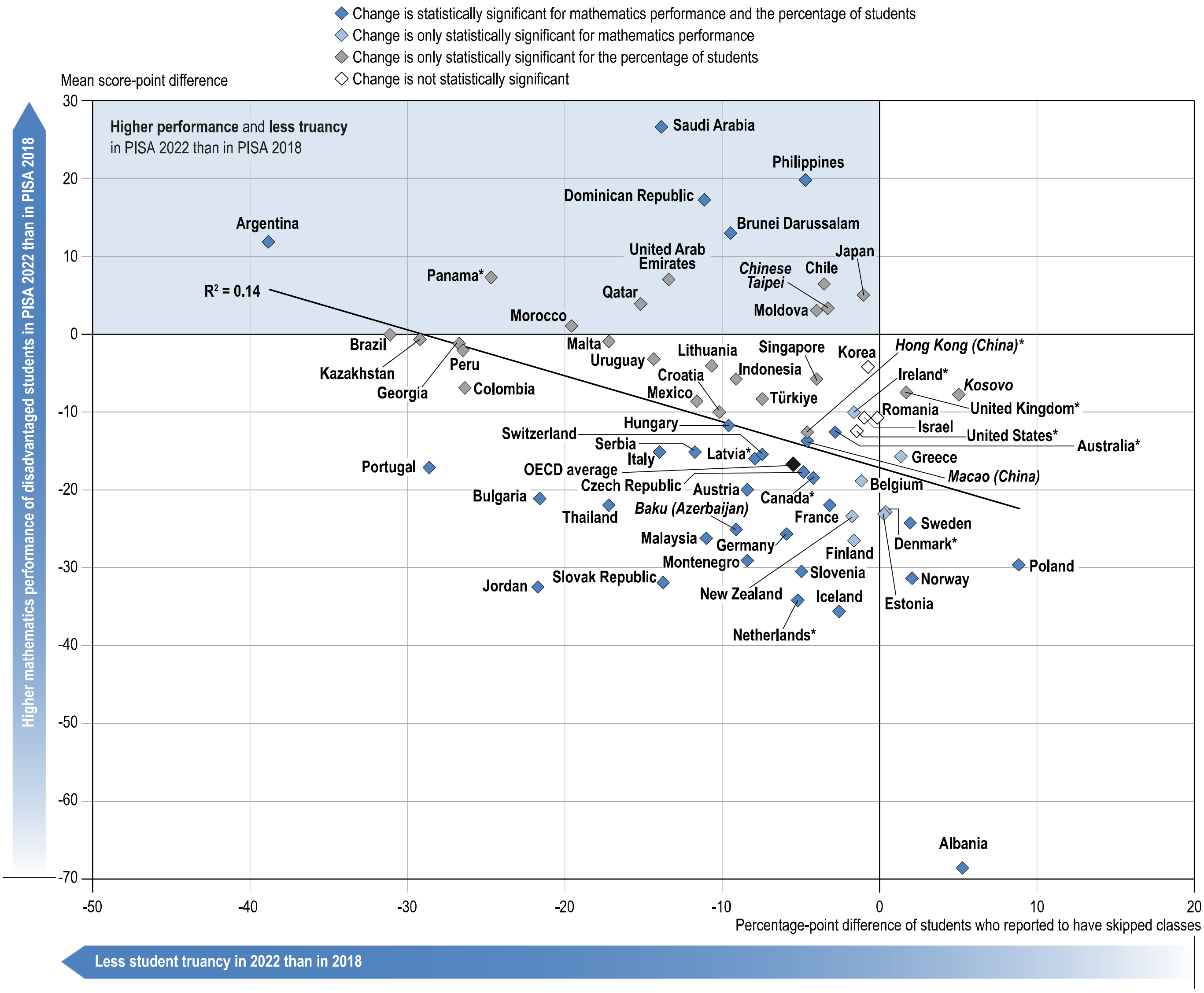
Many OECD education systems have reported that cyberbullying is high on the list of policy priorities and that they have implemented programmes or policies to combat cyberbullying (Gottschalk, 2022[7]). These approaches often fall under one of three broad categories:

- **Policy or legal frameworks to combat cyberbullying.** Frameworks are sometimes obligatory for schools or districts to adopt, and legal responses can be specific to cyberbullying or address it through existing laws, such as those focusing on harassment, defamation or even copyright.
- **Reporting mechanisms and safety support outside of schools.** This can consist of hotlines, helplines or digital systems to report serious cases of cyberbullying and be referred to specialist support. In some countries safer Internet centres provide support to parents, students and teachers about digital risks in general.
- **School-based interventions and teacher training.** Some interventions focus on skill-building (e.g. social and emotional skills, such as empathy) or aim to promote positive peer relationships through tutoring schemes, for example. Many programmes incorporate a teacher training element to assist teachers in identifying cyberbullying and understanding its implications, and in programme implementation. However, research suggests that school-based interventions tend to be more effective when implemented by digitally savvy experts.

Components of resilience: Ensuring students' regular school attendance and punctuality

Across all education systems, students in high-performing education systems were less likely to have skipped classes or school days and were more punctual[9] in the two weeks prior to the PISA test (Table II.B1.3.76). Students in high-performing systems and in systems with a higher average sense of belonging at school were also less likely to have been truant from primary, lower secondary or upper secondary school for three months or longer, though these students tended to be in systems that are more socio-economically fair. Equally important, the average mathematics performance of disadvantaged students in systems where the incidence of student truancy decreased (i.e. fewer students in 2022 than in 2018 had skipped classes) improved during the same period, after accounting for per capita GDP (Figure II.3.11 and Table II.B1.3.77).

Figure II.3.11. Change between 2018 and 2022 in student truancy and mathematics performance among disadvantaged students



Note: The horizontal axis shows the change between 2018 and 2022 in the percentage of students who reported that they had skipped classes at least once in the two weeks prior to the PISA test.
Source: OECD, PISA 2022 Database, Annex B1, Chapters 2 and 3; and Volume I, Annex B1, Chapter 5.

Students who attended classes regularly and punctually performed better in mathematics

In most education systems in 2022, students who attended classes regularly and punctually performed better in mathematics as compared to their peers who skipped school or classes and arrived late for school (Tables II.B1.3.44 and II.B1.3.46). In Hong Kong (China)*, Korea, Norway, Portugal and Chinese Taipei truant students scored over 40 points lower than their peers who had attended school regularly. On average across OECD countries, the difference in mathematics performance between truant and non-truant students was 27 points. Students also scored lower in mathematics when their schoolmates had skipped school or had arrived late for school, not only when they themselves played truant (Table II.B1.3.45).

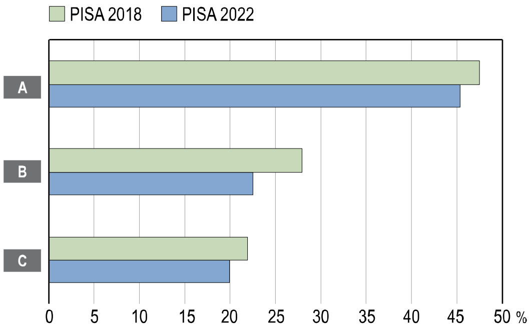
Regular attendance and punctuality improved in many, but not all, education systems

On average across OECD countries, students' regular attendance at school and punctuality improved between 2018 and 2022 (by two to five percentage points, Table II.B1.3.43). While this was the case in most education systems, in one out of ten countries/economies, the incidence of truancy and lateness increased during the period (Figure II.3.12). For instance, in Albania, Australia*, Canada*, Ireland*, New Zealand*, Poland, Saudi Arabia, the United Kingdom* and the United States* the share of students who had skipped a whole day of school – and in Albania, Cambodia, Kosovo and Poland the share of students who had skipped some classes – in the two weeks prior to the assessment grew by over five percentage points.

Nonetheless, even in 2022 many students in OECD countries and beyond arrived late for class or skipped classes or whole days of school (Table II.B1.3.37). In two out of ten education systems, over 50% of students had skipped a class or a day of school in the two weeks prior to the PISA test; in Baku (Azerbaijan), the Dominican Republic, Italy, Kosovo, Paraguay, Romania, Saudi Arabia and Türkiye more than 60% of students had done so. On average across OECD countries, around 30% of students reported that they had skipped a class or a day of school in the two weeks prior to the PISA test.

Figure II.3.12. Change between 2018 and 2022 in student truancy and lateness

Percentage of students who reported that the following happened at least once in the two weeks prior to the PISA test



↑	Increase in PISA 2022 compared to PISA 2018
↓	Decrease in PISA 2022 compared to PISA 2018
=	Difference is not significant

A	B	C	
9	7	12	Countries/economies with an increase
25	11	14	Countries/economies with no difference
39	55	47	Countries/economies with a decrease

OECD	Change between PISA 2018 and PISA 2022 in student truancy and lateness		
	A Arrived late for school	B Skipped some classes	C Skipped a whole day of school
OECD average	↓	↓	↓
Australia*	=	↓	↑
Austria	↓	↓	↓
Belgium	↓	=	=
Canada*	↓	↓	↑
Chile	↓	↓	↓
Colombia	↑	↓	↓
Costa Rica	=	↓	↓
Czech Republic	↓	↓	↓
Denmark*	=	=	=
Estonia	=	=	=
Finland	↓	=	=
France	↓	↓	↓
Germany	↓	↓	=
Greece	=	=	=
Hungary	↓	↓	↓
Iceland	=	↓	=
Ireland*	=	=	↑
Israel	=	=	↓
Italy	↓	↓	↑
Japan	=	↓	=
Korea	=	=	↓
Latvia*	=	↓	↓
Lithuania	↓	↓	↓
Mexico	↓	↓	↓
Netherlands*	↓	↓	↓
New Zealand*	=	=	↑
Norway	=	↑	=
Poland	↑	↑	↑
Portugal	↓	↓	↓
Slovak Republic	↓	↓	↓
Slovenia	↓	↓	↓
Spain	↓	↓	=
Sweden	↑	↑	=
Switzerland	↓	↓	↓
Türkiye	↓	↓	=
United Kingdom*	↑	↑	↑
United States*	=	=	↑

Change between PISA 2018 and PISA 2022 in student truancy and lateness			Partners
A Arrived late for school	B Skipped some classes	C Skipped a whole day of school	
=	↑	↑	Albania
↑	↓	↓	Argentina
↓	↓	↓	Baku (Azerbaijan)
↑	↓	↓	Brazil
↓	↓	↓	Brunei Darussalam
=	↓	↓	Bulgaria
↑	↑	↑	Cambodia
↓	↓	↓	Croatia
↓	↓	=	Dominican Republic
=	↓	↓	Georgia
↓	↓	↓	Guatemala
↓	↓	↓	Hong Kong (China)*
↓	↓	↓	Indonesia
↑	↓	↓	Jordan
=	↓	↓	Kazakhstan
↑	↑	↑	Kosovo
↓	↓	↓	Macao (China)
=	↓	↓	Malaysia
=	↓	↓	Malta
↓	↓	↓	Moldova
↓	↓	↓	Montenegro
=	↓	↓	Morocco
↓	↓	↓	Panama*
↓	↓	↓	Paraguay
=	↓	↓	Peru
↓	↓	↓	Philippines
↓	↓	=	Qatar
=	=	↓	Romania
↓	↓	↑	Saudi Arabia
↓	↓	↓	Serbia
↓	↓	↓	Singapore
↓	↓	↓	Chinese Taipei
=	↓	↓	Thailand
↓	↓	↓	United Arab Emirates
↓	↓	↓	Uruguay
↓	↓	↓	Viet Nam

Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

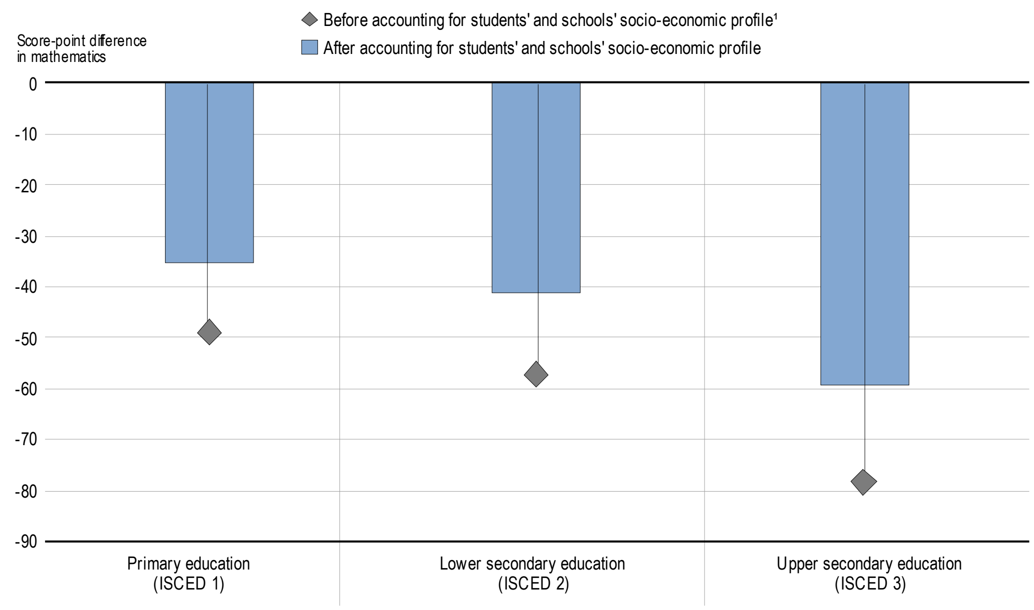
Long-term absenteeism is rare, but seems particularly harmful to students' academic success

Long-term absenteeism (i.e. missing school for more than three consecutive months) is uncommon (Table II.B1.3.49).[10] While in Baku (Azerbaijan), Brunei Darussalam, Cambodia, the Dominican Republic, El Salvador, Guatemala, Morocco, Paraguay, the Philippines and Uzbekistan 15% or more of students had missed class for more than three consecutive months at least once, on average across OECD countries only 8% of students reported that they had missed more than three consecutive months of primary, lower or upper secondary school (ISCED-1, ISCED-2 and ISCED-3).

Nevertheless, PISA 2022 data suggest that long-term absenteeism is particularly harmful to students' academic success, especially at higher levels of education (Figure II.3.13). While students who missed school for longer in primary education scored 35 points lower in mathematics, students who did so in lower or upper secondary education scored 41 and 59 points lower, respectively, than their peers who did not miss school for such long periods, on average across OECD countries (Table II.B1.3.52). Therefore, it is important to understand and address the causes of long-term absenteeism (see Box II.3.2).

Figure II.3.13. Long-term absenteeism and performance in mathematics

Change in average mathematics performance when students reported that they had missed school for more than three consecutive months at least once, by education level; OECD average



1. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

Notes: All score-point differences in mathematics are statistically significant (see Annex A3).

Long-term absenteeism refers to the percentage of students who reported that they had missed school for more than three consecutive months, at least once, at any education level.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

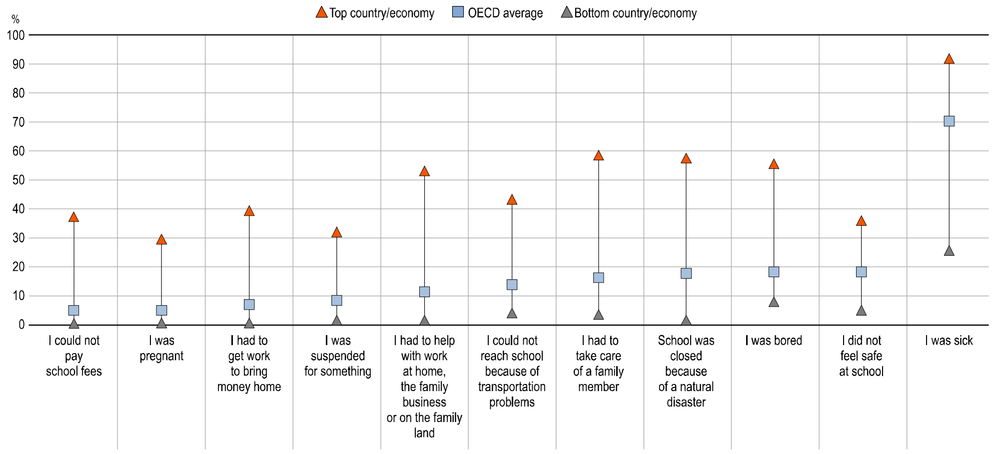
Box II.3.2. Reasons for students' long-term absenteeism

PISA 2022 data show that students stay out of school for longer periods for different reasons. By far the most common reason reported by students who missed school for more than three consecutive months at any education level was illness (71% on average across OECD countries, Figure II.3.14 and Table II.B1.3.55). Nonetheless, boredom or a lack of safety at school were also common reasons: two out of ten students across OECD countries missed school for longer due to those reasons. While schools can do little to prevent illness, they can address a lack of motivation among students, and much can be done to make schools safer. PISA results show that boys and students in lower secondary school are more likely to suffer from a lack of motivation: the two groups cited boredom as a reason for long-term absenteeism more often than girls and students in upper secondary school, on average across OECD countries and in most countries/economies (Table II.B1.3.56).

Unsurprisingly, there are notable differences across countries/economies in students' reasons for long-term absenteeism (Table II.B1.3.55). In Jordan, the Palestinian Authority and the United Arab Emirates one out of four students missed school for a long period because they were suspended. In Albania, Bulgaria, North Macedonia, the Philippines, Saudi Arabia more than 15% of students stayed away from school for longer because they were pregnant. According to more than 40% of 15-year-old students in Ireland*, Jamaica*, Macao (China), the Philippines and the United Kingdom*, natural disaster prevented them from attending school. Some 30% of students or more in Cambodia, Indonesia, Jordan, the Palestinian Authority, Paraguay, the Philippines, Romania, Thailand and the United Arab Emirates reported that they had to work either outside the home, at home, in the family business or on the family land. In Jordan, the Palestinian Authority, the Philippines and the United Arab Emirates being unable to pay school fees was commonly cited as a reason for missing school for three consecutive months or longer; in Jordan, the Palestinian Authority, Panama*, the Philippines, Romania, Saudi Arabia and the United Arab Emirates more than 30% of students who had missed school for long periods cited problems with transportation as the reason.

Figure II.3.14. Reasons for long-term absenteeism

Percentage of students who reported the following reasons for having missed school for more than three consecutive months



Items are ranked in ascending order of the percentage of students at the OECD average.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

Components of resilience: Teaming up with parents to support learning and well-being

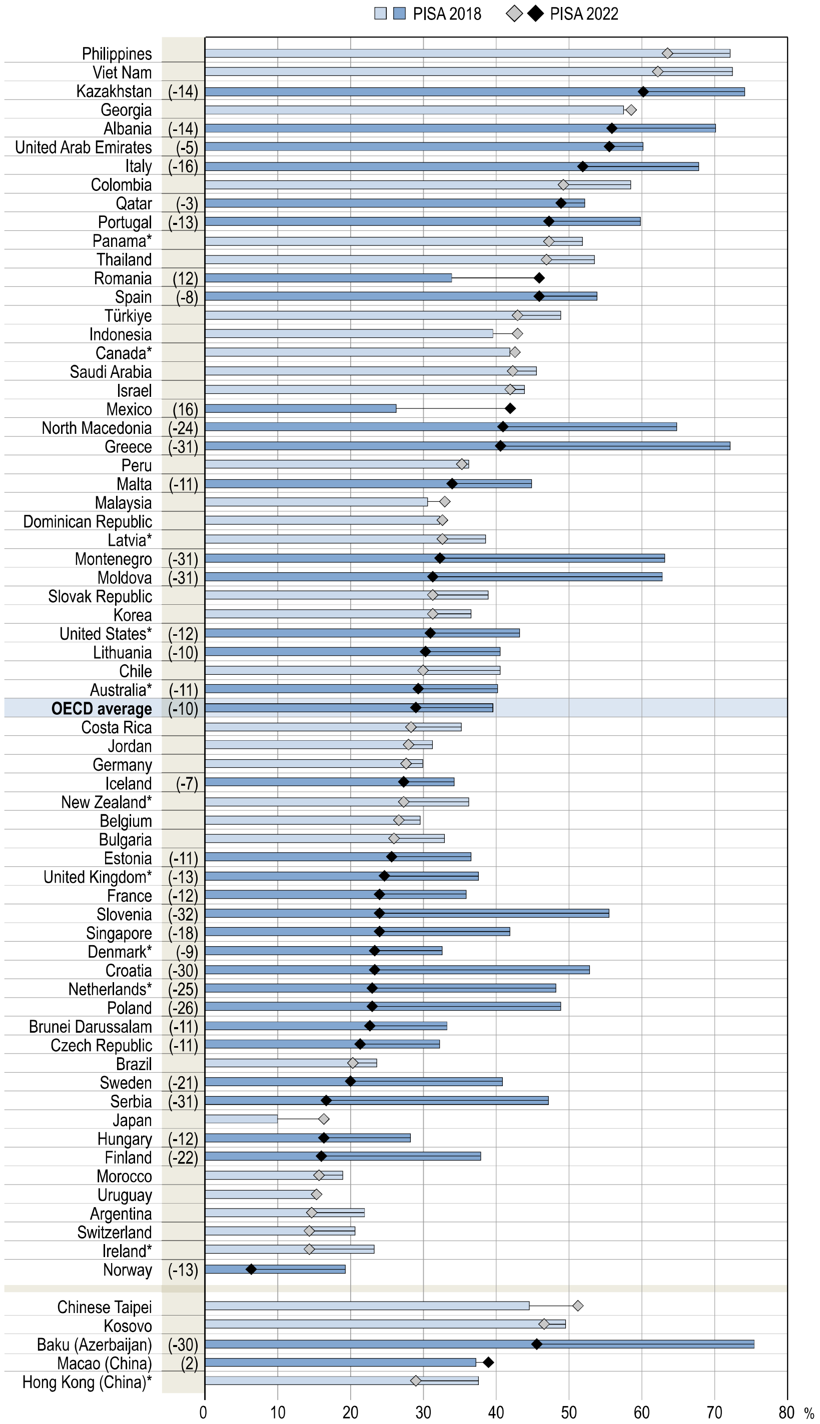
When schools were closed due to COVID-19, students' learning and well-being depended more than ever on a supportive home environment. However, the PISA 2022 results show that schools in many countries were not successful in using the COVID-19 experience as a catalyst for strengthening school-home partnerships[11] (Ulferts, 2022[8]).

In many education systems parental involvement in students' learning decreased

PISA trend data collected from school principals show that the percentage of parents who were involved in school decreased substantially between 2018 and 2022 in many countries/economies, especially the share of parents involved in learning-related activities (Figure II.3.15 and Table II.B1.3.67). On average across OECD countries, the share of students in schools where most parents discussed their child's progress with a teacher on their own initiative or on the initiative of one of their child's teachers shrank by ten and eight percentage points, respectively. However, these negative trends were observed in less than half of all PISA-participating countries/economies. In a few countries/economies parental involvement increased: in Macao (China), Mexico and Romania there was greater parental involvement in parent-initiated discussions; in Brunei Darussalam, the Dominican Republic, Georgia, Qatar, Saudi Arabia and the United Arab Emirates more parents were involved in teacher-initiated discussions. Parental involvement in other activities remained relatively stable in most countries/economies during the period, on average across OECD countries and in most countries/economies.

Figure II.3.15. Change between 2018 and 2022 in parent-initiated talks about students' progress

Percentage of students in schools whose principal reported that at least 50% of students' parents are involved in discussing their child's progress with a teacher on their own initiative



Source: OECD, PISA 2022 Database, Annex B1, Chapter 3

Note: Changes between PISA 2018 and PISA 2022 that are statistically significant are shown in a darker tone and in brackets, next to the country/economy name (see Annex A3). *Countries and economies are ranked in descending order of the percentage of students in these schools in PISA 2022.*

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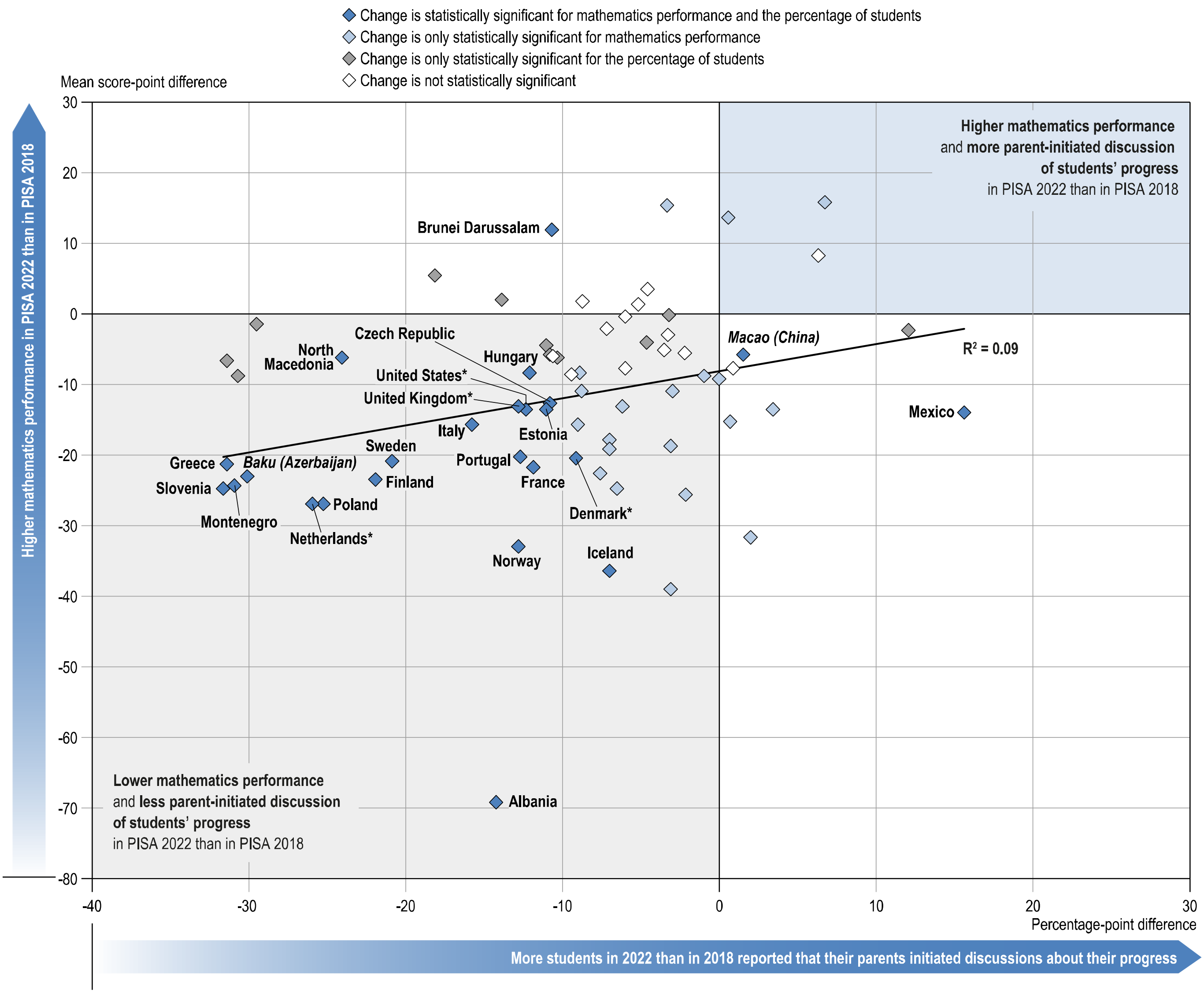
Education systems with more positive trends in parental involvement showed stable or improved performance

In fact, the systems that had more positive trends in parental involvement between 2018 and 2022 (i.e. systems in which the share of parents who discussed their child's progress with a teacher on their own initiative decreased less) showed more stable performance in mathematics (Figure II.3.16 and Table II.B1.3.77). This was particularly true for disadvantaged students. However, these systems saw a weakening of students' sense of belonging at school. The results may indicate that students felt pressured to improve their performance, which might have strained their emotional connection to school. Advantaged students in education systems where parents became more involved in physical or extracurricular activities between 2018 and 2022 showed more stable or improved performance in mathematics.

Figure II.3.16. Change between 2018 and 2022 in parent-initiated talks about students' progress, and mathematics performance

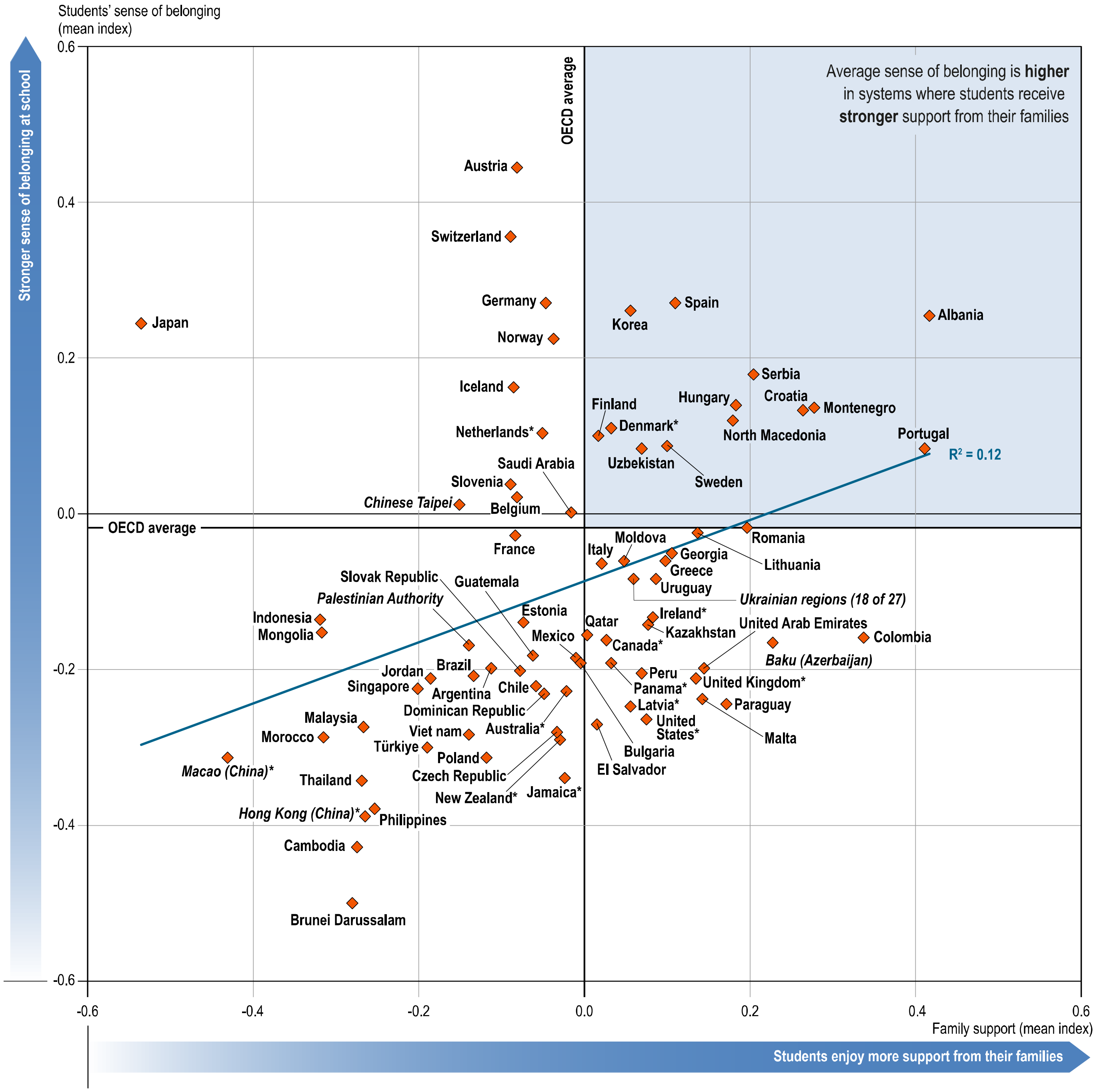


Note: Only countries and economies that show statistically significant changes between 2018 and 2022 in mathematics and in the percentage of students who reported that their parents initiated discussions about their progress are shown.
Source: OECD, PISA 2022 Database, Annex B1, Chapters 2 and 3.

Students who were supported at home had more positive attitudes towards school and learning

Support at home is important for student learning but also for their well-being. Students in education systems with more supportive families reported a stronger sense of belonging at school (see Figure II.3.17 and Table II.B1.3.76).

Figure II.3.17. Family support and sense of belonging



Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

In all countries/economies, students who enjoy more support from their families reported a greater sense of belonging at school and life satisfaction, and more confidence in their capacity for self-directed learning (Table II.B1.3.75). In most countries/economies, these students also reported feeling less anxiety towards mathematics.

The association between family support and student performance in mathematics varied substantially according to the different types of family support considered (Table II.B1.3.72). Higher-performing students reported that their family regularly ("about once or twice a week" or "every day or almost every day") eats the main meal together, spends time just talking with them, or asks them what they did in school that day. These students scored 16 to 28 points higher in mathematics than students who reported that their family does not do those things regularly, on average across OECD countries and after accounting for students' and schools' socio-economic profile. By contrast, lower-performing students reported that their family regularly talks to them about the importance of completing upper secondary education or about their future education. These students scored 11 to 15 points lower in mathematics than students who reported that their family does not do those things regularly, on average across OECD countries and after accounting for students' and schools' socio-economic profile. Families of low performers may stress the importance of upper secondary or future education more frequently to motivate students to put greater effort into their studies.

Families supported their children in different ways

Most students can count on support from their families, as they reported in 2022 (Table II.B1.3.69). However, not all types of family support were common across countries/economies. For instance, on average across OECD countries, eight out of ten students reported that parents or someone in their family eats the main meal with them and spends time just talking with them at least once or twice a week, while only six out of ten students reported that parents or someone in their family talks to them about any problems they might have at school, asks them about how well they are getting along with other students at school and talks to them about their future education.

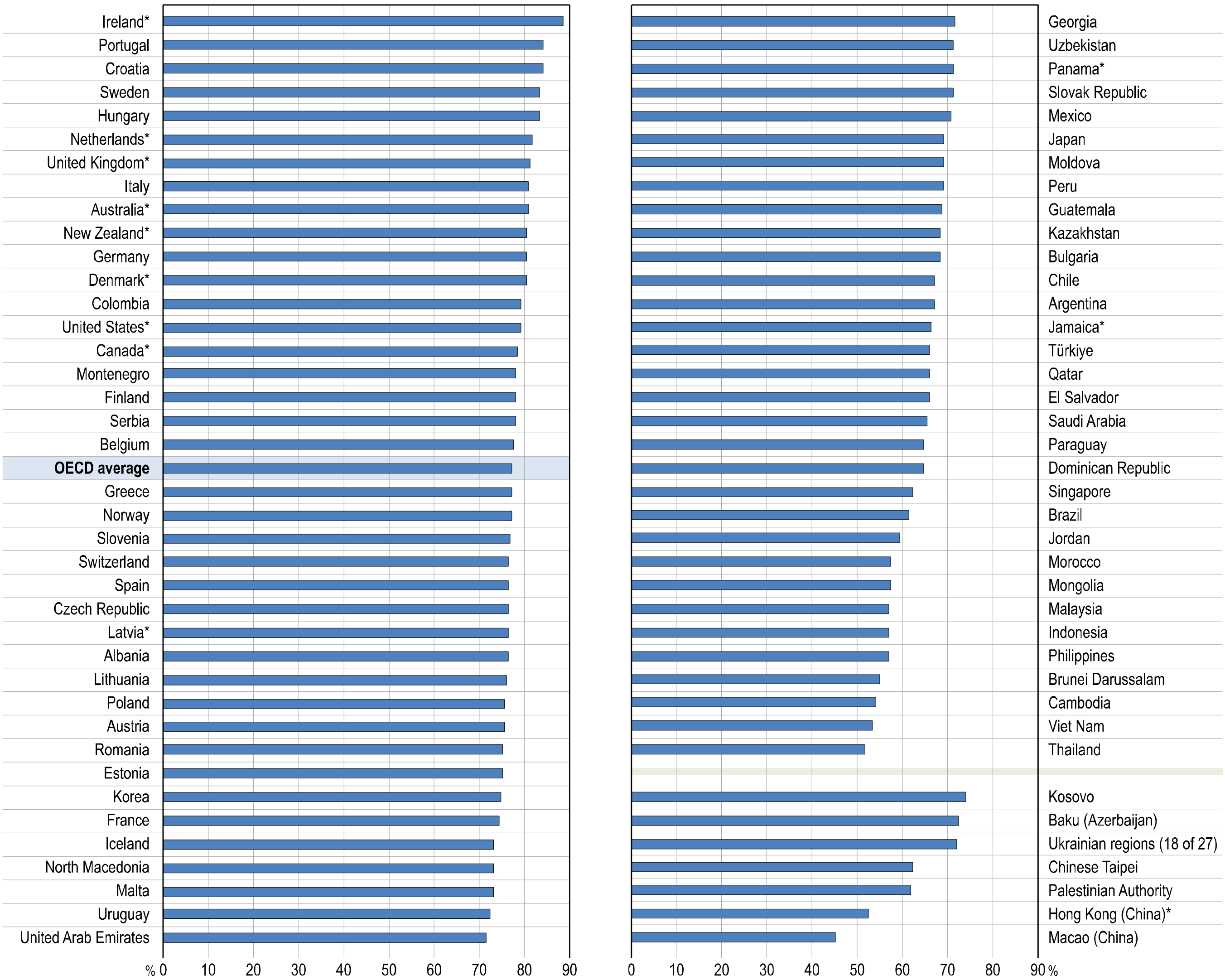
Some of the greatest differences across countries/economies were observed when considering whether parents or someone from the family asks what students did in school that day. In Australia*, Colombia, Croatia, Denmark*, Germany, Hungary, Ireland*, Italy, the Netherlands*, New Zealand*, Portugal, Sweden, the United Kingdom* and the United States* eight in ten students reported that their parents or someone in their family asks what they did in school that day about once or twice a week (Figure II.3.18). In Brunei Darussalam, Cambodia, Hong Kong (China)*, Macao (China) and Thailand, Viet Nam only around one in two students reported that this occurs regularly.

On average across OECD countries and in most education systems, socio-economically advantaged students, girls and students without an immigrant background reported more support from their family than disadvantaged students, boys and students with an immigrant background (Table II.B1.3.70). Students in upper secondary (ISCED-3) as compared to lower secondary (ISCED-2) school were more likely to report family support, on average across OECD countries and in around half of all education systems with available data.

According to school principals, schools discussed students' progress more frequently with parents than students' behaviour, and more often on the teacher's, rather than on the parent's or guardian's, initiative (Table II.B1.3.58). On average across OECD countries, about 52% of students attended schools where most parents or guardians (over 50%) discussed their child's progress with a teacher on the initiative of teachers and 40% attended schools where teachers initiate discussions on students' behaviour. Only one in four students attended a school where most parents initiate discussions about students' progress and behaviour. Other forms of involvement are even less common. Only 11% of students attended schools where parents participate in local school government, and only 8% attended schools where parents are involved in physical or extracurricular activities, such as building maintenance, sports or field trips.

Figure II.3.18. Percentage of students whose family regularly asks about school

Percentage of students who reported that at least once a week or twice a week their parents or someone in their family asks them what they did in school that day



Countries and economies are ranked in descending order of the percentage of students.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 3.

Table II.3.1. Life at school and support from home chapter figures

Figure II.3.1	School life as covered in PISA 2022
Figure II.3.2	Change between 2012 and 2022 in teachers giving extra help and mathematics performance
Figure II.3.3	Teacher support, and anxiety towards and performance in mathematics
Figure II.3.4	Distraction from digital devices in mathematics lessons
Figure II.3.5	Students' safety at school and sense of belonging
Figure II.3.6	School safety and student well-being
Figure II.3.7	Association between sense of belonging and selected aspects of school climate
Figure II.3.8	School safety risks
Figure II.3.9	Feeling safe, by school characteristics
Figure II.3.10	Change between 2018 and 2022 in students' exposure to bullying and mathematics performance
Figure II.3.11	Change between 2018 and 2022 in student truancy and mathematics performance
Figure II.3.12	Change between 2018 and 2022 in student truancy
Figure II.3.13	Long-term truancy and performance in mathematics
Figure II.3.14	Reasons for long-term truancy
Figure II.3.15	Change between 2018 and 2022 in parental involvement in talks about students' progress and mathematics performance
Figure II.3.16	Change between 2018 and 2022 in parent-initiated talks about students' progress and mathematics performance
Figure II.3.17	Family support and sense of belonging
Figure II.3.18	Percentage of students whose family regularly asks about school

StatLink https://stat.link/zqer74

Notes

1 The literature is clear about what students need to thrive in school: they need to feel physically and emotionally safe at school, supported and intellectually challenged at the same time (MacNeil, Prater and Busch, 2009[35]; Hoge, Smit and Hanson, 1990[34]; Way, Reddy and Rhodes, 2007[36]). Parents need to feel that they are invited to participate in their child's education and in school activities (Thapa et al., 2013[3]). If students' daily life at school is built around healthy, respectful and co-operative relationships, students are less likely to be truant or to engage in deviant and risky behaviours, such as smoking, drinking or using drugs (LaRusso, Romer and Selman, 2007[39]; Gase et al., 2017[38]; Catalano et al., 2004[37]). A positive school climate is also beneficial for students' brain development (Hackman et al., 2022[20]) and helps weaken the link between socio-economic status and academic achievement (Berkowitz et al., 2016[14]; Daily et al., 2020[16]).

2 Research finds that, unsurprisingly, students in more disciplined classes perform better in mathematics (Berkowitz et al., 2016[14]; Blank and Shavit, 2016[15]; Fauth et al., 2014[18]). Students are also more interested in mathematics lessons if teachers keep noise and disruptions to a minimum (Kunter, Baumert and Köller, 2007[22]; Lazarides and Buchholz, 2019[23]).

3 Students who feel supported by their teachers show greater self-efficacy, and enjoyment of and interest in mathematics, which helps them perform at higher levels (Berkowitz et al., 2016[14]; Fauth et al., 2014[18]; Lazarides and Buchholz, 2019[23]; Yu and Singh, 2016[33]). Mathematics anxiety can be alleviated if mathematics teachers are sensitive to students' attitudes towards the subject and realise when students need extra help (Aldrup, Klusmann and Lüdtke, 2020[13]; Lazarides and Buchholz, 2019[23]).

4 In every PISA assessment, students are asked to report on teacher support and disciplinary climate in the core subject. In 2022, the core subject was mathematics; in 2018 the core subject was reading. The most recent PISA

assessment in which mathematics was a core subject was 2012. Therefore, this chapter reports only on the change between 2012 and 2022 in teacher support and disciplinary climate in mathematics lessons.

[5] Some caution is warranted for the interpretation of trends due to the slight modification of the questionnaire design from 2012 to 2022. The response option "Never or hardly ever" from the PISA 2012 questionnaire was changed to "Never or almost never".

[6] Safety is a basic human need (Maslow, 1943[12]) and is particularly important in school so that students can build trusting relationships, concentrate on learning and stay healthy. Violence in schools, which disrupts learning and socialisation (Steffgen, Recchia and Viechtbauer, 2013[27]), can occur on school property, on the way to or from school, and during school trips and events. While violence may be committed by students, teachers or other members of the school staff, the most common perpetrators are fellow students (UNESCO, 2019[29]). School violence can take many forms (Thapa et al., 2013[3]; UNESCO, 2019[29]), including: physical aggression (e.g. the use of weapons, as well as criminal acts, like theft or arson); psychological violence (e.g. emotional and verbal abuse, such as insulting, threatening, ignoring, isolating, rejecting, name-calling, humiliating, ridiculing, rumourmongering, lying or punishing another person); sexual violence (e.g. sexual harassment, intimidation, unwanted touching, sexual coercion and rape); and bullying.

[7] Being exposed to physical or emotional harm, such as bullying and violence, can have severe, long-term physical and emotional consequences for students (Sobba, 2018[26]; Turanovic and Siennick, 2022[28]; Vanderbilt and Augustyn, 2010[30]; Wolke and Lereya, 2015[31]; Woods and Wolke, 2004[32]). These include poor physical and mental health (including a higher risk of suicide) and poor academic performance. Students who are frequently bullied are more likely to be dissatisfied with their life, and a prevalence of bullying in school is related to a weaker sense of belonging at school. Bullied students, especially those who were victims for years, have more trouble adjusting to adult roles, such as forming lasting relationships, integrating into work and being economically independent, and tend to avoid school, even though some researchers (Gubbels, van der Put and Assink, 2019[19]) do not find evidence of a higher risk of dropout.

[8]Bullying is defined as the repeated and intentional aggression towards another person, and someone's intentional and repeated harming and discomforting of another person (Şirin, 2022[25]). Bullying can be physical (hitting, punching or kicking) and can involve extortion (forcing the victim to give away his or her possessions); it can also be purely verbal (name-calling and mocking) and relational (spreading gossip and engaging in other forms of public humiliation, shaming and inducing social exclusion) (UNESCO, 2019[29]; Woods and Wolke, 2004[32]).

[9] Students who skip classes or arrive late for school miss out on learning and school life. Absenteeism is associated with lower grades, greater difficulty in acquiring credentials and lower educational aspirations (Hessen and Kuncel, 2022[21]). Compared with students who do not skip classes and arrive at school on time, truant students tend to have more negative opinions about school and suffer from anxiety or depression (Gubbels, van der Put and Assink, 2019[19]). They also tend to abuse drugs or alcohol more regularly and engage in antisocial, self-harming and risky behaviour more frequently (Epstein et al., 2019[17]). Repeated and widespread student truancy is detrimental to the overall school climate and a warning sign of dropout (Gubbels, van der Put and Assink, 2019[19]).

[10] The data on long-term absenteeism do not account for students who did not participate in the assessment and therefore may underestimate the level of long-term absenteeism in a country. The lower participation rates observed in PISA 2022 as compared to previous cycles may be due to an increase in the proportions of long-term absenteeism among students. However, this assumption cannot be tested because no trend data is available for long-term absenteeism.

[11]The pandemic reminded everyone that parents' and guardians' involvement in their child's education is vital (Castro et al., 2015[9]; Wilder, 2014[10]; Boonk et al., 2018[11]). Strong, effective and sustainable partnerships between families

and schools bolster students' psychological and social development and their academic achievement (Burns and Gottschalk, 2020[5]; Sheridan et al., 2019[24]).

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4 Selecting and grouping students

This chapter describes how students are selected and sorted into different grade levels, schools, programmes and classes. It discusses the length and duration of schooling, attendance at pre-primary school and grade repetition. The chapter then examines the concentration of students in schools, the age at which students are first tracked into general or vocational programmes, and how they are grouped by ability, both between and within classes. These policies are then related to student performance, and to the equity of education systems.

For Australia*, Canada*, Denmark*, Hong Kong (China)*, Ireland*, Jamaica*, Latvia*, the Netherlands*, New Zealand*, Panama*, the United Kingdom* and the United States*, caution is advised when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Students with different abilities and interests are found in every grade and school. School systems address this diversity in different ways. In comprehensive systems, students are taught in mixed-ability classes and follow a similar path through education, regardless of their abilities, behaviour and interests. By minimising or delaying the use of grade repetition, tracking and ability grouping, these systems give students greater opportunities to share learning experiences with higher-achieving peers and, at the same time, give "late bloomers" more time to catch up academically. In vertically stratified systems, students of a similar age are enrolled in different grade levels, mainly as a result of grade repetition. In horizontally stratified systems, students of different abilities, behaviour or interests are separated into different schools, programmes and classes so that what is learned (content and difficulty) and how it is taught (pedagogy) can be tailored to better meet students' needs. This sorting and grouping of students is generally termed educational stratification, which refers to the various ways that schools and education systems organise instruction for students with different abilities, behaviour, interests and pace of learning (Dupriez, Dumay and Vause, 2008[1]; Oakes, 1985[2]).

The more stratified an education system is, the more varied the pathways along which students progress through school, and the more likely it is that disadvantaged students are placed in the least academically oriented and demanding learning environments, potentially limiting their educational opportunities (Horn, Keller and Róbert, 2016[3]; Strello et al., 2021[4]; Triventi et al., 2020[5]; Van de Werfhorst and Mijs, 2010[6]). PISA 2022 data show that in OECD countries with more stratification policies in place, students' socio-economic status was more strongly associated with mathematics performance (i.e. greater socio-economic unfairness), as illustrated in Table II.4.1. Of these stratification policies, some were also negatively associated with education systems' average mathematics performance, even after accounting for per capita GDP. This was observed when considering grade repetition, the concentration of socio-economically advantaged students in schools and grouping students by ability within classes.

What the data tell us

- In countries with more stratification policies in place, students' socio-economic status was more strongly associated with mathematics performance.
- On average across OECD countries and in a majority of education systems, students who had attended pre-primary education for at least one year were considerably less likely to have repeated a grade than students who had never attended pre-primary education or who had attended for less than one year, even after accounting for socio-economic factors.
- Iceland, Israel, Japan, Korea, Mexico, Norway and the United Kingdom promote students automatically to the next grade level in both primary and lower secondary school.
- Early tracking and selective admissions procedures are related to the concentration of socio-economically advantaged and disadvantaged students in schools.
- In equitable and high-performing education systems, almost all students had attended pre-primary school; few students had repeated a grade; socio-economically advantaged and disadvantaged students were not heavily concentrated in certain schools; students were tracked into different curricular programmes relatively late; and comparatively few students were grouped by ability between classes.

However, grouping students of similar abilities and interests together may enable teachers to tailor their instruction level and teaching strategies to students' skills and interests, potentially benefitting low- and high-achieving students (Duflo, Dupas and Kremer, 2011[7]). In addition, well-resourced and attractive vocational programmes may improve the career prospects of low-achieving and disadvantaged teenagers, especially those at risk of leaving the school system early (Bartlett, 2009[8]).

The effect of stratification on student outcomes is the subject of ongoing debate; yet global trends show that, since the 1960s, education systems have shifted away from tracking practices towards more comprehensive approaches, especially at the lower secondary level (Furuta, 2020[9]). The COVID-19 pandemic may have further accelerated some of these "destratification" policies. Some education systems, for instance, eased the criteria for promoting students to the next grade level in the wake of school closures. But is there anything left of these emergency measures? And are education systems less stratified today than they were before COVID-19? Unfortunately, PISA data can only provide tentative answers to these questions because some of the questions on stratification, particularly those related to attendance at pre-primary school and grade repetition, refer to 15-year-old students' academic pathways before the pandemic started. Despite these limitations, evidence in this chapter shows that the OECD education systems examined were somewhat less stratified in 2022 than they were in 2018, at least with regard to attendance at pre-primary school, grade repetition and ability grouping (Tables II.B1.4.4, II.B1.4.13, and II.B1.4.29).

Table II.4.1. Selecting and grouping students, performance and equity in mathematics

System-level correlation coefficients, OECD countries

		OECD countries						All countries and economies					
		Mean score in mathematics		Socio-economic fairness[1]		Index of sense of belonging		Mean score in mathematics		Socio-economic fairness[1]		Index of sense of belonging	
		r	Partial r	r	Partial r	r	Partial r	r	Partial r	r	Partial r	r	Partial r
Vertical stratification of students	**Percentage of students who had attended pre-primary school for at least 1 year**	0.12	0.10	-0.12	-0.13	**0.50**	**0.51**	**0.52**	**0.41**	**-0.47**	**-0.43**	0.18	0.12
	Percentage of students who had repeated a grade at least once in primary (ISCED 1), lower secondary (ISCED 2) or upper secondary (ISCED 3) school	**-0.43**	**-0.39**	**-0.34**	**-0.33**	0.16	0.25	**-0.41**	**-0.36**	0.03	-0.02	**-0.22**	-0.18
Sorting and selecting students horizontally	**Isolation index of socio-economically disadvantaged students**	*-0.30*	-0.06	**-0.66**	**-0.72**	-0.24	-0.08	-0.04	0.12	**-0.56**	**-0.63**	-0.09	-0.05
	Isolation index of socio-economically advantaged students	**-0.58**	**-0.41**	**-0.45**	**-0.51**	*-0.29*	-0.12	**-0.30**	-0.12	**-0.36**	**-0.46**	**-0.31**	**-0.27**
	Isolation index of low-achieving students in mathematics	0.08	0.24	**-0.71**	**-0.72**	0.10	0.19	**0.22**	**0.29**	**-0.60**	**-0.61**	0.11	0.11
	Isolation index of high-achieving students in mathematics	-0.02	0.20	**-0.50**	**-0.51**	-0.08	0.04	-0.10	0.01	**-0.38**	**-0.43**	-0.12	-0.09
	Number of distinct education programmes available to 15-year-old students	0.20	**0.35**	**-0.49**	**-0.49**	*0.29*	**0.37**	0.08	0.04	**-0.39**	**-0.39**	**0.24**	**0.23**
	Age at first selection in the education system	-0.01	0.02	**0.64**	**0.66**	-0.24	-0.24	-0.12	0.02	**0.37**	**0.34**	-0.05	-0.01
	Percentage of students enrolled in pre-vocational or vocational programmes	-0.09	0.06	*-0.28*	*-0.27*	0.00	0.10	0.02	*0.20*	-0.16	*-0.21*	**0.31**	**0.34**
	Percentage of students in schools where students are grouped into different classes for all subjects	-0.12	-0.09	-0.20	-0.20	0.13	0.17	**-0.42**	**-0.37**	**0.35**	**0.31**	*-0.20*	-0.16
	Percentage of students in schools where students are grouped within classes for all subjects	**-0.56**	**-0.49**	0.12	0.14	-0.10	0.00	**-0.54**	**-0.56**	**0.43**	**0.40**	**-0.22**	*-0.19*

1. Socio-economic fairness is measured by the percentage of variation in student performance that is not accounted for by the PISA index of economic, social and cultural status. Higher percentages indicate higher levels of fairness by student socio-economic status.

Notes: Values shown in this table are correlation coefficients. Values that are statistically significant at the 5% level (p<0.05) are in bold, those at the 10% level (p<0.10) are in italics.

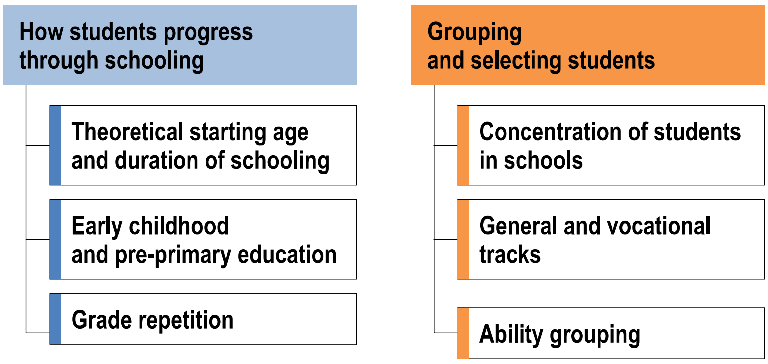
Values under the label "Partial r" are partial correlation coefficients, adjusting for per capita GDP of countries and economies.

Number of countries and economies may differ between the analyses included in the table.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

This chapter starts by describing the length and duration of schooling, the patterns of attendance at pre-primary education, which has become a normal – and often compulsory – part of students' trajectory through education, and grade repetition (Figure II.4.1). The second part of the chapter considers three types of horizontal stratification: that which occurs between schools, typically referred to as concentration of students in schools; that which occurs between instructional programmes, usually known as tracking; and that which occurs within schools, typically labelled ability grouping. The chapter also analyses how these stratification policies and practices are related to education outcomes, and how these relationships may have been altered during and since the COVID-19 pandemic.

Figure II.4.1. School system stratification as covered in PISA 2022

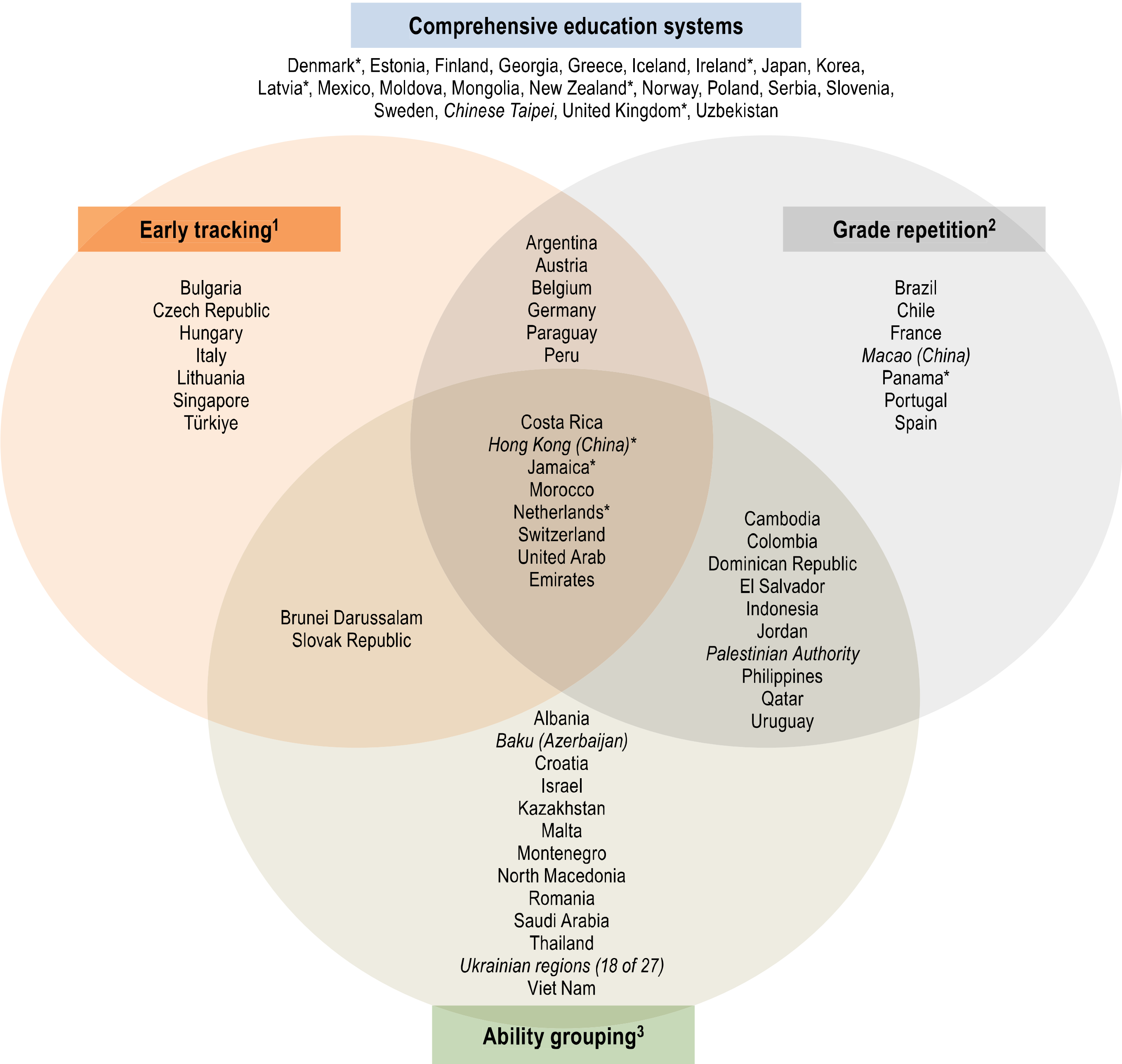


How education systems address student diversity

Figure II.4.2 classifies education systems according to three key stratification policies: how early students are selected into different curricular programmes (early tracking); the prevalence of grade repetition; and how common it is for schools to group students by ability between classes (for all subjects). Education systems are considered to resort to a particular stratification policy if the values are below (for age at selection) or above (for grade repetition and ability grouping) the OECD average.

According to this analysis, the largest group is composed of comprehensive education systems, that is, those that resorted to the three stratification policies less frequently than on average across OECD countries. The OECD countries in this group are: Denmark*, Estonia, Finland, Greece, Iceland, Ireland*, Japan, Korea, Latvia*, Mexico, New Zealand*, Norway, Poland, Slovenia, Sweden and the United Kingdom*. At the other end of the spectrum, seven education systems, including Costa Rica, the Netherlands* and Switzerland, resorted to all three stratification policies more frequently than on average across OECD countries. Some countries/economies relied mostly on one stratification policy. For instance, Chile, France, Portugal and Spain had a relatively high proportion of grade repeaters; Israel tended to sort students by ability between classes; and the Czech Republic, Hungary, Italy, Lithuania and Türkiye, all began tracking students relatively early in their education. The remaining education systems combined two of the stratification policies. For instance, the Slovak Republic stood out for tracking relatively early and grouping students by ability; Colombia for grouping students by ability and having a relatively high proportion of grade repeaters; and Austria, Belgium and Germany for tracking students early and having a high prevalence of grade repetition.

Figure II.4.2. Classifying education systems according to three key stratification policies



1. Education systems placed in the early tracking circle are those where students were selected into different curricular programmes at age 14 or earlier (OECD average is 14.3 years).
2. Education systems placed in the grade repetition circle are those where the percentage of students who had repeated a grade at least once in primary or secondary education was above the OECD average (9.0%).
3. Education systems placed in the ability grouping circle are those where the percentage of students enrolled in schools where students were grouped by ability between classes for all subjects was above the OECD average (6.7%).
Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

Charting students' progress through schooling

The vertical structure of an education system refers to the sequence of grades and levels of instruction that students must progress through in order to complete their schooling. This structure outlines the grades in which students are expected to be enrolled according to their age. But daily educational practice often results in students of a similar age being enrolled in different grade levels. This is typically known as vertical stratification. For example, many students enter pre-primary or primary school at an age that is different from the "theoretical" age at entry established in national legislation. Similarly, some students stay in primary or secondary school longer than others do, often because of grade repetition, while some drop out of school without completing their programme. System-level policies, school characteristics and practices, students' family background and other outside-of-school experiences are associated with the odds of successfully progressing from one instructional grade or level to the next, and of entering higher education (Bai et al., 2021[10]; Horn, Keller and Róbert, 2016[3]; Shavit and Blossfeld, 1993[11]). Vertical stratification indicators are related mostly to the performance and fairness components of resilience (Table II.B1.4.31).

Pre-primary and upper secondary education are compulsory in some education systems

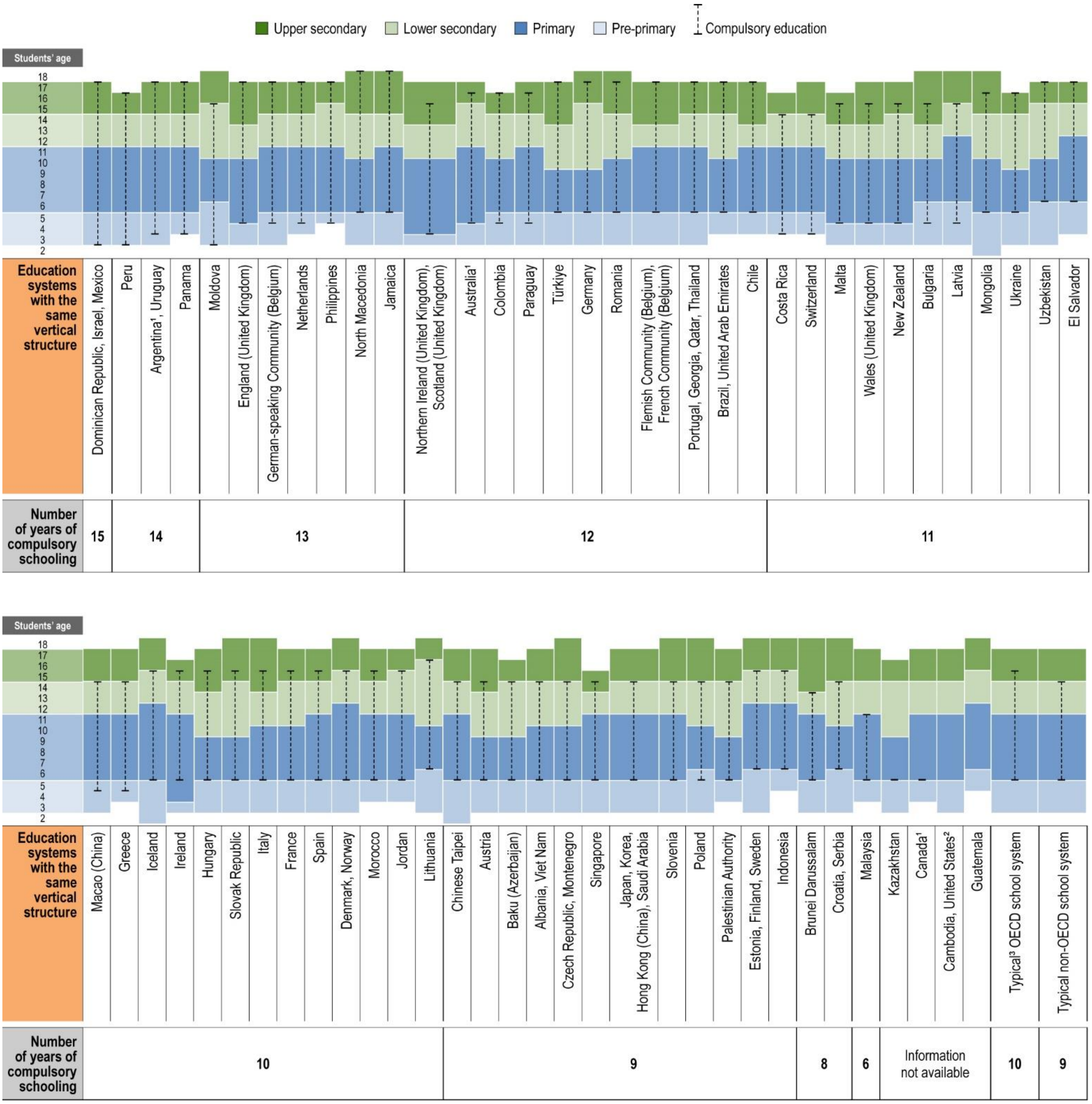
National laws and regulations formally define the sequence of grades and levels of instruction that students must progress through their schooling by establishing the age at which students are expected to enter different education levels, the duration of these levels of education, and the requirements for students' entry and graduation. Through its system-level questionnaire, PISA 2022 asked countries to report the age, established by law and regulation, at which students enter pre-primary, primary, lower secondary and upper secondary education (the theoretical starting age), and the number of years of schooling a student is expected to complete before graduating from each of these levels (the theoretical duration or length). The system-level questionnaire also asked the ages between which students are legally required to attend school (compulsory education) at the time the data were collected. Figure II.4.3 summarises this information. The theoretical structure of education systems includes both compulsory schooling and the education levels or years of schooling in which students might enrol on a voluntary basis.

Students in the typical school system are expected to start pre-primary education at the age of 3, primary school at the age of 6, secondary education at the age of 12, upper secondary education at the age of 15, and at 18 they are expected to obtain their upper secondary degree (Figure II.4.3). However, students' expected trajectories through schooling vary considerably across countries. Instead of starting at the age of 3, pre-primary education begins at the age of 2 in Iceland, Mongolia and Chinese Taipei; at the age of 4 in 14 school systems, and at the age of 5 in Guatemala, Indonesia and the Philippines. Upper secondary education for students in general programmes typically ends when students are 18 years old, but in 9 education systems students can complete this level of education at least one year earlier. In 26 education systems the earliest students in general programmes can complete their upper secondary education is after they turn 19.

In OECD countries, students are typically obliged to attend school between the ages of 6 and 16, whereas in partner countries and economies they are typically required to be schooled until they turn 15 (Figure II.4.3). In some education systems, including those in the Dominican Republic, Israel and Mexico, students are required to attend school for 15 years, from the age of 3 to 18. In Malaysia, by contrast, education is compulsory for only six years. Education systems also need to determine whether compulsory education should start before children are 6 years old, and whether it should be extended until the age of legal adulthood, which is typically set at 18 years. Of the 82 education systems with available data (includes subnational entities in Belgium and the United Kingdom), students in 27 of them are obliged to attend school before they turn 6; in the Dominican Republic, Israel, Mexico, Moldova and Peru school is compulsory for 3-year-olds. Around 1 in 3 school systems extend compulsory education until the age of 18; in Jamaica and North Macedonia teenagers are obliged to remain in school until the age of 19.

Figure II.4.3. The vertical structure of education systems

Theoretical starting age and theoretical duration of pre-primary, primary and secondary education for students in general programmes



1. There is variation across jurisdictions in the country. Data refer to typical age across jurisdictions. 2. In the United States, official starting age for compulsory education ranges between 5 and 8 years; official end of compulsory education for full-time students in general programmes ranges from 16 to 19 years.

3. Typical is based on modal values across countries and economies. Note: Theoretical starting age is the age at which students are expected to enter an education level according to national law or regulation. The theoretical duration is the number of years of schooling a student is expected to complete before graduating from an education level according to law or regulation. *Countries and economies are shown in descending order of the number of compulsory years of schooling. Among education systems with the same number of years of compulsory education, countries/economies are shown in ascending order of the starting age of compulsory education, followed by the age at entry into pre-primary education, primary education, lower secondary and upper secondary education, and duration of upper secondary education.*

Source: OECD, PISA 2022 Database, Tables B3.1.1 and B3.1.2.

There are still wide gaps in pre-primary school attendance

As evidence about the importance of high-quality pre-primary education grows (Heckman, 2006[12]; OECD, 2018[13]), enrolment in pre-primary education has become more prevalent around the world (OECD, 2022[14]; UNESCO Institute for Statistics, 2012[15]). Research suggests that a variety of outcomes can be boosted by high-quality pre-primary education, including children's cognitive development and well-being, later academic achievement and even adult earnings (Duncan et al., 2007[16]; Nordic Council of Ministers, 2012[17]). In this regard, a recent study by UNICEF estimates that the temporary closures of pre-primary schools during the COVID-19 pandemic may have significant adverse effects on the earnings, later in life, of the children whose schools were closed, especially if the learning loss cannot be fully compensated for during subsequent years of schooling (Nugroho et al., 2020[18]).

Attendance at pre-primary school has been shown to improve students' behaviour, attention, effort and class participation in primary school (Berlinski, Galiani and Gertler, 2009[19]; Taniguchi, 2022[20]). In addition, early education programmes are cost-effective interventions with substantial economic returns to investment, particularly in low- and lower-middle-income countries (Heckman et al., 2010[21]; Richter et al., 2021[22]). The benefits of attendance at pre-primary education tend to be greater for socio-economically disadvantaged children (Suziedelyte and Zhu, 2015[23]). However, the benefits also depend on the quality of the early childhood education and care, as defined by positive staff-child interactions and more exposure to developmental activities, among other factors (Melhuish et al., 2015[24]).

Data from PISA 2022 show that most 15-year-old students reported that they had attended pre-primary education for 3 years or more (57% of students), 2 years (24%), or 1 year (14%), on average across OECD countries (Table II.B1.4.1). In 50 countries/economies, at least 90% of students had attended pre-primary education for at least one year. In Denmark*, Hong Kong (China)*, Hungary, Iceland, Japan, and Macao (China), attending pre-primary education for at least 2 years was virtually universal (more than 95% of students had done so). By contrast, at least 25% of students in Baku (Azerbaijan), Cambodia, the Dominican Republic, Kazakhstan, Kosovo, Morocco, North Macedonia, Saudi Arabia and Uzbekistan reported that they had not attended or that they had attended pre-primary education for less than a year.

Cross-national variations in participation in pre-primary education may be related to several factors. For example, some countries may have lower rates of pre-primary attendance due to longer parental leave, or because there is a culture where infants are cared for in the home. Other countries, such as the United Kingdom, may offer earlier access to primary education and therefore there is less time between birth and primary school for attendance at pre-primary education. However, the main source of cross-country variations is most likely related to the extent to which pre-primary education is available and affordable to all families. To improve the affordability of early childhood education, governments typically build and manage pre-primary schools directly, subsidise private school operators through public grants and tax relief, or support households through vouchers and tax credits (Boeskens, 2016[25]; Doorley et al., 2021[26]; Purcal and Fisher, 2006[27]).

The percentages of 15-year-old students who had attended pre-primary education remained fairly stable between 2018 and 2022, on average across OECD countries (Table II.B1.4.4). While in 2018 93.7% of 15-year-olds had attended pre-primary education for one year or longer, in 2022 the percentage had increased to 94.1%, a small but significant difference. In some education systems, including Baku (Azerbaijan), Indonesia, Kazakhstan, Montenegro, Saudi Arabia and Türkiye, attendance at pre-primary school for at least a year increased by at least five percentage points during the period. Particularly noteworthy is the increase in pre-primary school attendance in Saudi Arabia where the share of 15-year-olds who had attended pre-primary education for at least a year increased from 48% to 71% in the space of four years. By contrast, in Albania, the Dominican Republic and the Philippines there was an increase of at least 3 percentage points in the share of 15-year-olds who had not attended pre-primary education at all, or who had done so for less than a year.

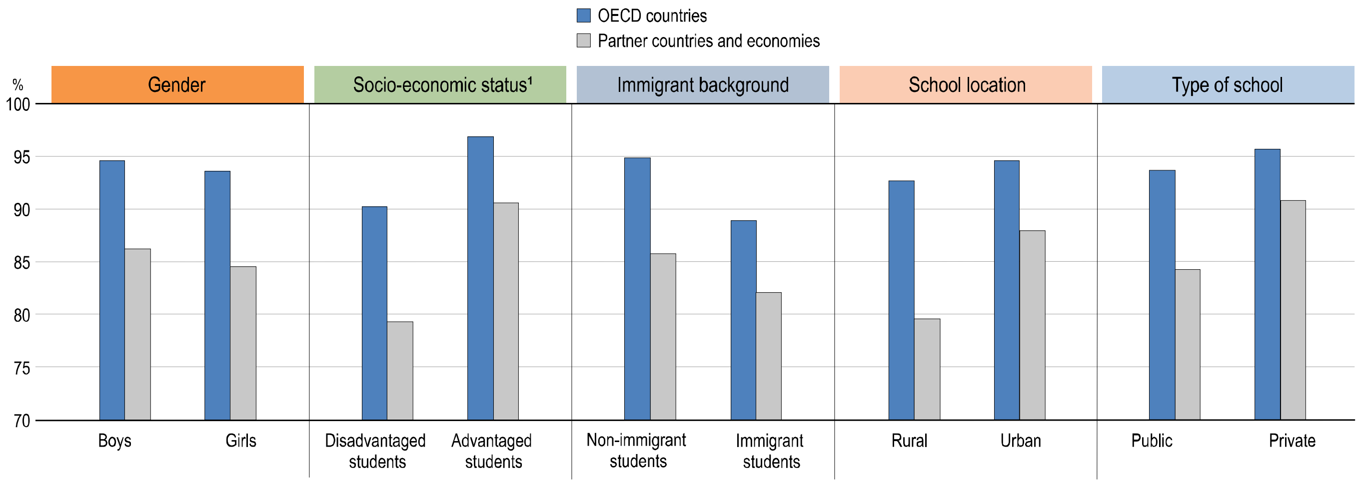
While the gender gap in access to pre-primary education was generally small or negligible in 2022, the socio-economic gap was sizeable (Figure II.4.4 and Table II.B1.4.2). In 66 out of 80 countries/economies for which there are comparable data, socio-economically advantaged students were more likely to have attended pre-primary education than disadvantaged students. In 12 education systems, the socio-economic gap in attendance amounted to more than 20 percentage points. In Türkiye, for instance, 93% of socio-economically advantaged students but only 60% of disadvantaged students had attended pre-primary education for at least one year. Students with an immigrant background were also less likely to have attended pre-primary education than students without an immigrant background, on average across OECD countries. The gap in pre-primary participation related to immigrant background was particularly large in Germany, Jamaica, Jordan, Kazakhstan, Malta, the Netherlands*, Norway, the Philippines, Slovenia, Sweden, Thailand and Türkiye. In Slovenia, for example, 95% of students without an immigrant background had attended pre-primary education for at least one year, compared to 69% of students with an immigrant background.

Access to early childhood education for rural children remains a challenge in many parts of the world, particularly in middle- and low-income countries (Choudhury, Joshi and Kumar, 2023[28]; Temple, 2009[29]; Zaw, Mizunoya and Yu, 2021[30]). PISA 2022 data confirm that fewer students in rural schools had attended pre-primary education than students in urban schools, especially in partner countries/economies (Table II.B1.4.3). In Brunei Darussalam, Cambodia, the Dominican Republic, Guatemala, North Macedonia, Panama*, Qatar and Saudi Arabia participation in pre-primary education was at least 10 percentage points higher among students enrolled in urban schools than among students enrolled in rural schools. In Georgia, Lithuania and Morocco the rural-urban gap surpassed 20 percentage points.

Students who had attended pre-primary education for longer scored better in mathematics than students who had not attended at all or who had attended for only a few months (Table II.B1.4.5). On average across OECD countries, the mathematics score attained by students who had attended pre-primary education for 1 year, 2 years or 3 years or more was higher (11, 17 and 16 score points higher, respectively) than the score attained by students who never attended or who had attended for less than one year, after accounting for socio-economic factors.

Figure II.4.4. Differences in 15-year-old students' attendance at pre-primary school

Percentage of students who had attended pre-primary school; OECD average



:

1. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

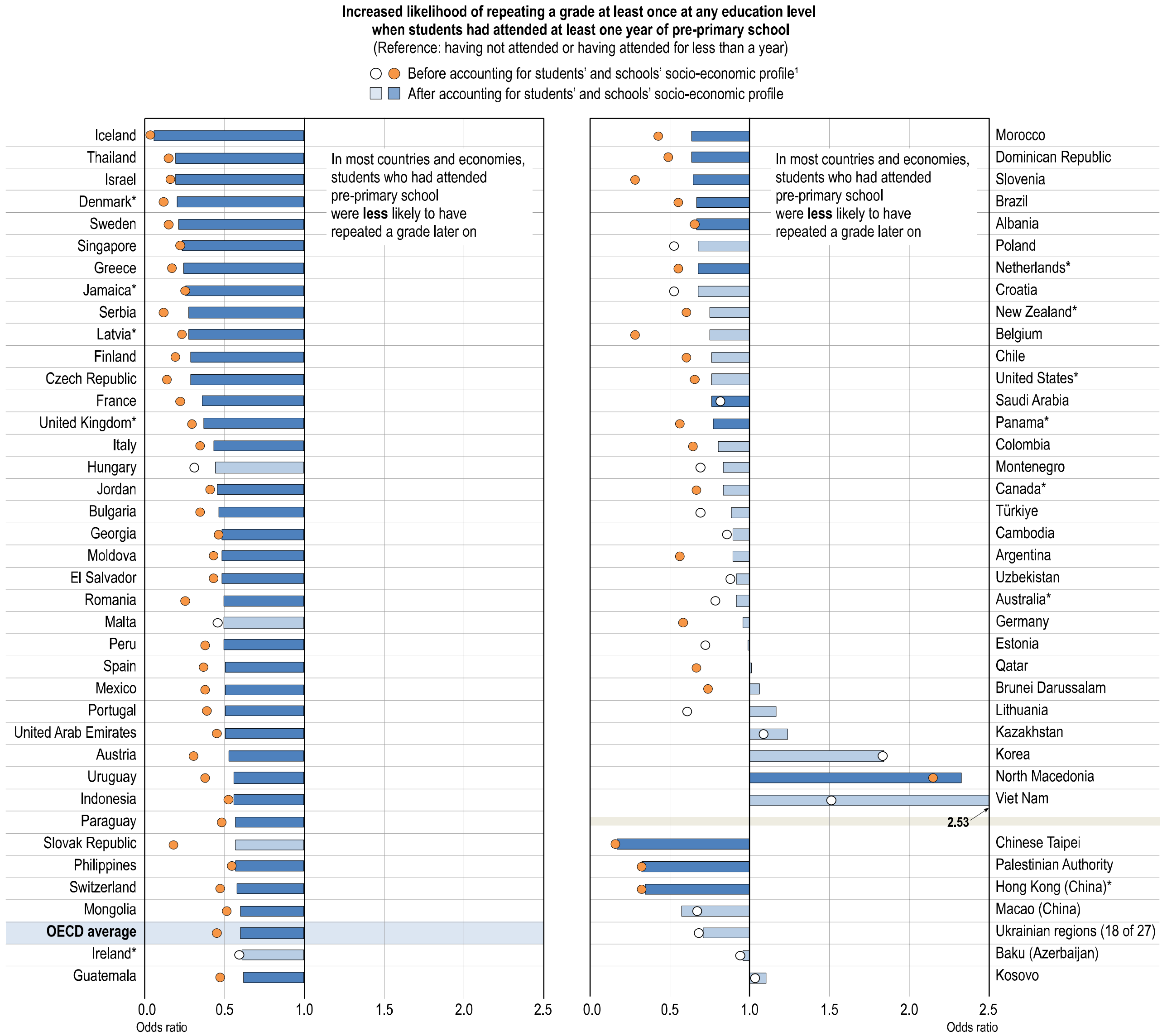
Does attendance at pre-primary education make it less likely that students will repeat a grade?

One of the reasons parents enrol their children in early childhood education is to prepare them for regular school, and to help them avoid academic and social problems later. Grade repetition is regarded as one of those problems. While the cross-sectional nature of PISA data cannot establish causality, PISA 2022 results clearly show that, on average across OECD countries and in a majority of education systems, students who had attended pre-primary education for at least one year were considerably less likely to have repeated a grade in any education level than students who had never attended pre-primary education or who had attended for less than one year, even after accounting for socio-economic factors (Figure II.4.5).

The education systems with the strongest negative association between attendance at early childhood education and grade repetition were Denmark*, Greece, Iceland, Israel, Malaysia, Singapore, Sweden, Chinese Taipei and Thailand; the only education system with a positive association was North Macedonia. In the case of Thailand, for instance, 15-year-old students who had not attended pre-primary education, or had done so for less than one year, were about 5 times more likely to have repeated a grade than students who had attended for one year or longer.

Figure II.4.5. Attendance at pre-primary school and grade repetition

Based on students' reports



1. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

Note: Significant odds ratios are shown in a darker tone (see Annex A3).

Countries and economies are ranked in ascending order of the increased likelihood (odds ratio) of repeating a grade at least once at any education level when the student had attended pre-primary school for at least one year (ref: not having attended or having attended for less than a year), after accounting for students' and schools' socio-economic profile.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

Grade repetition: A vanishing practice

Grade repetition is the practice of requiring students to remain in the same grade level for an additional year, instead of promoting them to the next grade along with their peers of the same age. School leaders and teachers, sometimes in consultation with parents, are responsible for decisions on who will be promoted or retained, sometimes within guidelines or regulations coming from national or other levels of government (European Commission, 2011[31]). Students are typically required to repeat a grade when they do not perform well academically, but other factors, such as behaviour, fluency in the language of instruction and students' background characteristics, may also play a role. In this regard, PISA 2015 data revealed that boys, socio-economically disadvantaged students, and students with an immigrant background were more likely to have repeated a grade, even after accounting for test performance and school-related attitudes and behaviours (OECD, 2016[32]).

The intended purpose of grade repetition is to give students a "second chance" to master the knowledge and skills appropriate for their grade level. If the curriculum is cumulative and further learning depends on a solid understanding of what had been previously learned, then promoting students regardless of their mastery of the content might put low-performing students in an increasingly difficult position at higher grades. For some of these students, repeating a grade may improve their academic achievement (Jacob and Lefgren, 2004[33]). Removing the "threat" of grade repetition may also have a negative impact on students' willingness to put effort into their schoolwork (Zhang and Huang, 2022[34]).

However, previous studies have shown that this "threat" effect is far from universal (Cabrera-Hernandez, 2022[35]), and that any short-term gains in test scores associated with grade repetition tend to disappear in the long run (Alet, Bonnal and Favard, 2013[36]). Previous research has, in fact, found mostly negative effects of grade repetition on student outcomes. For instance, students who had repeated a grade tend to perform less well in school and hold more negative attitudes towards school at age 15 than students who had not repeated a grade in primary or in secondary education; they are also more likely to drop out of high school (Ikeda and García, 2014[37]; Manacorda, 2012[38]). In addition, grade repetition can be a costly policy, as it generally requires greater expenditure on education and delays students' entry into the labour market (Education Endowment Foundation, 2023[39]; OECD, 2013[40]).

PISA uses a self-reported measure of grade repetition based on students' responses to questions in the student questionnaire that ask at which education level (primary or secondary) and how often (never, once or more than once) they had repeated a grade. In interpreting the results, it is important to bear in mind that, since most of 15-year-olds' school years took place before the pandemic, PISA 2022 results should only partially reflect the COVID-19 effect on grade repetition rates (if there is such an effect).

On average across OECD countries in 2022, 9% of students reported that they had repeated a grade at least once in either primary or secondary school (Figure II.4.6 and Table II.B1.4.10). In 36 countries/economies, 5% of students or less had repeated a grade. This group includes Japan and Norway, where the question was not asked to students, but where grade repetition is expected to be close to zero given that a policy of automatic promotion is in place at the primary and lower secondary levels and all, or virtually all, students were enrolled in the same grade level (Tables B3.4.2 and II.B1.4.7). In 14 countries, more than 20% of students had repeated a grade; in Colombia almost 40% of students had repeated a grade, and in Morocco around 46% of students had done so.

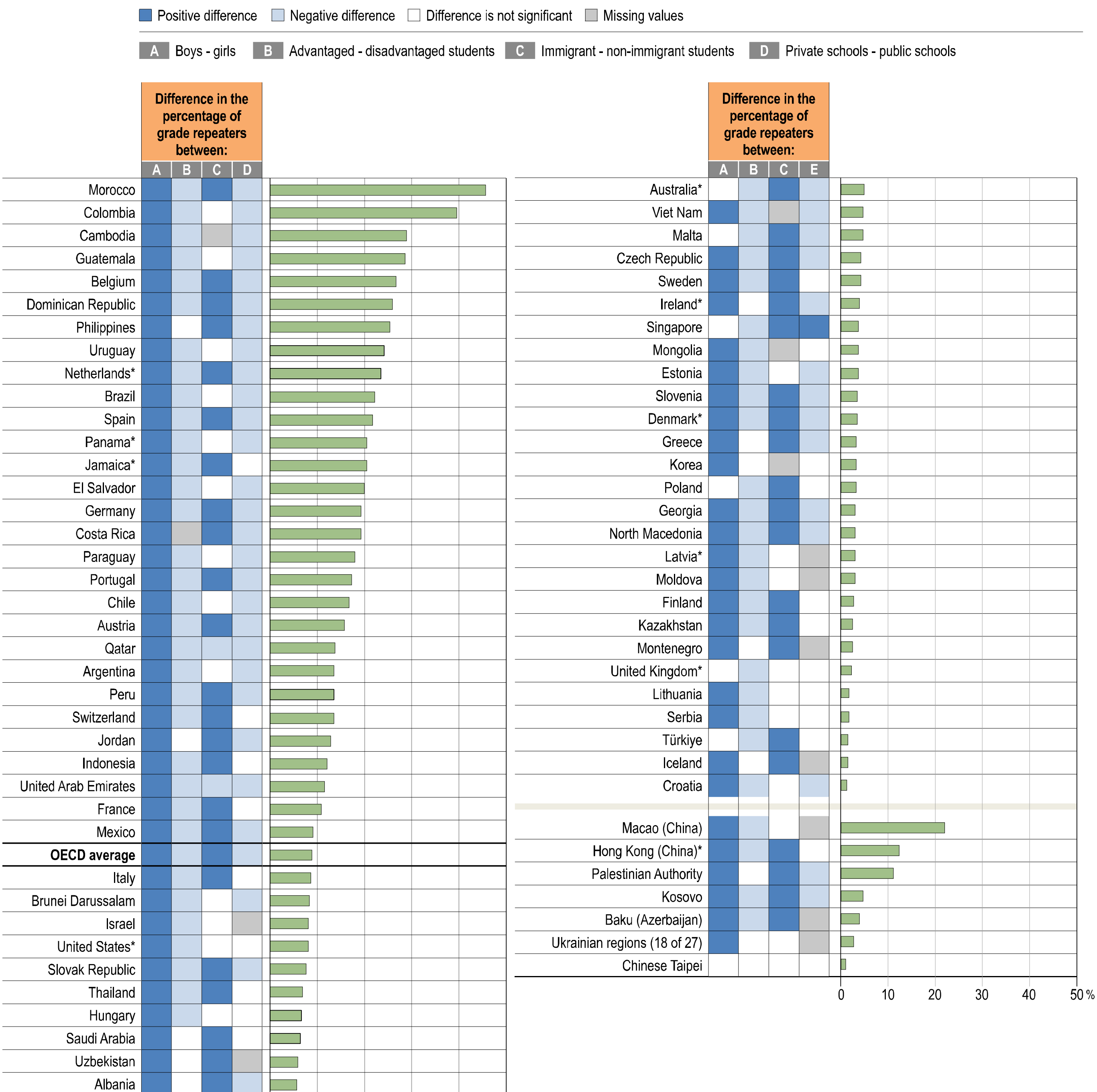
Consistent with the downward trend observed in earlier PISA assessments (OECD, 2020[41]), the share of 15-year-olds who had repeated a grade continued to decline between 2018 and 2022. While in 2018 about 11% of 15-year-olds had repeated a grade at least once, on average across OECD countries, in 2022, 9% of students had so done, a decline of almost 2 percentage points (Table II.B1.4.13). The largest drops, of at least six percentage points, were observed in Argentina, Brazil, Chile, Costa Rica, the Dominican Republic, Guatemala, Macao (China), Mexico, Panama*, Peru, Portugal, Spain and Uruguay. The drop in the percentage of students who had repeated a grade over the past two decades was particularly steep in France (see Box 4.1). In 2003, about 40% of students had repeated a grade in France; by 2015 the percentage had dipped to 22%; and in 2022 only 11% of students had repeated a grade (Figure II.4.7). By contrast, in a few education systems, particularly Albania, the Netherlands*, the

Philippines and the Slovak Republic, the proportion of students who had repeated a grade grew during the 2018-2022 period.

In almost all school systems, repeating a grade was more common among boys than among girls, and the gender gap was larger in those education systems with a higher incidence of grade repetition (Table II.B1.4.11). Furthermore, in 63 countries/economies disadvantaged students were more likely than advantaged students to have repeated a grade (Figure II.4.6). On average across OECD countries, a disadvantaged student was more than three times as likely as an advantaged student to have repeated a grade at least once. Students with an immigrant background were also more likely to have repeated a grade; this was observed in 47 education systems. In half of these education systems, students with an immigrant background were at least three times more likely to have repeated a grade. In Finland, for instance, only 2% of students without an immigrant background but 13% with an immigrant background had repeated a grade at least once.

Figure II.4.6. Grade repetition, and student and school characteristics

Percentage of students who had repeated a grade at least once in primary and secondary education



	A	B	C	D
Countries/economies with a positive difference	69	0	47	1
Countries/economies with no difference	8	13	25	22
Countries/economies with a negative difference	0	63	2	44

Note: Questions about the type of school were not asked in the Flemish-speaking Community of Belgium. Data for Belgium represent only the French-speaking and German-speaking Communities.

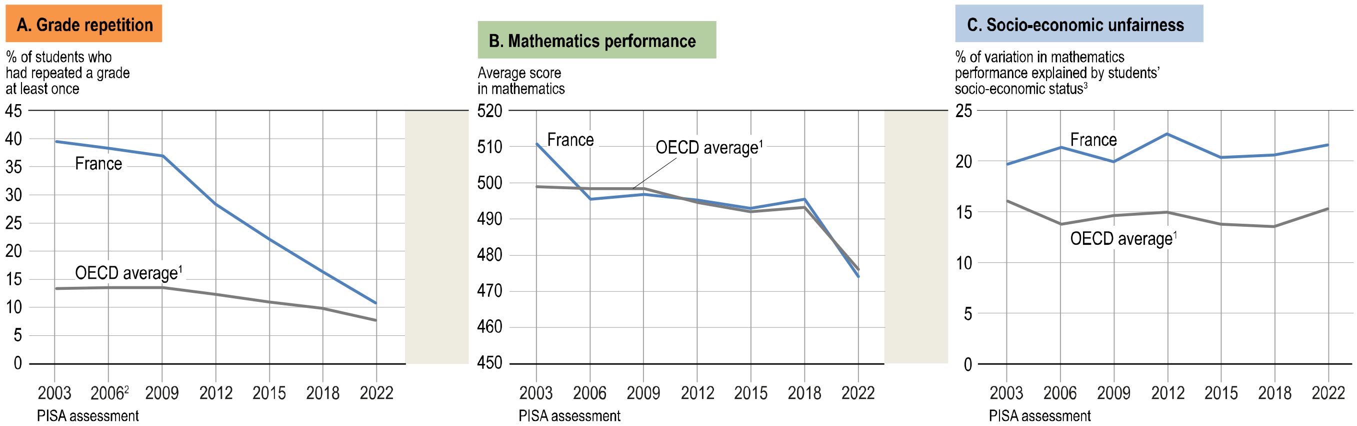
Countries and economies are ranked in descending order of the percentage of students who had repeated a grade at least once.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

Box 4.1. France re-thinks grade repetition

The French education system has traditionally been characterised by an exceptionally high number of grade repeaters. Not anymore. In 2003, almost four in ten 15-year-old students in France had repeated a grade at least once; nearly two decades later, the proportion had dropped to just one in ten (Figure II.4.7a). While in 2009, France had the third-highest percentage of grade repeaters among all OECD countries, only behind Costa Rica and Luxembourg (OECD, 2016), in 2022 the share of grade repeaters in France was just slightly above the OECD average. As this most recent PISA test shows, grade repetition rates in France were lower than those in Austria, Belgium, Chile, Colombia, Costa Rica, Germany, the Netherlands, Portugal, Spain and Switzerland (Figure II.4.6). Interestingly, before the COVID-19 pandemic hit, this drop in grade repetition rates was not accompanied by a decline in mathematics performance (Figure II.4.7b), nor by an improvement in socio-economic fairness in France (Figure II.4.7c), at least when compared to other OECD countries.

Figure II.4.7. Key indicators on education in France, 2003 through 2022



1. The OECD average includes 20 countries with results for all assessments since 2003.
2. The question on grade repetition was not asked in PISA 2006.
3. The socio-economic status of students is measured by the PISA index of economic, social and cultural status (ESCS).
Source: OECD, PISA 2022 Database.

Why did the incidence of grade repetition in France decline so sharply? While there may be many reasons, the main factor is probably related to changes in the regulations on grade repetition. In 2013, grade repetition was rendered an exceptional measure (*LOI n° 2013-595 du 8 juillet 2013 d'orientation et de programmation pour la refondation de l'école de la République*); one year later it was prohibited in pre-primary school, and only permitted in cases where students in primary or lower secondary school suffered serious disruptions to their learning, for instance because of long-term illness (*Décret du 18 novembre sur le suivi et l´accompagnement pédagogique des élèves*). More recently, the French government backtracked, clarifying that holding back a student who is facing difficulties is not prohibited (except in pre-primary school where pupils are still automatically promoted), and that the decision should be made by the Council of Teachers (in primary school) or by the school principal (in lower secondary school) (*Décret n° 2018-119 du 20 février 2018 relatif au redoublement*). However, repeating a grade should remain an exception and, when prescribed, should be accompanied by a programme that encourages individual academic success (*Programme personnalisé de réussite educative*).

Where this regulatory back-and-forth will take the French education system is still an open question. One thing seems clear: if grade repetition becomes the default policy again, the education system will need to dedicate more resources to cover all the additional school years that students are held back. To avoid the ballooning of costs associated with grade repetition (Benhenda and Grenet, 2015[42]), French schools will need to make the most of existing support programmes, such as *Remise à niveau* and *Activités pédagogiques complémentaires* in primary education and Devoirs faits in lower secondary education, to support struggling students before they are required to repeat a grade.

Remise à niveau are support programmes where low-achieving students in primary education learn French and mathematics in small groups during three separate holiday weeks. *Activités pédagogiques complémentaires* are differentiated instruction actions whereby struggling students in primary education are offered support activities to awaken and strengthen their desire for learning. *Devoirs faits* is a study-help programme offered in lower secondary schools to ensure that all students, especially those whose parents cannot support them academically, can complete homework assignments.

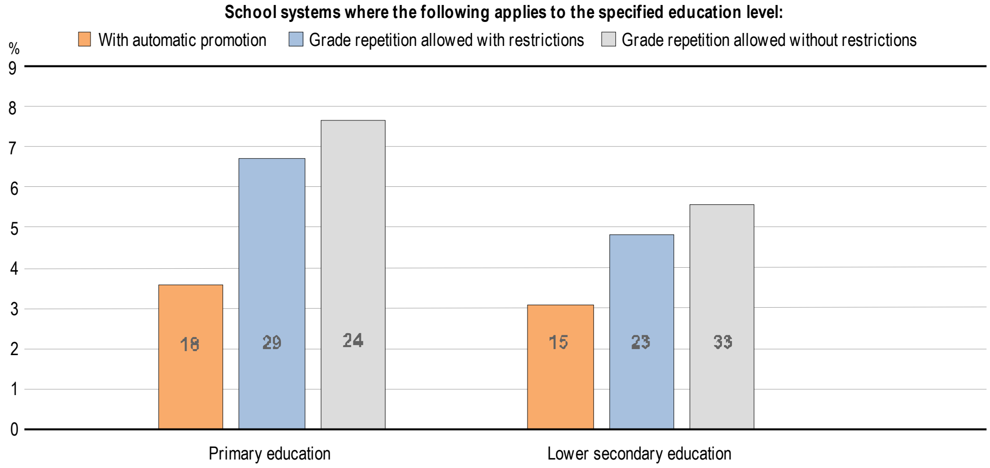
Some education systems promote all students to the next grade level

Through its system-level questionnaire, PISA 2022 asked countries to describe the regulations regarding grade repetition in primary and lower secondary education for students enrolled in both general and vocational programmes. Across countries and economies that participated in PISA 2022, the policy of automatic promotion (i.e. no grade repetition) was adopted by approximately 28% of education systems for primary education and by 24% of systems for lower secondary education. The school systems incorporating automatic promotion at both primary and lower secondary levels include Iceland, Israel, Japan, Korea, Mexico, Norway and the United Kingdom. Among the education systems that use grade repetition, approximately 55% impose some sort of restriction on its use, typically allowing it only in certain grades or limiting the times a student can repeat; 45% of these systems do not impose any limitation.

The prevalence of grade repetition, as reported by students, varies depending on how education systems regulate the practice (Figure II.4.8). In education systems with automatic promotion in primary education, 3.6% of students had repeated a grade at least once in primary education; 6.7% of students had repeated a grade at least once in the education systems that allow grade repetition with restrictions; and 7.6% of students had repeated a grade at least once in the education systems that allow grade repetition without restrictions. Similarly, in the education systems with automatic promotion at the lower secondary level, 3.1% of students had repeated a grade at least once in lower secondary education; 4.8% of students had repeated a grade at least once in those systems that allow grade repetition with restrictions; and 5.6% of students had repeated a grade at least once in the education systems that allow grade repetition without restrictions. These results suggest that education systems that aim to reduce the share of grade repeaters may reasonably expect to achieve their goal by imposing certain restrictions on grade repetition or eliminating the practice altogether. However, the results also indicate that other factors may be at play, such as cultural traditions and societal beliefs about the benefits of grade repetition or students falling sick for a long period, that may limit the effectiveness of the regulations. Also, some grade repeaters who emigrated recently may have repeated a grade in their previous education system, which may slightly overestimate the prevalence of grade repetition in education systems with automatic grade promotion.

Figure II.4.8. Regulations and prevalence of grade repetition

Percentage of students who had repeated a grade at least once at the specified education level; system-level analysis



Notes: The number of education systems in each group is shown inside the columns.
For this analysis, the French-speaking and Flemish-speaking communities of Belgium are included as separate entities because they reported different regulations on grade repetition. The German-speaking community (Belgium) did not provide information.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 4, and Tables B3.4.1 and B3.4.2.

Do teachers in education systems with automatic grade promotion provide greater support to students?

Policy makers, teachers and parents in education systems where grade repetition is allowed may wonder how education systems with automatic grade promotion handle students with inadequate knowledge and skills who would have been held back in their system. Education experts often argue that grade repetition should be replaced with additional and effective support to struggling students, following a more mastery-based approach to learning. According to this approach, students are expected to spend time on a task until they achieve full proficiency, receiving support from teachers when necessary. But do teachers in education systems with automatic grade promotion provide greater teacher support than teachers in education systems where grade retention is allowed?

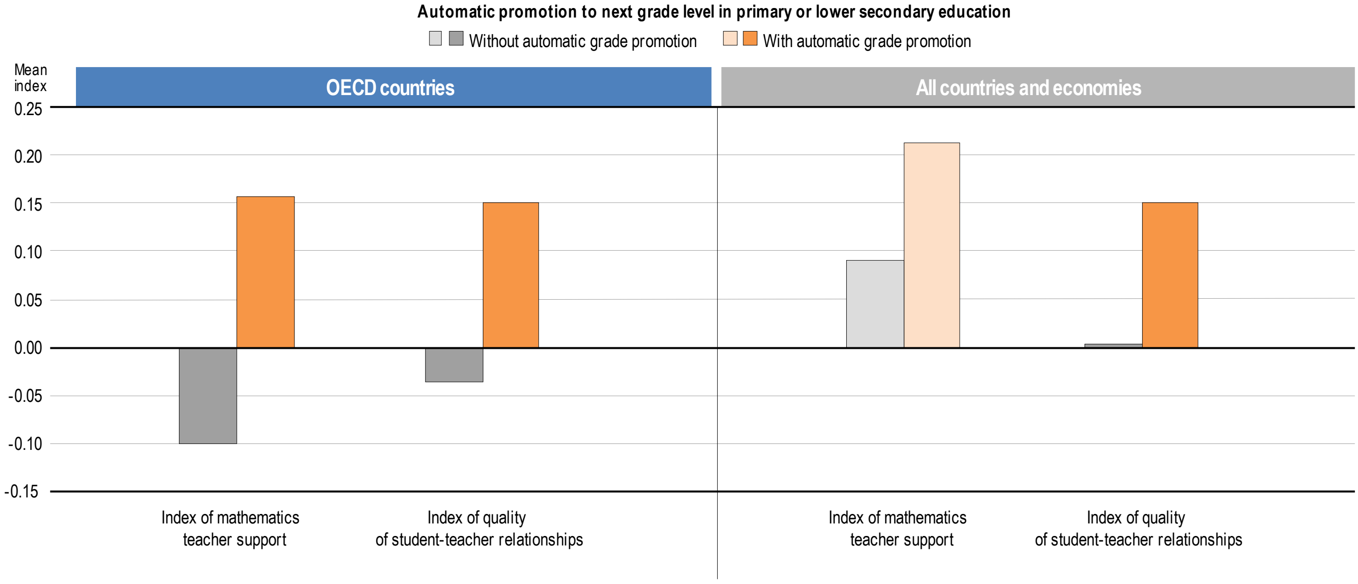
Grade repetition does not only affect academically struggling students: PISA data have shown that the policy may also target students with negative behaviours and attitudes (OECD, 2016[32]). For this reason, all teachers, but especially those in education systems where grade repetition cannot be the "solution" for misbehaving students, should also consider the socio-emotional dimension of teaching by building positive and healthy relationships with their students. Do teachers in education systems with automatic promotion build healthy relationships with students?

In order to answer these questions, the indices of mathematics teacher support and quality of student-teacher relationships were examined. The index of mathematics teacher support is based on students' responses to such statements as "The teacher gives extra help when students need it" and "The teacher continues teaching until the students understand". The index of quality of student-teacher relationships is built on students' responses to such statements as "When my teachers ask how I am doing, they are really interested in my answer", and "The teachers at my school are friendly towards me" (for more details on these indices, see Chapter 3).

Students in education systems with automatic grade promotion were more likely than students in education systems without automatic grade promotion to report that their mathematics teachers are supportive, and that they have good relationships with their teachers (when considering the former, the difference is significant only when comparing OECD countries) (Figure II.4.9). For instance, in OECD countries with automatic grade promotion the index of mathematics teacher support had a value of 0.16, which is significantly higher than the value of -0.10 found in OECD countries that practice grade retention.

Figure II.4.9. Supporting students in education systems with automatic grade promotion

System-level analysis



Note: Statistically significant differences between education systems with and without automatic grade promotion are shown in a darker tone (see Annex A3).
Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

Students who have repeated a grade multiple times share certain characteristics

The PISA sample does not include students who have dropped out of the school system. However, it does include students who are at a clear risk of leaving school early, some of whom may be close to doing so. Students who skip school regularly tend to be at risk of dropping out entirely. PISA 2018 showed that students who had skipped a whole day of school five times or more in the two weeks prior to the PISA test (but not those who skipped some classes or arrived late for class) scored very low in the reading test (OECD, 2019[43]). Similarly, repeating a grade multiple times during compulsory education indicates that a student is socially, emotionally and academically disengaged from school life. To describe who these students are, the PISA questions on grade repetition in primary, lower secondary and upper secondary school were combined to classify students into three groups: those who had never repeated a grade, those who had repeated only once, and those who had repeated two or more times throughout their academic career.

On average across OECD countries, 91.1% of students had never repeated a grade, 7.2% had repeated a grade once, and 1.7% had repeated a grade more than once (Table II.B1.4.16). The education systems where at least 5% of students had repeated a grade multiple times were: Brazil, Cambodia, Colombia, the Dominican Republic, Guatemala, Jordan, Morocco, the Palestinian Authority, the Philippines, Qatar, the United Arab Emirates and Uruguay. Among OECD countries, Colombia (13% of students), Israel (4.1%), Belgium (4.1%), Portugal (3.9%), Spain (3.6%) and Chile (3.4%), in descending order, had the largest percentages of students who had repeated a grade more than once.

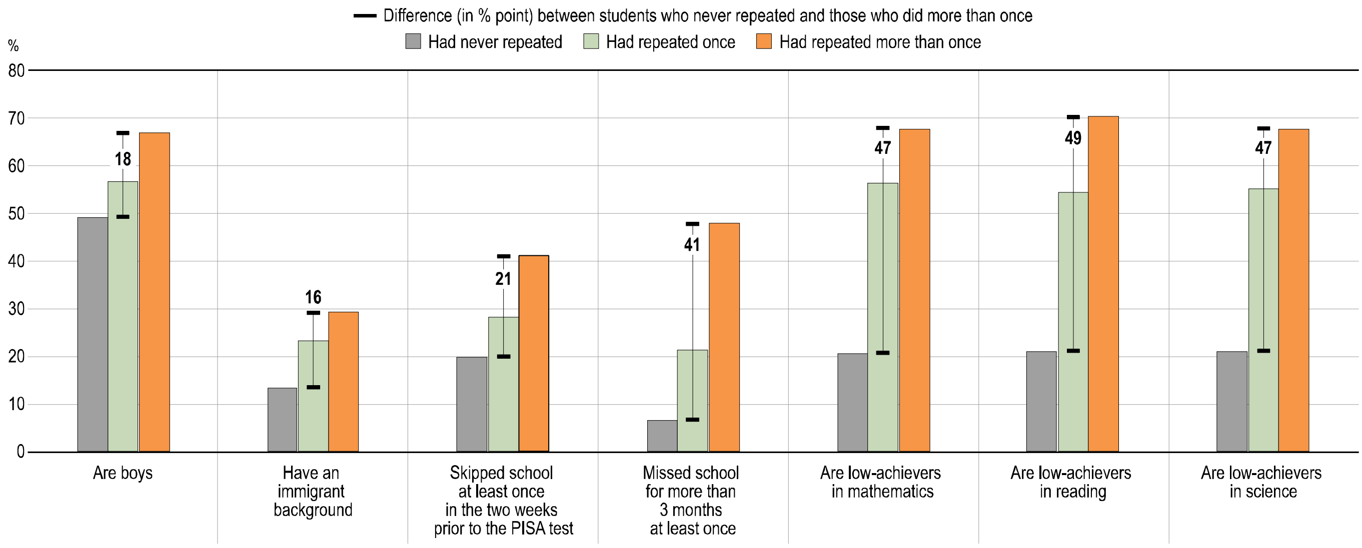
The findings in Figure II.4.10 and Figure II.4.11 clearly show that students who had repeated a grade multiple times display characteristics, attitudes and behaviours that set them apart from students who had never repeated a grade, and even from those who had repeated just once. The multiple repeaters were, in comparison to students who had never repeated a grade, more likely to be boys, socio-economically disadvantaged, with an immigrant background, and low-achievers in mathematics, reading and science. They were more likely to have skipped a whole day of school and missed school for at least three months. They also reported a weaker sense of belonging at school and, contrary to some stereotypes depicting these students as those who bully other students frequently, they reported being the victim of bullying much more frequently than students who had never repeated a grade, or who had repeated just once. While this finding does not mean that these students never bully other students, it does paint a more nuanced portrait of students who have repeated a grade multiple times during compulsory education.

The following results provide clear evidence of the characteristics of multiple repeaters:

- About 67% of them were boys, compared to the percentage of boys (49%) among students who had never repeated a grade, and the percentage of boys (57%) among students who had repeated only once
- Almost one in three had an immigrant background, compared to one in seven among those who had not repeated a grade
- They were twice as likely to have skipped school at least once in the two weeks prior to the PISA test, and seven times more likely to have missed school for a long period, than students who had never repeated a grade
- They were more than three times as likely to be low achievers in mathematics, reading and science as students who had always progressed to the next grade level
- Their value in the index of being bullied was almost one standard deviation above that observed among students who had never repeated a grade
- Keeping these students in school, and ensuring that they acquire the knowledge and skills necessary to lead a productive and satisfying life is an urgent challenge for policy makers, school leaders and teachers, particularly those in education systems with large shares of students who have repeated grades multiple times.

Figure II.4.10. Demographics, school absenteeism and academic performance, by grade repetition

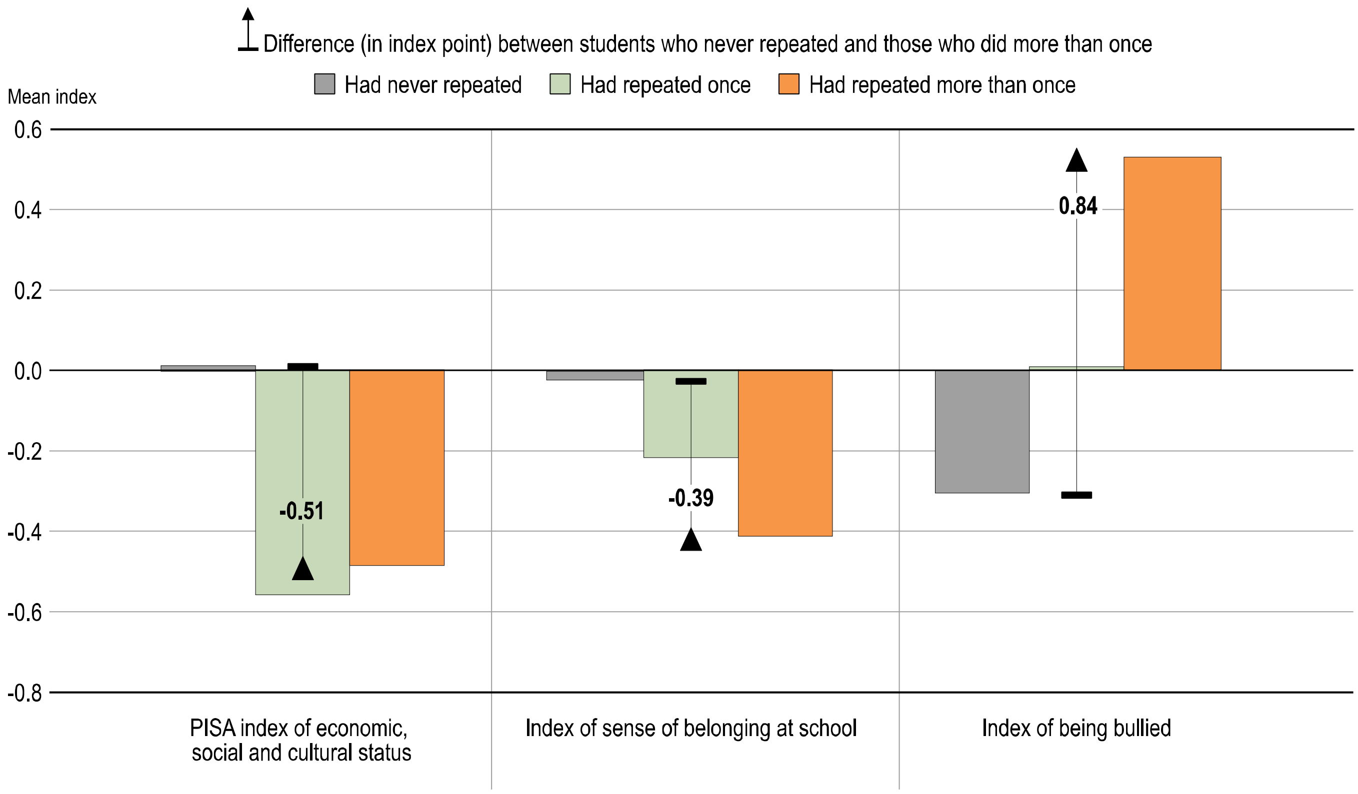
Percentage of students, by the following characteristics; based on students' reports



Note: All differences between students who never repeated and those who did more than once are statistically significant (see Annex A3).
Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

Figure II.4.11. Socio-economic status, sense of belonging and bullying, by grade repetition

Based on students' reports



Note: All differences between students who never repeated and those who did more than once are statistically significant (see Annex A3).
Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

Grouping and selecting students

Horizontal stratification refers to the policies and practices used to select and sort students who are enrolled in the same grade or education level into different schools, instructional programmes or ability groups. As with vertical stratification practices, horizontal stratification policies aim to manage students' heterogeneity in their interests and academic performance, allowing teachers and schools to work with students who have similar levels of knowledge, paces of learning or career prospects. However, research warns that horizontal stratification tends to exacerbate achievement gaps and socio-economic inequality with little effect on average academic performance (Gamoran, 2009[44]). Sorting and grouping processes tend to be not just academically but also socio-economically selective (Gerber and Cheung, 2008[45]; Glaesser and Cooper, 2011[46]; Van de Werfhorst, 2019[47]). Other studies show that early tracking may also hamper students' civic and political engagement later in their lives, particularly among students not selected for academically oriented programmes (Witschge and van de Werfhorst, 2020[48]).

Three types of horizontal stratification are examined here, all of them related mostly to the fairness component of resilience (Table II.B1.4.31). Horizontal stratification between schools, typically referred as concentration of students in schools, is the extent to which two or more social groups attend the same schools. Horizontal stratification between instructional programmes, usually known as tracking, is the practice of sorting students into academically oriented programmes or vocational programmes. Horizontal stratification within schools or programmes, typically labelled as ability grouping, might occur in two ways: grouping students into different classes or grouping them within the same class.

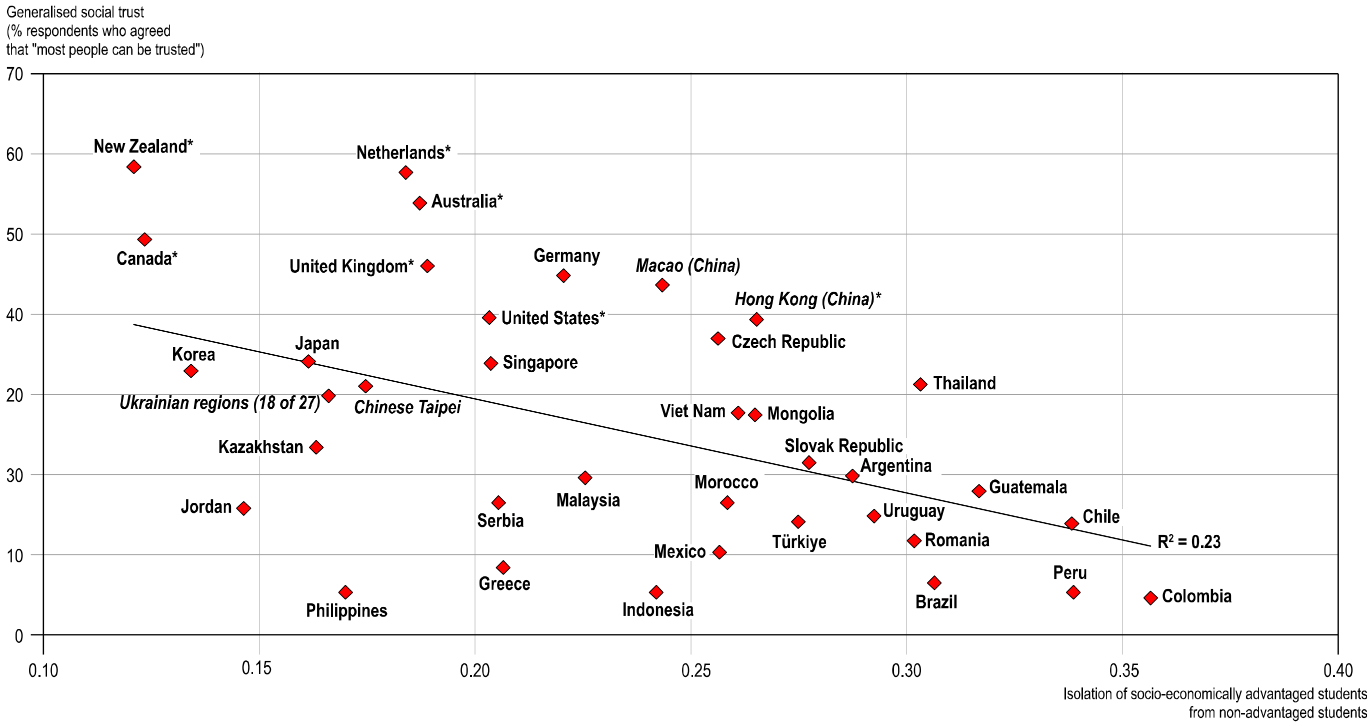
Composing a student body

Schools can be places where students with different social backgrounds mingle, but they can also be places where students only, or mostly, meet other students with a similar background. The concentration of students in schools is the extent to which two or more social groups attend the same schools. There are multiple indices to measure school segregation (Frankel and Volij, 2011[49]), including the isolation index used in this section. These indices aim to gauge the opportunities for social interaction between different groups of students within a school. This is important because classmates and schoolmates can have a strong influence on one another (i.e. peer effects) – for better and for worse. They can motivate each other and help each other overcome learning difficulties; but they can also disrupt instruction, require disproportionate attention from teachers, and be a source of anxiety. Recent empirical evidence emphasises that, depending on their own level of ability and gender, some students are more sensitive than others to the composition of their classes (Burke and Sass, 2013[50]; Lavy, Silva and Weinhardt, 2012[51]; Mendolia, Paloyo and Walker, 2018[52]). Moreover, greater social mixing in schools may nurture tolerance towards others (Karsten, 2010[53]), and may thus benefit society as a whole. PISA 2022 data show, for instance, that generalised social trust (the extent to which individuals have trust in other members of society) was higher in countries/economies where socio-economically advantaged students were more likely to share school with less privileged students (Figure II.4.12). However, more social mixing also poses some challenges to teachers and school leaders and, in certain circumstances, may lead to social conflict (Loxbo, 2018[54]).

The concentration of students in schools can be affected by the level of residential segregation in a location, economic inequalities, school admissions and transfer policies (school selectivity), the degree of school competition, the criteria families use to choose a school, the size of the private education sector, and the share of students enrolled in vocational programmes (provided they do not share school premises with students in academically oriented programmes) (Bonal, Zancajo and Scandurra, 2019[55]; Kutscher, Nath and Urzúa, 2023[56]; Wilson and Bridge, 2019[57]). Some of these factors are directly linked to the school system (most of which are examined in Figure II.4.16 and Figure II.4.17), but others, such as the economic inequalities and the levels of residential segregation, are external to the education system.

The degree of concentration of students in schools in an education system can be measured in different ways. In this section, the analysis is based on the isolation index, which measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from all other types of students or from a specific group of students (e.g. advantaged students) based on the school they attend. The isolation index is based on the normalised exposure index (see Annex A3 for more details), and ranges from zero to one, where zero corresponds to full exposure and one to full isolation. For instance, if all students are boys in the school attended by the average boy, which would be the case in an education system where there are only single-sex schools, the isolation index for boys (and for girls) would be one. By contrast, if boys and girls were randomly allocated to schools, the isolation index would be zero, or very close to zero. The isolation index has the advantage of being (close to) scale-invariant and bounded (between 0 and 1) (Owens et al., 2022[58]). More importantly, the isolation index not only tells us how unequally distributed a particular group is across an education system, but it also tells us if a group of students is isolated from, or exposed to, other groups of students. When interpreting the findings, it is important to bear in mind that the isolation index is calculated for entire education systems, and not for smaller geographical areas, such as school districts and metropolitan areas, where students transfer from one school to another more frequently. This means that if a group of students is unequally distributed across the territory of a country/economy, their value in the isolation index will be higher. For instance, this might be the case for students with an immigrant background. If they are concentrated in urban areas, which is often the case, the isolation index of these students is likely to be higher when calculated for the entire country/economy.

Figure II.4.12. Concentration of students in schools and generalised social trust



Note: The isolation index measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students, or from a specific group of students (e.g. advantaged students), based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure and 1 to full isolation.
Sources: OECD, PISA 2022 Database, Annex B1, Chapter 4, and World Values Survey - Wave 7 (2017-22).

Concentration of socio-economically advantaged and disadvantaged students in schools

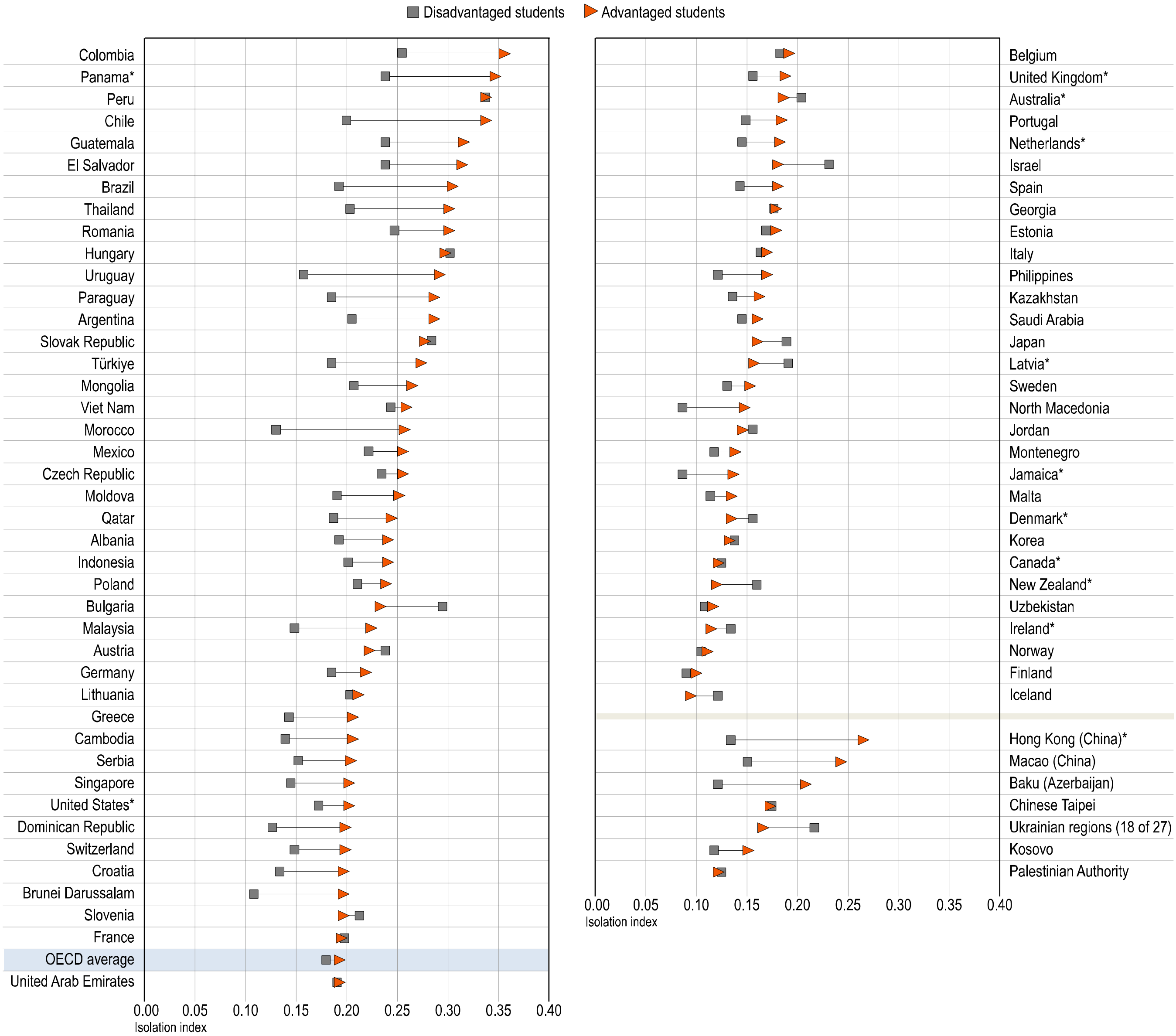
In most PISA-participating countries/economies, in 2022 socio-economically advantaged students were more isolated, or more concentrated, in certain schools than their disadvantaged peers (Figure II.4.13 and Table II.B1.4.17). The education systems where advantaged students were most concentrated into certain schools, relative to the concentration experienced by disadvantaged students, were Brazil, Chile, Colombia, Hong Kong (China)*, Morocco, Panama*, Paraguay, Thailand and Uruguay.

The degree to which socio-economically advantaged students were exposed to non-advantaged students, a group that includes both socio-economically average students and disadvantaged students, varied considerably across education systems. In many Latin American countries, such as Brazil, Chile, Colombia, El Salvador, Guatemala, Panama* and Peru, advantaged students were the least likely among their advantaged counterparts in the other PISA-participating countries/economies to encounter non-advantaged students in their school (Figure II.4.13 and Table II.B1.4.17). These countries are usually characterised by having high levels of income inequality and residential segregation, and a prevalence of private schools, which may explain why advantaged students are so often isolated in these education systems. At the other end of the spectrum, advantaged students were most likely to share the same school with non-advantaged students in Canada*, Denmark*, Finland, Iceland, Ireland*, Korea, New Zealand*, Norway, the Palestinian Authority and Uzbekistan.

The concentration of disadvantaged students in some schools followed somewhat different patterns. While the list of countries and economies with the highest levels of concentration of disadvantaged students included some Latin American countries, such as Colombia, El Salvador, Guatemala, Panama* and Peru, it also included the European countries Austria, Bulgaria, the Czech Republic, Hungary, Romania and the Slovak Republic, and Viet Nam (Table II.B1.4.17). Disadvantaged students were more likely to attend schools with non-disadvantaged students in Brunei Darussalam, Finland, Jamaica*, Kosovo, Malta, Montenegro, North Macedonia, Norway and Uzbekistan.

Figure II.4.13. Concentration of socio-economically advantaged and disadvantaged students in schools

Based on the isolation index[1]



1. The isolation index measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students, or from a specific group of students (e.g. advantaged students), based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure and 1 to full isolation.

Countries and economies are ranked in descending order of the extent to which socio-economically advantaged students were isolated from all other students (i.e. non-advantaged students).

Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

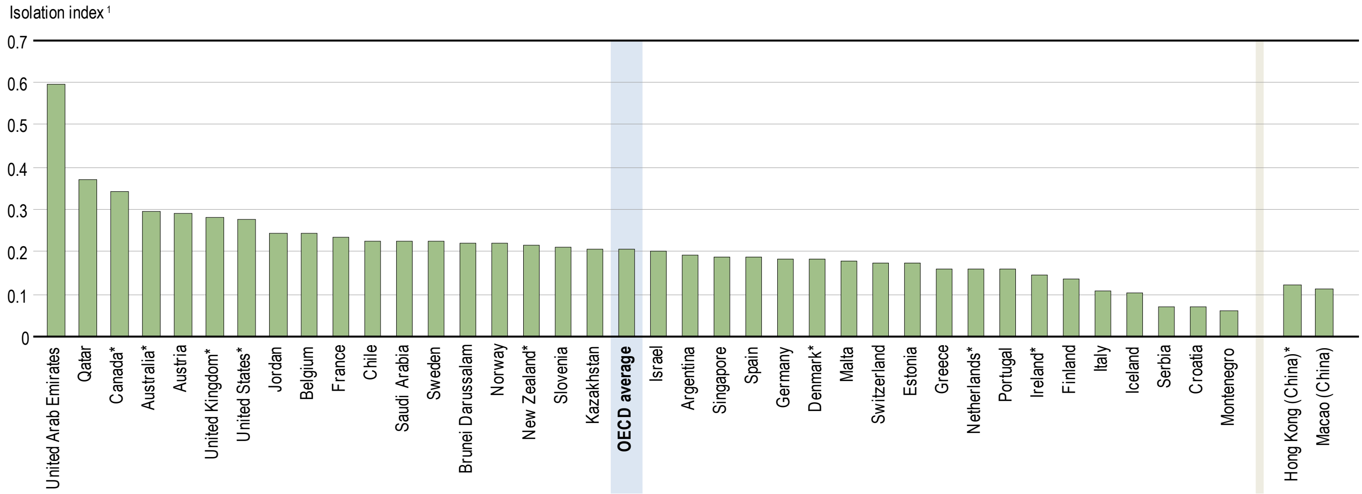
Concentration of immigrants in schools

The concentration in schools of students with an immigrant background, and the effects that this may have on student outcomes for both native and immigrant students, is a hotly debated issue. Some scholars have shown that having a high concentration of immigrant students may hinder the academic performance of both native and immigrant students (Jensen and Rasmussen, 2011[59]), but others have observed no effects (Hardoy, Mastekaasa and Schøne, 2018[60]), or only effects among immigrants students (Pedraja-Chaparro, Santín and Simancas, 2016[61]; Schneeweis, 2015[62]). Examining the degree to which immigrant students are concentrated in certain schools is nonetheless relevant for policy makers, particularly in those education systems with large shares of immigrant students.

Among the PISA-participating countries/economies where at least 5% of students have an immigrant background (Table I.B1.7.1), the highest levels of concentration of immigrants in schools (values in the isolation index above 0.25) were found in Australia*, Austria, Canada*, Qatar, the United Arab Emirates, the United Kingdom* and the United States* (Figure II.4.14 and Table II.B1.4.17). All of these are education systems where immigrant students represented more than 20% of the student population. However, other education systems with similar proportions of immigrant students, such as Germany, Hong Kong (China)*, Macao (China), Singapore and Switzerland, displayed more moderate levels of concentration of immigrant students across schools. For instance, in Austria the isolation index of immigrant students was about 60% higher than that in Germany, despite having almost the same percentage of students with an immigrant background.

Figure II.4.14. Concentration of immigrant students in schools

Based on the isolation index



1. The isolation index measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students, or from a specific group of students (e.g. advantaged students), based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure and 1 to full isolation.
Notes: Only countries and economies where more than 5% of students have an immigrant background are examined.
Countries and economies are ranked in descending order of the extent to which students with an immigrant background were isolated from students without an immigrant background.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

Concentration of low- and high-achieving students in schools

Education systems differ greatly in the extent to which high-achieving and low-achieving students in mathematics share the same schools. Many European countries, such as Austria, Bulgaria, France, Germany, Hungary, the Netherlands*, Romania, the Slovak Republic, and Slovenia and Türkiye, and also Jamaica* and Japan, stood out for displaying high levels in the index of isolation of low- or high-achievers (Table II.B1.4.17). For example, with a value of 0.95 in the isolation index, in the Netherlands* it was virtually impossible for a low-achieving student in mathematics to be enrolled in the same school as a high-achieving student. By contrast, in Baku (Azerbaijan), Denmark*, Estonia, Finland, Iceland, Ireland*, Malta, Norway, Saudi Arabia, Spain, Sweden and Uzbekistan, low-achieving 15-year-olds were most likely to attend the same schools as high-achieving students.

Concentration of boys and girls in schools

Schools are often imagined as having similar numbers of boys and girls. Across OECD countries, the concentration of boys and girls is certainly less prevalent than that based on socio-economic status, immigrant background or academic performance, but it is observed (Table II.B1.4.17). For instance, in Jordan, the Palestinian Authority and Saudi Arabia (values in the isolation index above 0.9), boys were completely, or almost completely, isolated from girls in their schools. In Qatar and the United Arab Emirates (values in the isolation index above 0.5), many boys were isolated from girls in their schools, largely because most (or all) public schools are single-gender schools. Other education systems, such as Austria, Croatia, Ireland*, Israel, Korea, Malta, New Zealand* and Slovenia, also showed significant levels of concentration of boys and girls in certain schools. Single-gender schools are the main reason why gender imbalances across schools were observed, but the prevalence of vocational programmes, which tend to present greater gender disparities than academic programmes, also contributed to this imbalance (see Box III.3.1 in (OECD, 2019[43])). This may explain why, across OECD countries, 15-year-old boys in comprehensive systems like Estonia, Finland, Norway and Sweden were among the least isolated from girls. However, in some highly stratified systems, such as Costa Rica and the Netherlands*, boys and girls were also evenly distributed across schools.

Concentration of other types of students in schools

PISA 2022 asked school principals to estimate the percentage of students in their school who have the following characteristics: "Students whose heritage language is different from test language"; “students with special learning needs”; “students from socio-economically disadvantaged homes”; “students who are immigrants (not including refugees)”; “students who have parents who have immigrated”; and “students who are refugees”. Using principals’ answers to this question in a given country/economy, measured by the standard deviation, allows for an estimation of how much these characteristics vary among schools. When interpreting the findings (Table II.B1.4.18), it is important to consider that the standard deviation can describe how much certain student characteristics vary across schools; but this variation will depend on how many students with such characteristics are (identified) in the system. For instance, if an education system rarely labels students as having special learning needs, the variation across schools is likely to be small, at least compared to countries where more students are classified as having special learning needs.

The scatterplot in Figure II.4.15 shows that, according to school principals, some education systems classified few students as having special learning needs. This occurred mostly in middle-income countries/economies where the means to identify and support these students were probably limited. The graph also shows that students with special learning needs were more concentrated in certain schools in some education systems than in others, even if there were similar proportions of these students. For instance, Finland and the Slovak Republic had a similar share of students with special learning needs (11%), but the variation across schools was considerably larger in the Slovak Republic (19 percentage points) than in Finland (7 percentage points). Students with special learning needs were also more unevenly distributed across schools than expected in Austria, Baku (Azerbaijan), Germany and Jamaica*. Some education systems, such as Georgia, Mongolia, North Macedonia and Thailand, had relatively few students with special learning needs, but these students seemed to be concentrated in a limited number of schools. By contrast, some education systems distributed these students more evenly than expected across schools, probably because they favour a more inclusive approach towards students with special learning needs. Except for Finland, Iceland and Malta, this group largely consisted of English-speaking countries, such as Australia*, Canada*, Ireland*, the United Kingdom* and the United States*.

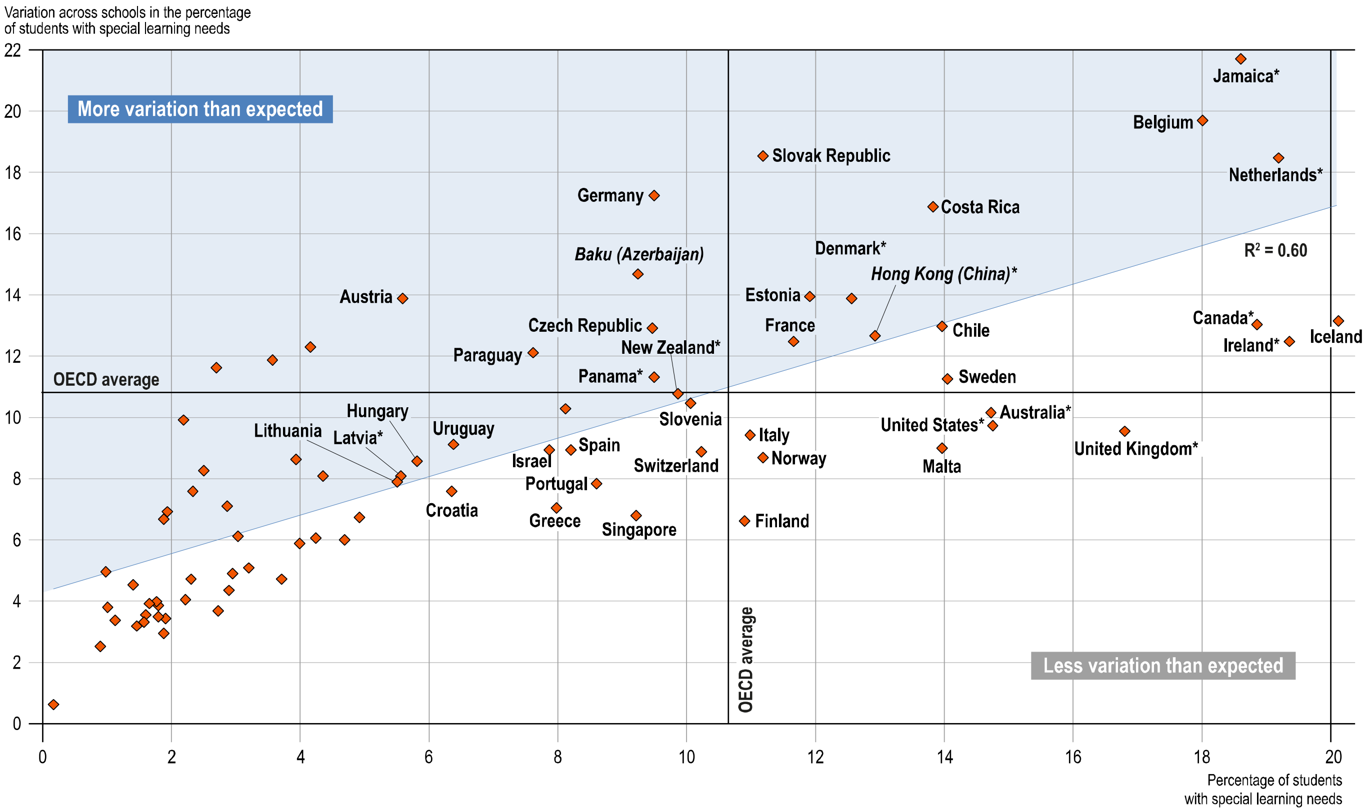
As for the other student characteristics considered, the countries with the largest variations across schools were:

- **Students whose heritage language is different from the test language:** Georgia, Hong Kong (China)*, Indonesia, Qatar and the United Arab Emirates
- **Students from socio-economically disadvantaged homes:** Chile, Colombia, the Dominican Republic, El Salvador and Guatemala

- **Students who are immigrants (not including refugees):** Austria, Germany, Qatar, Singapore and Switzerland
- **Students who have parents who have immigrated:** Australia*, Austria, Canada*, Germany and Qatar
- **Students who are refugees:** Baku (Azerbaijan), Georgia, Hong Kong (China)*, Jordan and the Palestinian Authority.

Figure II.4.15. Variation across schools in the share of students with special learning needs

Results based on principals' reports



Note: Labels are only shown for countries and economies where principals reported percentages above 5%.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

Early tracking and selective admissions procedures are related to the concentration of socio-economically advantaged and disadvantaged students in schools

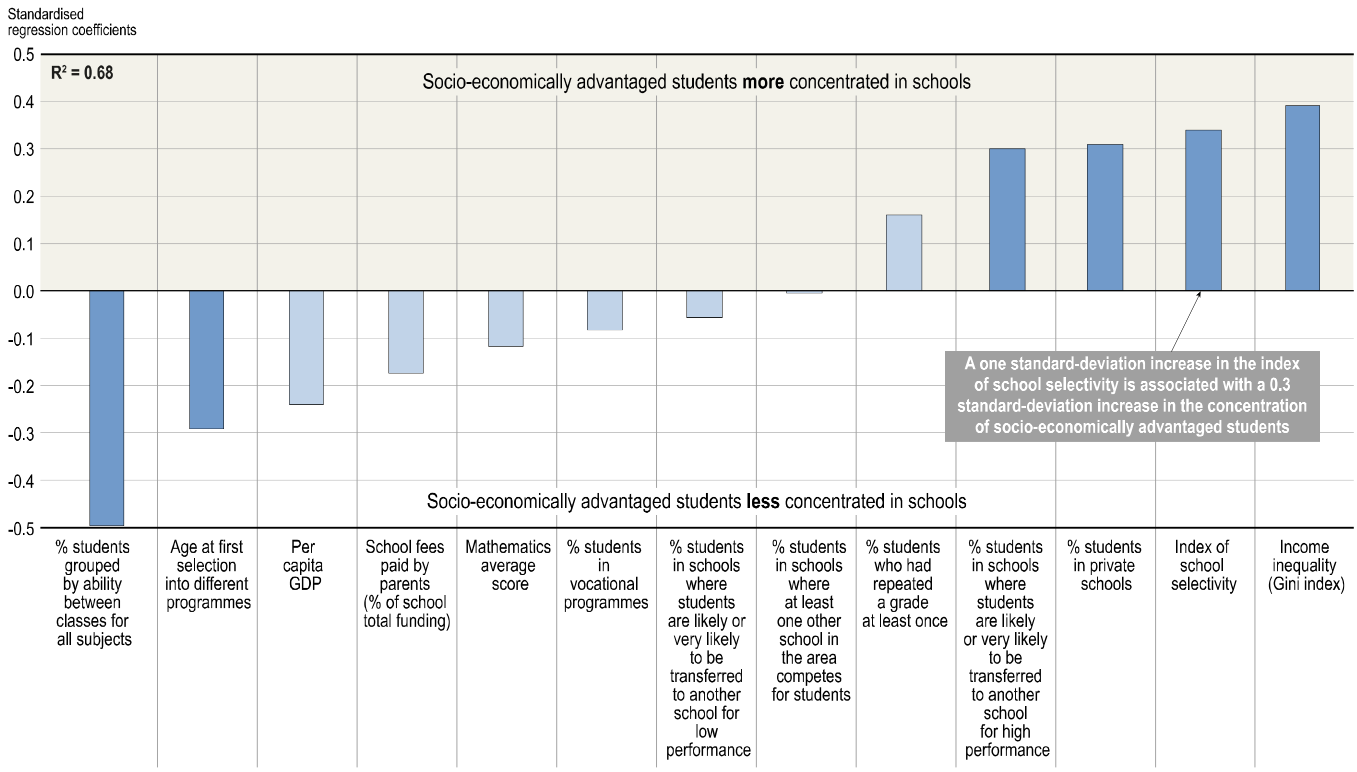
Figure II.4.16 and Figure II.4.17 reveal that the concentration of socio-economically advantaged and disadvantaged students in schools is related to some of the stratification and school-choice policies presented in this report, even after accounting for per capita GDP and income inequality in the particular country/economy. Comparing 61 education systems with data for all 13 explanatory variables, the three variables that were associated with the concentration of both socio-economically advantaged and disadvantaged students, measured by the isolation index described above, were the age at which students are first selected into different curricular programmes, the prevalence of ability grouping, and how selective schools are in the admissions process. The earlier students are selected into different academic programmes and the more selective schools are when admitting students, the greater the isolation of advantaged and disadvantaged students in the education system. Interestingly, there was less concentration of advantaged and disadvantaged students in schools in those education systems where students are frequently grouped by ability into different classes. This makes sense, because the need to place students with varying levels of knowledge, skills and interests into different programmes/schools, which typically results in greater separation of these students across schools, may not be as pressing when these differences are already addressed within schools.

Other policies are associated with the concentration of socio-economically advantaged students in certain schools, but not with the concentration of their disadvantaged peers. This is observed in the percentage of students enrolled in private schools and school transfer policies. The larger the share of students attending private schools, the more isolated advantaged students are in certain schools. Also, education systems where it is relatively common to transfer students to another school because they excel academically exhibited higher concentrations of socio-economically advantaged students in certain schools.

Some stratification policies that one would expect to be related to school segregation are not significantly associated with the isolation of advantaged or disadvantaged students when various policies were examined jointly. That is the case when considering the percentage of students in vocational programmes, the degree to which schools compete for students, the proportion of school funding that comes from parents in the form of school fees, and how likely it is for schools to transfer students because of poor performance.

Figure II.4.16. Policies associated with the concentration of advantaged students in schools

System-level analysis



Notes: The explained variable is based on the isolation index, which measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students, based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure and 1 to full isolation. The analysis is based on a multivariate linear regression analysis of the 61 education systems with available data. All explanatory variables are examined jointly.

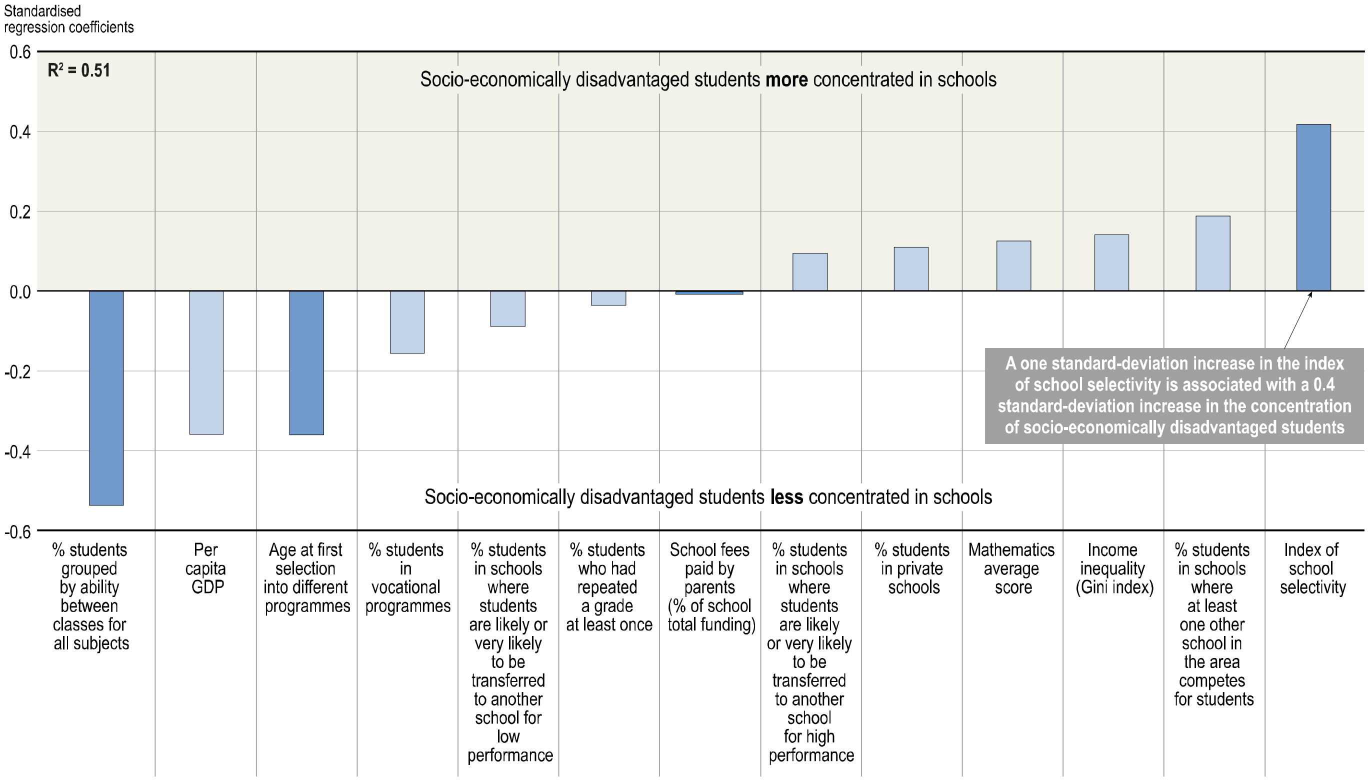
Statistically significant coefficients are shown in a darker tone (see Annex A3). Data for the Gini Index come from the World Development Indicators and the OECD database (only for Japan and New Zealand*). The most recent year was used, unless data originate before 2013, in which case they appear as missing.

Variables are ranked in ascending order of the standardised regression coefficient.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 4, and World Development Indicators.

Figure II.4.17. Policies associated with the concentration of disadvantaged students in schools

System-level analysis



Notes: The explained variable is based on the isolation index, which measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students, based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure and 1 to full isolation.

The analysis is based on a multivariate linear regression analysis of the 61 education systems with data for all variables. All explanatory variables are examined jointly. Statistically significant coefficients are shown in a darker tone (see Annex A3).

Data for the Gini Index come from the World Development Indicators and the OECD database (only for Japan and New Zealand*). The most recent year was used, unless data originate before 2013, in which case they appear as missing.

Variables are ranked in ascending order of the standardised regression coefficient.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 4, and World Development Indicators.

In secondary education, the most common form of horizontal stratification between schools, typically known as instructional tracking, consists of sorting students into different education programmes. In education systems that use instructional tracking, some students choose or are selected into academically more demanding programmes, which focus on the general skills required for post-secondary education, while other students choose or are selected for vocational or technical programmes, which focus on the practical skills useful in the labour market (LeTendre, Hofer and Shimizu, 2003[63]; Oakes, 1985[2]; Perry and Southwell, 2014[64]). Often, among these vocational programmes there is a further distinction between those that allow students to access technical universities, which are typically longer in duration and combine academic and vocational subjects, and those channelling students directly into the labour market.

Differentiation among education programmes: Age at selection, and the number and types of study programmes

The age at which students are first tracked and the number of different instructional programmes available to students are among the features of tracking policies that have been shown to be related to students' learning outcomes (Hanushek and Wößmann, 2006[65]; OECD, 2016[32]; Van de Werfhorst, 2019[47]).

Through its system-level questionnaire, PISA 2022 asked countries to provide a list of the school types or distinct education programmes available to 15-year-old students. Across countries and economies that participated in PISA 2022, the number of distinct education programmes available to 15-year-old students ranged from a single programme (in 24 education systems) to 7 different programmes (in Panama and Türkiye) (Figure II.4.18 and Table B3.1.4). Many education systems offered 2 (13 countries/economies), 3 (16 countries/economies), or 4 (17 countries/economies) instructional programmes to their 15-year-old students. Students in a few school systems could also choose from 5 (7 countries/economies) or 6 (3 countries/economies) distinct instructional programmes.

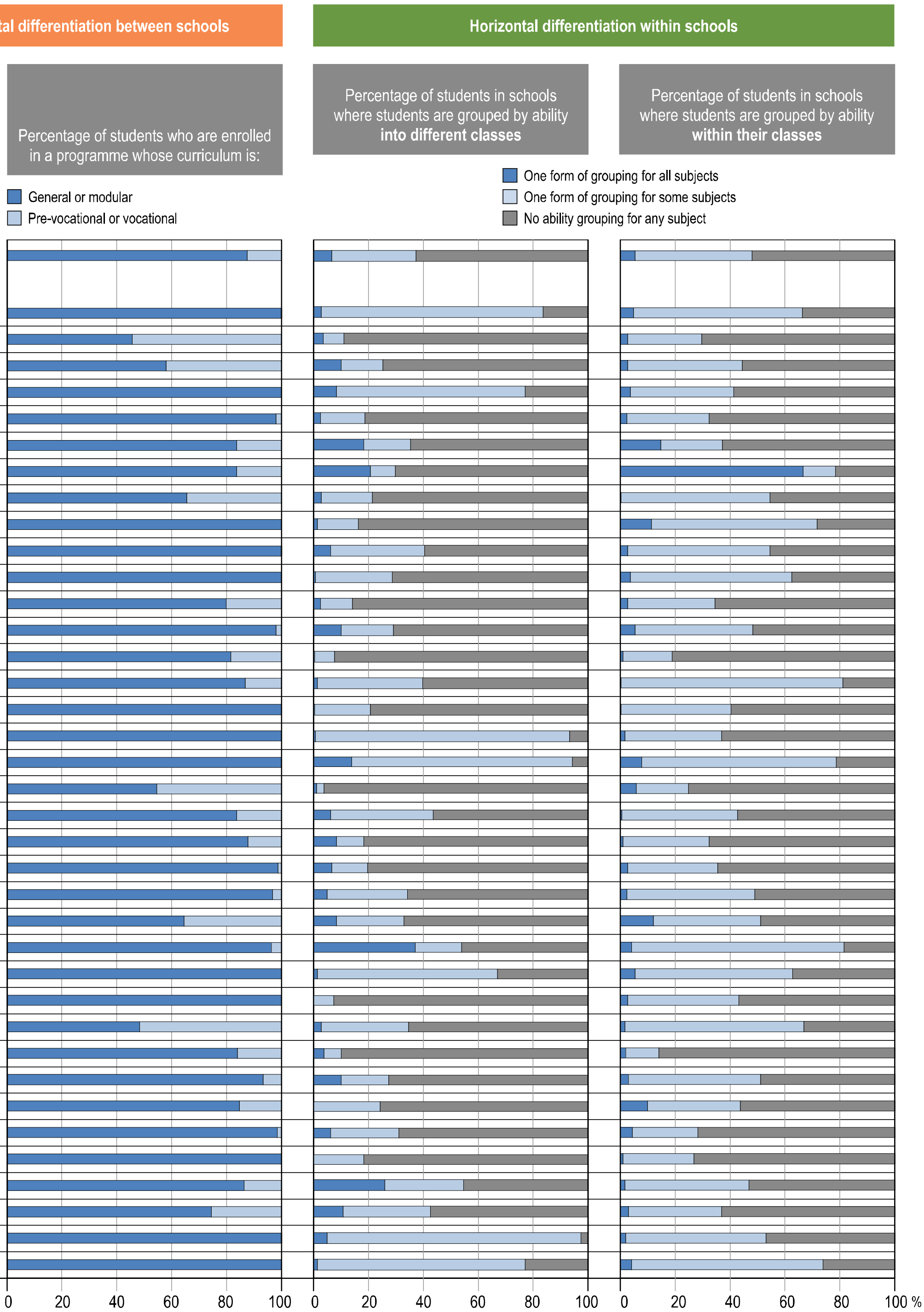
On average across OECD countries, school systems began selecting students for different programmes at the age of 14.3 years (Table B3.1.4), roughly the same age as in previous PISA cycles (OECD, 2020[41]; OECD, 2016[32]; OECD, 2013[40]). Some school systems, including Austria and Germany, continued selecting students as early as age 10; but the most common age at selection was 15 (37 countries/economies), followed by 16 (18 countries/economies). Most experts agree that selecting students before the age of 14 should be considered “early” tracking. According to this metric, students are tracked early in their education pathways in 15 school systems, namely Austria and Germany (selection at age 10); the Czech Republic and the Slovak Republic (selection at age 11); and Argentina, the Flemish Community of Belgium, the German-speaking Community of Belgium, Brunei Darussalam, Costa Rica, Jamaica, Morocco, the Netherlands, Paraguay, Singapore and Switzerland (selection at age 12).

Figure II.4.18. Instructional programmes and ability grouping

First age at selection in the education system (early selection) → B

Number of education programmes available to 15-year-old students → A

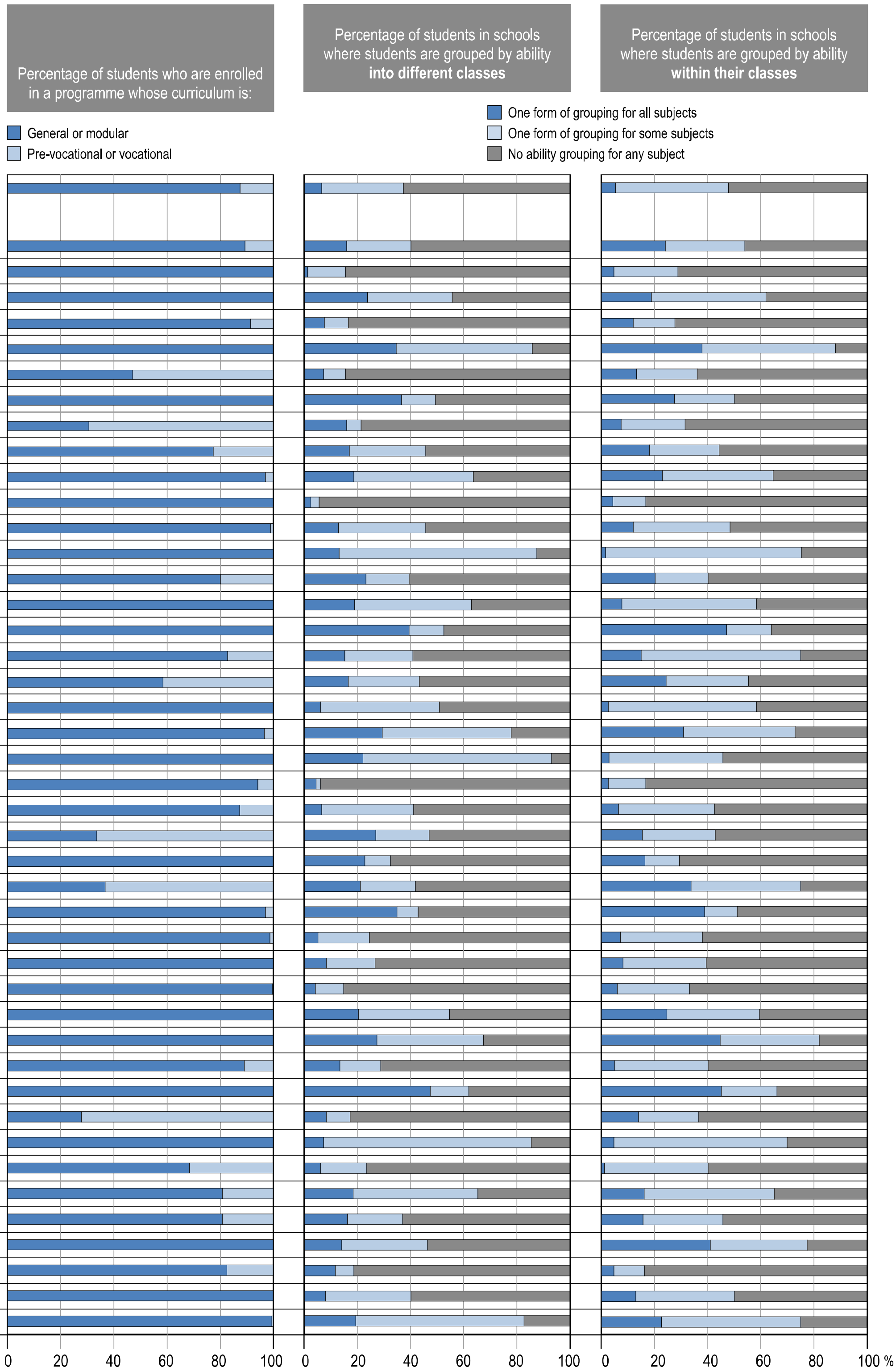
	A	B
OECD average	2.7	14.3
OECD		
Australia*	1	a
Austria	4	10
Belgium	4	12
Canada*	1	a
Chile	1	16
Colombia	2	15
Costa Rica	1	12
Czech Republic	4	11
Denmark*	1	16
Estonia	1	16
Finland	1	16
France	3	15
Germany	4	10
Greece	2	15
Hungary	5	14
Iceland	1	16
Ireland*	1	15
Israel	2	15
Italy	4	14
Japan	5	15
Korea	4	15
Latvia*	1	16
Lithuania	3	14
Mexico	3	15
Netherlands*	4	12
New Zealand*	1	16
Norway	1	16
Poland	3	15
Portugal	6	15
Slovak Republic	4	11
Slovenia	4	15
Spain	2	15
Sweden	1	16
Switzerland	6	12
Türkiye	7	14
United Kingdom*	1	16
United States*	1	a



Horizontal differentiation between schools | **Horizontal differentiation within schools**

A: First age at selection in the education system (early selection)
B: Number of education programmes available to 15-year-old students

	A	B
OECD average	2.7	14.3
Partners		
Albania	3	15
Argentina	3	12
Baku (Azerbaijan)	2	15
Brazil	3	15
Brunei Darussalam	4	12
Bulgaria	3	14
Cambodia	2	15
Croatia	5	15
Dominican Republic	3	15
El Salvador	1	16
Georgia	2	15
Guatemala	m	m
Hong Kong (China)*	2	14
Indonesia	1	16
Jamaica*	2	12
Jordan	1	16
Kazakhstan	1	15
Kosovo	m	m
Macao (China)	2	15
Malaysia	3	15
Malta	1	16
Moldova	1	16
Mongolia	2	15
Montenegro	6	15
Morocco	5	12
North Macedonia	5	15
Palestinian Authority	3	15
Panama*	7	15
Paraguay	4	12
Peru	3	14
Philippines	1	16
Qatar	4	15
Romania	4	15
Saudi Arabia	3	15
Serbia	4	15
Singapore	4	12
Chinese Taipei	4	15
Thailand	2	15
Ukrainian regions (18 of 27)	3	15
United Arab Emirates	5	14
Uruguay	3	15
Uzbekistan	1	16
Viet Nam	3	15



Source: OECD, PISA 2022 Database, see Tables in Annex B1, Chapter 4 and Table B3.1.4.

Enrolment in vocational programmes

PISA 2022 asked students to report the kind of programme in which they were enrolled. Students' responses were then classified into two categories of programme orientation: general/modular or pre-vocational/vocational. On average across OECD countries, 87.4% of 15-year-old students were enrolled in a programme with a general/modular curriculum and 12.6% were enrolled in a programme with a pre-vocational or vocational curriculum (Table II.B1.4.19). In about a third of countries/economies, all 15-year-old students were enrolled in a general or modular programme; in about a third, some students were enrolled in pre-vocational or vocational programmes, but they represented less than 15% of the student population; and in the remaining third of school systems, at least 15% of students were enrolled in pre-vocational or vocational programmes. At least half of students in Austria, Bulgaria, Croatia, Montenegro, North Macedonia, Poland and Serbia were enrolled in these programmes.

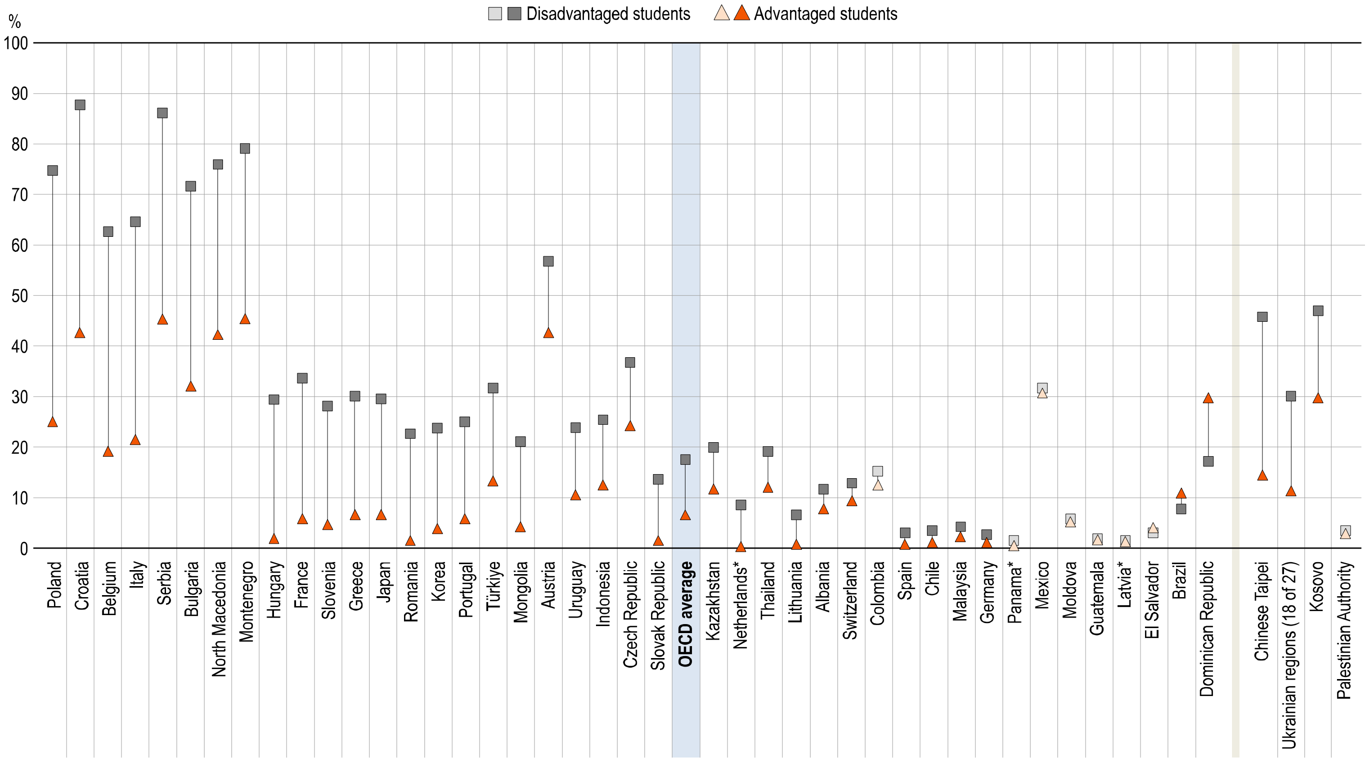
Enrolment in vocational programmes remained roughly stable across OECD countries between 2018 and 2022. During the period, there was only a one percentage-point decrease in the share of students enrolled in pre-vocational or vocational programmes (Table II.B1.4.24). In some countries/economies, enrolment in vocational programmes shrunk considerably, especially in Albania, Argentina, the Netherlands*, Panama* and Slovenia, whereas in others, including the Dominican Republic and Poland, the opposite was observed.

In countries and economies with large enrolments in pre-vocational or vocational programmes, these enrolments vary markedly according to students' profiles. In 27 of the 37 education systems where at least 5% of students were enrolled in pre-vocational or vocational programmes, boys were more likely than girls to participate in these programmes (Table II.B1.4.20). In Poland, for instance, roughly four in ten girls, but more than six in ten boys, were enrolled in pre-vocational or vocational programmes. These gender gaps in vocational enrolment may later be reflected in gender segregation in the labour market (Imdorf, Hegna and Reisel, 2015[66]). Furthermore, in about 80% of these 37 education systems socio-economically disadvantaged students were more likely than advantaged students to be enrolled in these programmes (Figure II.4.19). This gap was at least 30 percentage points wide in Belgium, Bulgaria, Croatia, Italy, Montenegro, North Macedonia Poland, Serbia and Chinese Taipei.

Students in rural schools are frequently offered fewer options when it comes to choosing courses and programmes, usually because there are insufficient numbers of interested students, or because there is a lack of qualified teachers and other necessary resources (Echazarra and Radinger, 2019[67]; Irvin et al., 2011[68]). These constraints generally limit the availability of vocational programmes, which often require teachers with specialised skills, and specific equipment and material (OECD, 2018[69]). PISA 2022 data show that, in about six out of ten education systems where at least 5% of students were enrolled in pre-vocational or vocational programmes, students in rural schools participated less frequently in vocational programmes than students in urban schools (Table II.B1.4.20). In the Czech Republic, for instance, about 3% of 15-year-old students in rural schools, but 36% of those in urban schools, were enrolled in vocational programmes. These findings do not necessary mean that rural students cannot access vocational programmes, but they may indicate that rural students need to commute long distances to participate in these programmes.

In a majority of countries and economies that offer both academic and vocational programmes to 15-year-old students, students in general programmes outperformed students in pre-vocational and vocational programmes in mathematics, after accounting for students' and schools' socio-economic profile (Table II.B1.4.25). The most extreme case is Spain, where almost 60 score points separate students in academic programmes from those in pre-vocational programmes. This is to be expected given that, in Spain, pre-vocational programmes were introduced as a way of keeping academically struggling students in school (this is not the case for the intermediate and advanced vocational programmes offered to older students). However, in some education systems, pre-vocational and vocational programmes have traditionally attracted students with good academic records. In 11 countries/economies, including Brazil, Colombia, the Dominican Republic, Guatemala, Japan, the Netherlands and Poland, students in vocational programmes scored higher in mathematics than those in general programmes, after accounting for socio-economic factors.

Figure II.4.19. Enrolment in pre-vocational or vocational programmes, by students' socio-economic status



Notes: Education systems with less than 1% of students enrolled in pre-vocational or vocational programmes are not shown.
Statistically significant differences are shown in a darker tone (see Annex A3)
Countries and economies are ranked in descending order of the difference in the percentage of students enrolled in pre-vocational or vocational programmes between socio-economically disadvantaged and advantaged students.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 4.

Ability grouping

Ability grouping in school involves placing students into different classrooms or in small instructional groups in a class based on the students' initial achievement or skill levels (Steenbergen-Hu, Makel and Olszewski-Kubilius, 2016[70]). Some research has shown that ability grouping can have a positive impact on the achievement of elementary school pupils, especially when there is mobility and flexibility in group allocations and when such grouping involves only specific subjects (Matthews, Ritchotte and McBee, 2013[71]; Slavin, 1987[72]). Other evidence suggests that ability grouping might not be as beneficial for struggling students if instruction is not differentiated across ability groups, or if those students are less likely to learn from their higher-performing peers (Hong et al., 2012[73]; Lucas, 2001[74]). In addition, some scholars point out that ability grouping within schools and giving students a greater choice of subjects often exacerbate educational stratification along socio-economic lines, often in ways that are not immediately obvious (Triventi et al., 2020[5]). For instance, socio-economically disadvantaged students are typically under-represented in advanced science, mathematics and foreign language courses, potentially limiting their educational opportunities (Farges et al., 2016[75]; Gortazar and Taberner, 2020[76]; Rudolphi and Erikson, 2016[77]). In response, New Zealand recently introduced a plan, called *Kōkirihia*, to eliminate streaming in their schools so that Māori and Pacific students are not incorrectly placed in the lowest-performing groups and classes (Box 4.2).

While sorting students within schools can take multiple forms (Gamoran and Berends, 1987[78]), this section focuses on the extent to which education systems place students into different classes, or into different groups within the same class, based on their ability. The analysis also considers whether these forms of ability grouping are used for all subjects or only for some.

Box 4.2. *Kōkirihia*: The plan for removing streaming from Aotearoa (New Zealand) schools

In *Aotearoa* (the Māori name for New Zealand), the organisation *Tokonoa te Raki* uses social innovation to achieve equity in education, employment and income for all Māori. In 2019, the organisation published a research report, He Awa Ara Rau – A Journey of Many Paths, which tracked over 70 000 Māori youth on their way through education and into employment to better understand what propels them forward, the barriers to success they encounter, and the potential levers for change. One of the most significant barriers identified was the negative impacts of streaming.

Data from PISA and other international studies, such as TIMSS and PIRLS, have shown that the prevalence of grouping students by ability between classes, or 'streaming' (also known as tracking, banding or setting), has been consistently high over the years and much more common in *Aotearoa* than in most other countries (Davy, 2021[79]). In 2015, for instance, 90% of 15-year-olds students attended schools that used streaming for all or some subjects (OECD, 2016[32]).

In early 2021, representatives from *te Tāhuhu o te Mātauranga* (the Ministry of Education) and the *Mātauranga Iwi* Leaders Group came to *Tokona te Raki*, an organisation that focuses on the future of Māori, with a call to action: to bring together leaders across the education sector to design an action plan to put an end to streaming in *Aotearoa*. What resulted was an innovative approach to create systematic change. *Kōkirihia* developed a triple-A framework: growing awareness, showcasing alternatives to streaming, and asking organisations across the education sector to take action.

Coalition members, including education agencies, sector unions and associations, Initial Teacher Education Institutions, and School Boards and Principals, made commitments to move towards ending streaming by 2030.

For instance, *Te Tāhuhu o te Mātauranga* (the Ministry of Education) committed to making inclusive practices clear in the development of a Common Practice Model and a refreshed New Zealand Curriculum (Te Mātaiaho), and to monitor and report on progress. As part of the Literacy and Communications and Maths Strategy, the Common Practice Model outlines principles and evidence-based pedagogical approaches to teaching and learning for literacy, communication and mathematics. *Te Mātaiaho*, the refreshed NZ curriculum, is designed to give practical effect to *Te Tiriti o Waitangi*, be inclusive, and clearly outline what all Year 0 to 13 students will learn in eight learning areas across five phases. *Te Mātaiaho* is a progression-focused curriculum that describes what students should understand, know and do by the end of each phase.

PISA has played, and will continue to play, an important role in monitoring the shifts in practice that have already occurred. In 2022, 67% of 15-year-olds students attended schools where students were grouped by ability between classes for all or some subjects, a 23 percentage-point decline since 2015 (OECD, 2016[32]), and a 17 percentage-point decline since 2018 (Table II.B1.4.29) – the second-largest declines in the use of streaming, after those observed in Costa Rica, across OECD countries. Much more work is needed to end streaming by 2030, but the roadmap in *Kōkirihia* has clear milestones to guide schools in developing their own strategic goals, plans and professional development.

This initiative showcases how systemic change can be produced not with the typical policy levers of legislation and regulation, but with collaboration in pursuit of a common goal.

Ability grouping into different classes

On average across OECD countries in 2022, almost 4 in 10 students attended schools where students are grouped by ability into different classes for all subjects (7%) or some subjects (31%) (Table II.B1.4.26). The greatest incidence of this kind of grouping was observed in Ireland*, Israel, Malta and the United Kingdom*. In these countries/economies, at least nine in ten students attended a school that groups students into different classes for all or some subjects. By contrast, fewer than one in ten students in Georgia, Greece, Italy, Moldova and Norway were grouped by ability into different classes. The most consequential form of ability grouping, i.e. when used in all subjects, was more widespread in Saudi Arabia (47% of students attended such schools), Jordan (40%), Netherlands* (37%), Cambodia (37%), the Palestinian Authority (35%) and Brunei Darussalam (35%).

Grouping students by ability between classes, for all or some subjects, was observed less frequently in 2022 than in 2018, on average across OECD countries (a 5 percentage-point decrease) and in about half of PISA-participating countries/economies (Table II.B1.4.29). Grouping students by ability became less prevalent over the period in education systems such as Argentina, Bulgaria, Costa Rica, Kosovo, New Zealand*, North Macedonia, Romania and Serbia, while the practice became more widely used in Estonia, Hungary, Iceland and Malta.

Overall, the incidence of grouping students into different classes based on ability was not strongly associated with school characteristics (Table II.B1.4.27). On average across OECD countries, ability grouping was used to a similar degree in socio-economically advantaged and disadvantaged schools, and in public and private schools. However, it was somewhat more frequently observed in urban than in rural schools. Still, there were interesting results for certain education systems. In Hungary and Macao (China), for instance, ability grouping between classes was observed largely in socio-economically advantaged (and average) schools; in Germany and Jamaica* ability grouping was used mainly in socio-economically disadvantaged (and average) schools; and in Greece and Italy, it was practiced mostly in private schools.

Differences in mathematics performance between students who attended schools that practice and those that do not practice ability grouping into different classes (for some or all subjects) tended to be small, after accounting for the socio-economic profile of students and schools (Table II.B1.4.30). On average across OECD countries, this difference amounted to four score points in favour of schools with no ability grouping. In a further 14 countries/economies, students in schools that used ability grouping into different classes scored lower than students in schools that did not practice this type of ability grouping. These results are to be expected given that schools often consider using ability grouping when faced with large shares of struggling students and a wide range of skills in classes.

Ability grouping within classes

Grouping students by ability within classes was more common than ability grouping between classes. On average across OECD countries, about half of the students attended classes where there was ability grouping in at least one subject (Table II.B1.4.26). This comprises 42% of students who were grouped, within their classes, for some subjects, and 6% of students who were grouped for all subjects. Ability grouping within a class for some or all subjects was most prevalent in Brunei Darussalam, Hungary, the Netherlands* and Qatar where at least 80% of students were affected by this practice. By contrast, ability grouping within the same class occurred the least frequently in Georgia, Greece, Moldova, Portugal and Uruguay. Grouping students by ability within classes, for all or some subjects, was observed less frequently in 2022 than in 2018, on average across OECD countries (a 7 percentage-point decrease) and in about half of PISA-participating countries/economies (Table II.B1.4.29).

Ability grouping in classes was somewhat more common in socio-economically disadvantaged than in advantaged schools. On average across OECD countries, 51% of students in disadvantaged schools were grouped by ability in their classes, compared to 43% of students in advantaged schools (Table II.B1.4.28). Ability grouping within classes was used to a similar extent in rural and urban schools, and in public and private schools.

Differences in mathematics performance between students who attended schools that practice and those that do not practice ability grouping within the same class (for some or all subjects) tended to be small, in line with the results observed for ability grouping between classes (Table II.B1.4.30). On average across OECD countries, this difference amounted to three score points in favour of schools with no ability grouping, after accounting for socio-economic factors. In a further 11 countries/economies, students in schools that used ability grouping within classes scored lower than students in schools that did not practice this type of ability grouping.

Components of resilience: Reducing grade repetition and delaying tracking

Table II.4.2 provides an overview of the stratification policies in four groups of education systems, organised according to whether their mathematics performance and their ability to ensure that all students, regardless of their socio-economic background, can achieve at high levels (socio-economic fairness), were below or above the median value of all PISA-participating countries and economies. Based on this classification, the high-performing systems in which all students could flourish were, in many ways, different from the other three groups of education systems. These education systems had relatively few students who had attended pre-primary education for less than one year, and comparatively even fewer who had repeated a grade. Only 4.5% of students had repeated a grade in these education systems, considerably lower than the percentage observed in the other three groups.

As regards the sorting and grouping of students horizontally, both advantaged and disadvantaged students were less concentrated in certain schools in the group of equitable and high-performing education systems than they were in the other three groups of countries/economies. These systems also tracked students later into different curricular programmes. For instance, students in these systems were selected into different academic programmes at the age of 15.3, on average, whereas in the group of high-performing, but less equitable, education systems students were tracked at 13.8 years, on average. About 9% of students attended vocational programmes in the group of fair and high-performing education systems, a share lower but not significantly different from the other three groups. The fair and high-performing systems used ability grouping between classes for all subjects to a lesser extent than did low-performing systems, but to a similar extent as high-performing, but less fair, education systems.

The results presented in this section describe the stratification policies that were in place in the group of equitable and high-performing education systems. In themselves, they cannot explain why some countries/economies are more socio-economically fair or higher-performing than others. Making causal inferences is not advisable, given the cross-sectional nature of the PISA assessment, and the complexity of the relationships between stratification policies and student outcomes.

Table II.4.2. Summary of stratification policies, by mathematics performance and socio-economic fairness

System-level analysis

		Groups of countries and economies according to their socio-economic fairness and performance in mathematics			
		Low performance – Low fairness	Low performance – High fairness	High performance – Low fairness	High performance – High fairness
		N[1] = 14	N = 26	N = 27	N = 14
Vertical stratification	Percentage of students who had attended pre-primary school for less than a year	7.51	18.80	6.53	6.28
	Percentage of students who had repeated a grade at least once	14.19	12.75	8.87	4.52
Sorting and selecting students (horizontal stratification)	Isolation of disadvantaged students	0.22	0.15	0.19	0.14
	Isolation of advantaged students	0.29	0.20	0.20	0.16
	Number of programmes or tracks available to 15-year-olds	2.86	2.63	3.19	2.36
	Age at which students are selected into different programmes or tracks	14.57	14.79	13.75	15.31
	Percentage of students in pre-vocational or vocational programmes	15.82	12.93	13.91	8.83
	Percentage of students grouped by ability into different classes for all subjects	11.27	18.84	8.88	7.16

1. N = Number of countries and economies in each group. Due to missing data, the number of cases for individual variables may be lower.

Notes: Countries and economies are considered to have low(high) performance/equity if they are below(above) the median value of all PISA-participating countries and economies.

Values in grey indicate that the difference with the group "High performance - High fairness" was statistically significant.

Source: OECD, PISA 2022 Database.

Table II.4.3. Selecting and grouping students chapter figures and tables

Table II.4.1	Selecting and grouping students, performance and equity in mathematics
Figure II.4.1	School system stratification as covered in PISA 2022
Figure II.4.2	Classifying education systems according to three key stratification policies
Figure II.4.3	The vertical structure of education systems
Figure II.4.4	Differences in 15-year-old students' attendance at pre-primary school
Figure II.4.5	Attendance at pre-primary school and grade repetition
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Figure II.4.7	Key indicators on education in France, 2003 through 2022
Figure II.4.8	Regulations and prevalence of grade repetition
Figure II.4.9	Supporting students in education systems with automatic grade promotion
Figure II.4.10	Demographics, school absenteeism and academic performance, by grade repetition
Figure II.4.11	Socio-economic status, sense of belonging and bullying, by grade repetition
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Figure II.4.16	Policies associated with the concentration of advantaged students in schools
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Figure II.4.18	Instructional programmes and ability grouping
Figure II.4.19	Enrolment in pre-vocational or vocational programmes, by students' socio-economic status
Table II.4.2	Summary of stratification policies, by mathematics performance and socio-economic fairness

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5 Investments in a solid foundation for learning and well-being

This chapter explores how investments in education – including in financial, human, material and time resources – are related to student performance, well-being and equity in education. It then highlights changes in schools' and students' readiness for digital and remote learning, including the availability and use of digital devices in school. The chapter also studies how schools serve as hubs for students' learning and well-being.

For Australia*, Canada*, Denmark*, Hong Kong (China)*, Ireland*, Jamaica*, Latvia*, the Netherlands*, New Zealand*, Panama*, the United Kingdom* and the United States*, caution is advised when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

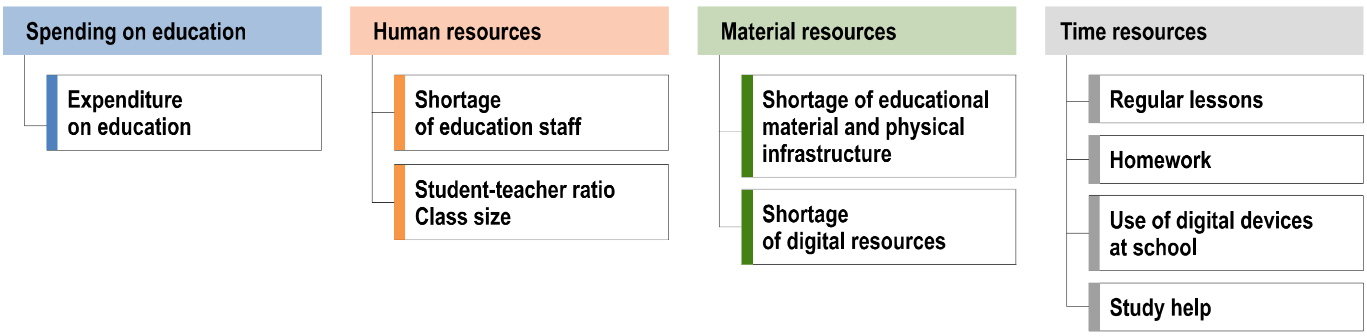
This chapter analyses in detail how the resources invested in education are distributed across schools, and how they were allocated in resilient education systems where learning, equity and well-being were maintained and promoted despite the recent disruptions due to the COVID-19 pandemic. Those resources related to the resilience of education systems are considered as “components of resilience” throughout this chapter.

The chapter starts by describing expenditure on education across education systems, and the relationship between expenditure on education and student performance. It then examines how expenditure trickles down to individual schools by focusing on school staff (“human resources”) and educational material (“material resources”), which includes digital devices (Figure II.5.1). The chapter concludes with an analysis of the amount of time students spend on digital devices for learning and leisure activities in school, and how schools can improve the efficiency of learning time and serve as hubs for social interaction by providing study help.

What the data tell us

- In more than half of all education systems with available data, and on average across OECD countries, more students in 2022 than in 2018 attended a school whose principal reported that instruction is hindered by a shortage of education staff. In 58 countries/economies, the share of students in schools whose principal reported that instruction is hindered by a lack of teaching staff increased between 2018 and 2022.
- In about half of education systems with available data, principals in 2022 were less likely than their counterparts in 2018 to report shortages of educational material. On average across OECD countries and in 41 education systems, socio-economically disadvantaged schools were more likely than advantaged schools to suffer from a lack of or poor-quality digital resources.
- PISA 2022 results show that school phone bans appear to be effective in reducing distractions in class. However, on average across OECD countries, 29% of students in schools where the use of cell phones is banned reported using a smartphone several times a day, illustrating that cell phone bans are not always effectively enforced.
- Schools in high-performing education systems tend to provide a room where students can do their homework, and school staff offer help with students’ homework.
- In those education systems where more students in 2022 than in 2018 attended schools that offer peer-to-peer tutoring, students’ sense of belonging at school strengthened during the period.

Figure II.5.1. Resources covered in PISA 2022



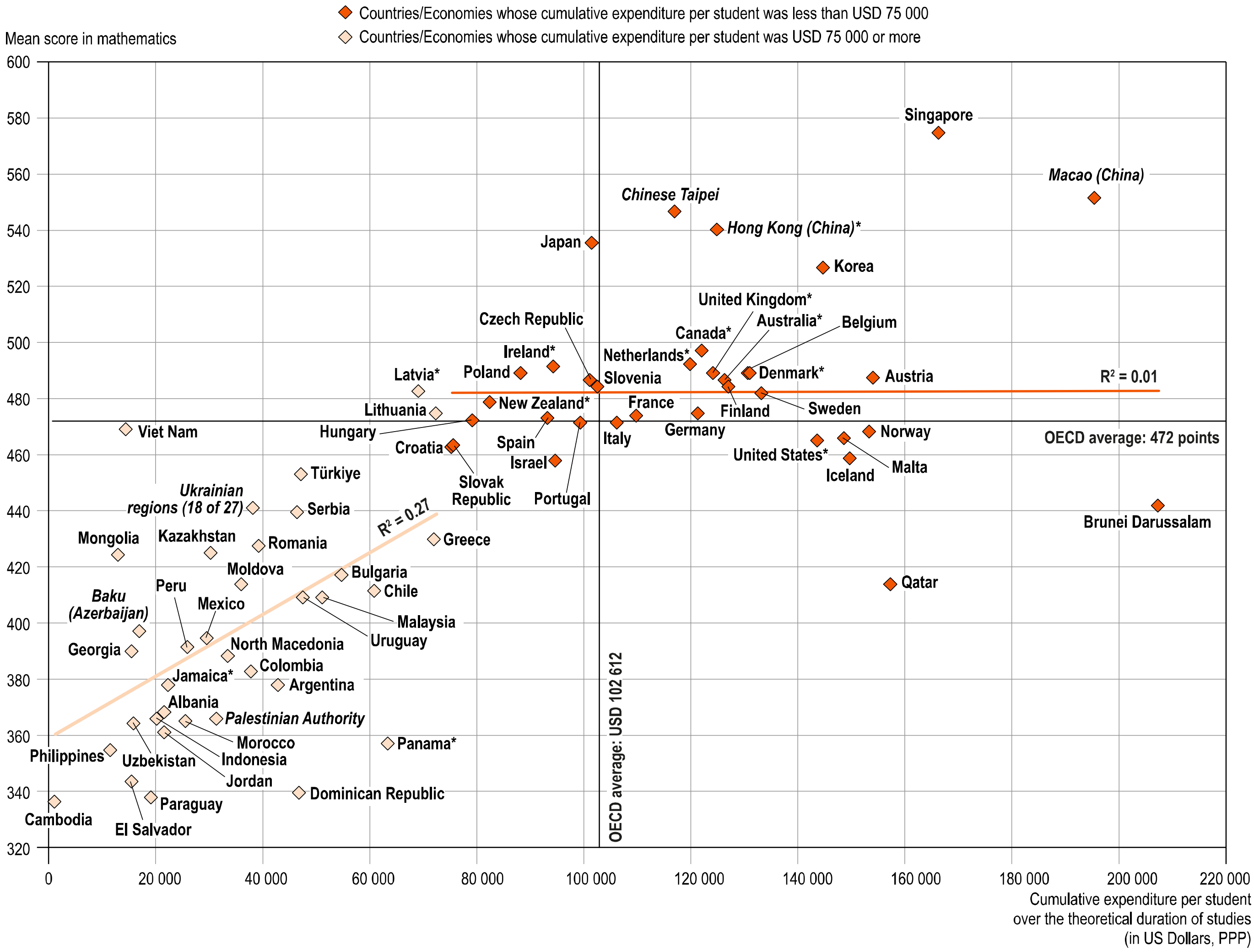
How educational resources are allocated

As shown in earlier PISA results, PISA 2022 reveals that expenditure on education is related to student performance only to a certain extent. Among the countries/economies whose cumulative expenditure per student was under USD 75 000 in 2019 (the level of spending in 35 countries/economies), higher expenditure on education was significantly associated with higher scores in the PISA mathematics test. Across these countries/economies, 27% of the variation in student performance was accounted for by the difference in expenditure on education. However, this was not the case among countries/economies whose cumulative expenditure was greater than USD 75 000 (see Figure II.5.2). For this latter group of countries/economies, the ways in which financial resources are used seems to matter more for student performance than the level of investment in education.

School systems with greater total expenditure on education tend to be those with higher levels of per capita GDP. Spending on education and per capita GDP are highly correlated (r = 0.71 across OECD countries and r = 0.87 across all participating countries/economies in PISA 2022, Tables B3.2.1 and B3.2.2). In 2019, average total expenditure by educational institution per student from the age of 6 to 15 in OECD countries was USD 102 612 (PPP-corrected dollars). High-income countries/economies, as defined by the World Bank classification,[1] cumulatively spent USD 114 001, upper middle-income countries spent USD 32 801 and lower middle-income countries spent USD 18 174, on average (Table B3.2.1).

Financial resources are allocated differently across education systems and are distributed among core educational services (such as salaries paid to teachers, administrators, management and support staff, and maintenance or construction costs of buildings and infrastructure) and ancillary services (student welfare services such as transportation, meals and health services for students). Total cumulative expenditures encompass both public and private spending, across public and private educational institutions (OECD, 2022[1]). Despite the competing demands for resources, expenditure on education has increased over the past few years. Between 2012 and 2019, expenditure per student from primary to tertiary education grew at an average annual rate of 1.7% in real terms across OECD countries (OECD, 2022[1]). After the first year of the COVID-19 pandemic, total expenditure on primary to tertiary educational institutions per full-time equivalent student increased by 0.4% between 2019 and 2020, on average across OECD countries (OECD, 2023[2]).

Figure II.5.2. Mathematics performance and spending on education



Note: Only countries and economies with available data are shown.
Source: OECD, PISA 2022 Database, Tables I.B1.2.1 and I.B3.2.2 (Volume I).

Components of resilience: Providing high-quality and sufficient teaching and non-teaching staff

Across education systems, PISA 2022 results show that high-performing education systems were populated with high-quality teaching and non-teaching staff in sufficient numbers. Systems where more teachers were fully certified by an appropriate authority tended to score higher in mathematics, even after accounting for per capita GDP, across OECD countries (Table II.B1.5.101). Systems where principals reported increased hindrance to instruction due to inadequate or poorly qualified teaching staff between 2018 and 2022 showed a decline in mathematics performance, on average across OECD countries (Table II.B1.5.104). Across all countries/economies, students' senses of belonging at school weakened between 2018 and 2022 in schools whose principals reported an increase in the lack of, or in inadequate or poorly qualified, assisting staff during the period.

In most education systems, principals in 2022 were more likely than their counterparts in 2018 to perceive shortages of education staff

PISA results show that, in more than one in two education systems school principals in 2022 were more likely than their counterparts in 2018 to report that instruction was hindered due to inadequate or poorly qualified teaching staff (Table II.B1.5.4). This was particularly evident in education systems that saw the proportion of full-time teachers shrink over the period (r=-0.32).[2] Yet PISA results also show that between 2018 and 2022, student-teacher ratios and class size decreased slightly across OECD countries and remained stable in most countries/economies (Tables II.B1.5.13 and II.B1.5.16), which confirm the latest data published in Education at a Glance (OECD, 2023[2]). School principals perceived a shortage of education staff not only because of a lack of staff members but also because of a lack of high-quality teachers. Teacher absenteeism, which is not necessarily reflected in the number of teaching staff, was observed in many countries/economies when schools re-opened after the crisis phase of the COVID-19 pandemic ended (OECD, 2022[1]).

PISA 2022 measured the quantity and quality of education staff in schools by asking principals whether providing instruction at their school is hindered by a lack of teaching and assisting staff (such as pedagogical support, administrative staff, or management personnel) or by poor or inadequate qualifications of teaching and assisting staff. It is important to keep in mind that these measures are based on school principals' perceptions; they are not objective measures of staff shortage. Principals in different countries may have different perceptions of what constitutes a shortage of teaching or support staff in their school.

In more than half of all education systems with available data, and on average across OECD countries, more students in 2022 than in 2018 attended schools whose principals reported that instruction is hindered because of a shortage of education staff (Table II.B1.5.4). Between 2018 and 2022, the share of students in schools whose principal reported that instruction is hindered by a lack of teaching staff increased in 58 countries/economies (Figure II.5.3), and by more than 30 percentage points in Australia*, Belgium, Cambodia, Chile, France, Guatemala, Latvia*, the Netherlands*, Poland and Portugal. Only in Indonesia did fewer school principals in 2022 than in 2018 report that instruction is hindered due to a lack of teaching staff. In 41 countries/economies more principals in 2022 than in 2018 reported that poor or inadequate qualifications of teaching staff hinders learning; in Belgium, Cambodia, Hong Kong (China)*, the Netherlands* and Poland this share grew by more than 20 percentage points during the period. Only in Indonesia and the United Arab Emirates did fewer school principals in 2022 than in 2018 report that poor or inadequate qualifications of teaching staff hinders instruction.

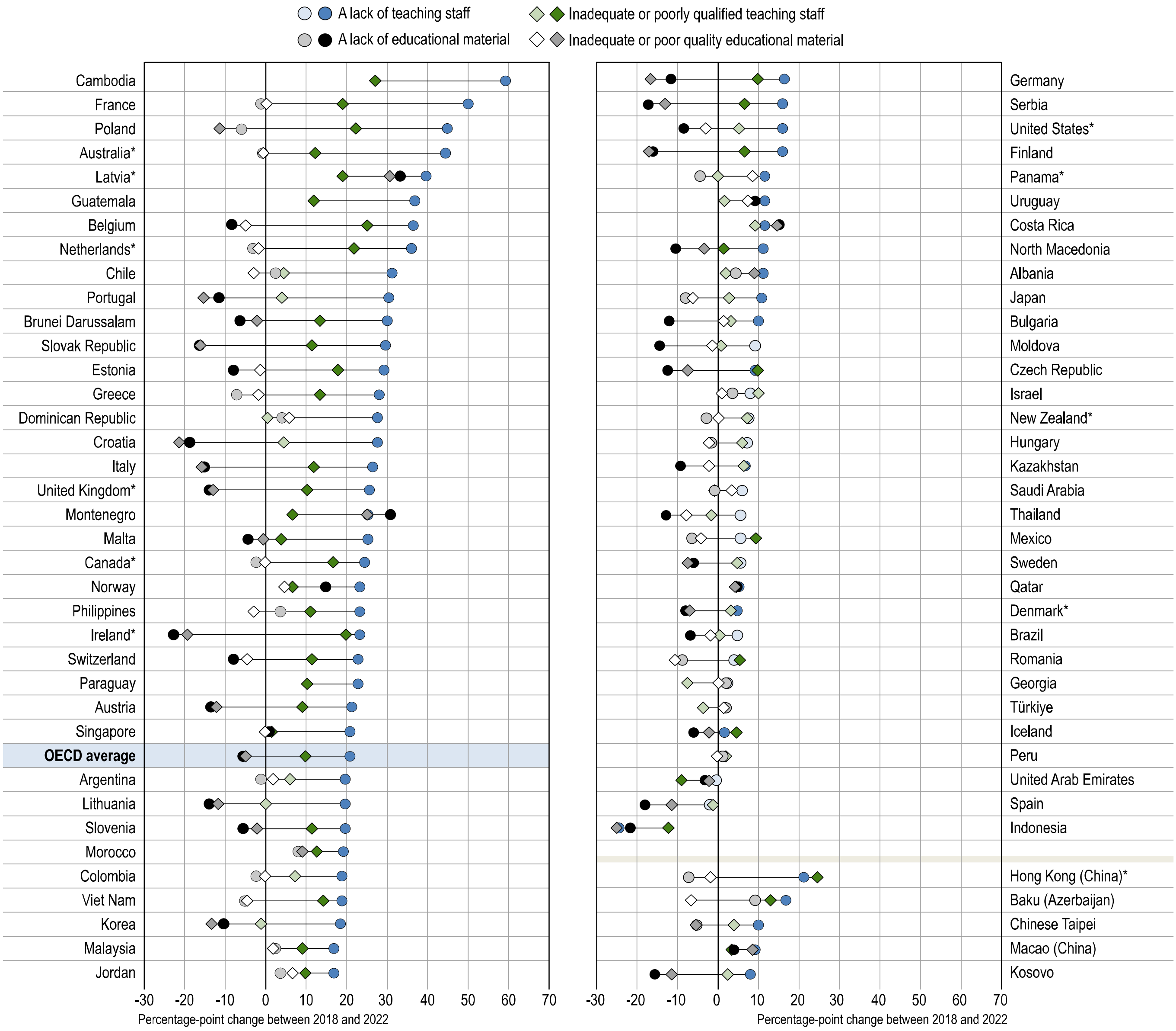
Some education systems suffer more from a lack of teaching staff while others suffer more from a lack of assisting staff, according to school principals. In 21 countries/economies, at least 50% of students were in schools whose principals reported that a lack of teaching staff hinders learning (Table II.B1.5.4). In 13 countries/economies, at least 50% of students attended schools whose principal reported that instruction is hindered by a lack of assisting staff.

Within countries/economies, principals' reports on shortages of education staff vary according to school characteristics (Figure II.5.4). In 30 countries/economies, students attending socio-economically disadvantaged schools were exposed to more shortages of education staff than their peers in advantaged schools. The largest disparities in shortages of education staff related to the socio-economic profile of schools were found in Peru, Jordan, Australia*, Colombia, Brunei Darussalam, Uruguay, Panama* and the United Arab Emirates (in descending order) (Table II.B1.5.2). Only in Malta were shortages of education staff more prevalent in advantaged schools.

In 36 countries/economies, shortages of education staff were more prevalent in public schools than in private schools. The largest disparities in shortages of education staff were observed in Greece, Uruguay, Morocco, Türkiye, Colombia, New Zealand*, the United Arab Emirates and Portugal (in descending order). In France public schools suffered less from shortages of education staff than private schools. On average across OECD countries and in 16 countries/economies, shortages of education staff were more prevalent in rural schools than in urban schools. In four countries/economies, shortages of education staff were more prevalent in urban schools than in rural schools.

Figure II.5.3. Change between 2018 and 2022 in shortage of education staff and material resources

Percentage-point change in students whose principals reported that the school's capacity to provide instruction is hindered to some extent or a lot by the following



Notes: Only countries and economies with available data are shown.
Statistically significant differences between PISA 2018 and PISA 2022 (PISA 2022 - PISA 2018) are shown in a darker tone (see Annex A3).
Countries and economies are ranked in descending order of the change in lack of teaching staff between 2018 and 2022.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Figure II.5.4. Shortage of education staff and school characteristics

Based on principals' reports

	A	B	C	D	E
Countries/economies with a positive difference	1	4	1	1	3
Countries/economies with no difference	37	40	22	35	54
Countries/economies with a negative difference	31	16	37	33	12

1. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

Note: Higher values in the index indicate greater shortages of education staff.

Countries and economies are ranked in descending order of the index of shortage of education staff.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

At the system level, shortages of education staff are negatively related to student performance in mathematics

In 32 countries/economies, students attending schools whose principal reported shortages of education staff scored lower in mathematics than students in schools whose principal reported fewer or no shortages of staff (Figure II.5.4 and Table II.B1.5.5). In 35 countries/economies, no statistically significant differences in mathematics scores were found between students in schools with more shortages of education staff compared with students in schools with few or no shortages. In Montenegro, students attending schools with more shortages scored higher in mathematics than students in schools with fewer or no shortages of staff.

The association between shortage of education staff and mathematics performance was attenuated after accounting for students' and schools' socio-economic profile, and the negative relationship was significant in 10 countries/economies. In 56 countries/economies, no statistically significant differences in mathematics scores were found between students in schools with more shortages and those in schools with fewer or no shortages of education staff, after accounting for students' and schools' socio-economic profile. In three countries/economies, namely Israel, Montenegro and Türkiye, students attending schools with more shortages scored higher in mathematics than students in schools with fewer or no shortages of staff.

When the components of the index of shortage of education staff were examined separately in relation to mathematics performance (Figure II.5.6 and Table II.B1.5.5), all four components were negatively associated with mathematics performance, on average across OECD countries, even after accounting for students' and schools' socio-economic profile. This negative relationship was the strongest when school principals reported inadequate or poorly qualified teaching staff, on average across OECD countries and particularly in the United Arab Emirates, Japan, Macao (China), Iceland, Indonesia, the Czech Republic and Brazil (in descending order of the strength of the relationship). The lack of teaching staff had the second strongest and negative correlation with mathematics performance across OECD countries, and especially in the United Arab Emirates, Japan, Chinese Taipei, the United States*, Viet Nam and Macao (China) (in descending order). In addition, Table II.B1.5.5 shows that a lack of assisting staff is also negatively correlated with mathematics performance across OECD countries, and particularly in the United Arab Emirates, the Slovak Republic, Lithuania, Italy, Singapore, North Macedonia, Cambodia and Indonesia (in descending order). The negative association between poor or inadequate assisting staff and mathematics performance was strongest in the United Arab Emirates, Korea, Albania and the United Kingdom* (in descending order). These results underscore the importance of having a sufficient number of qualified teaching and assisting staff available to support students.[3]

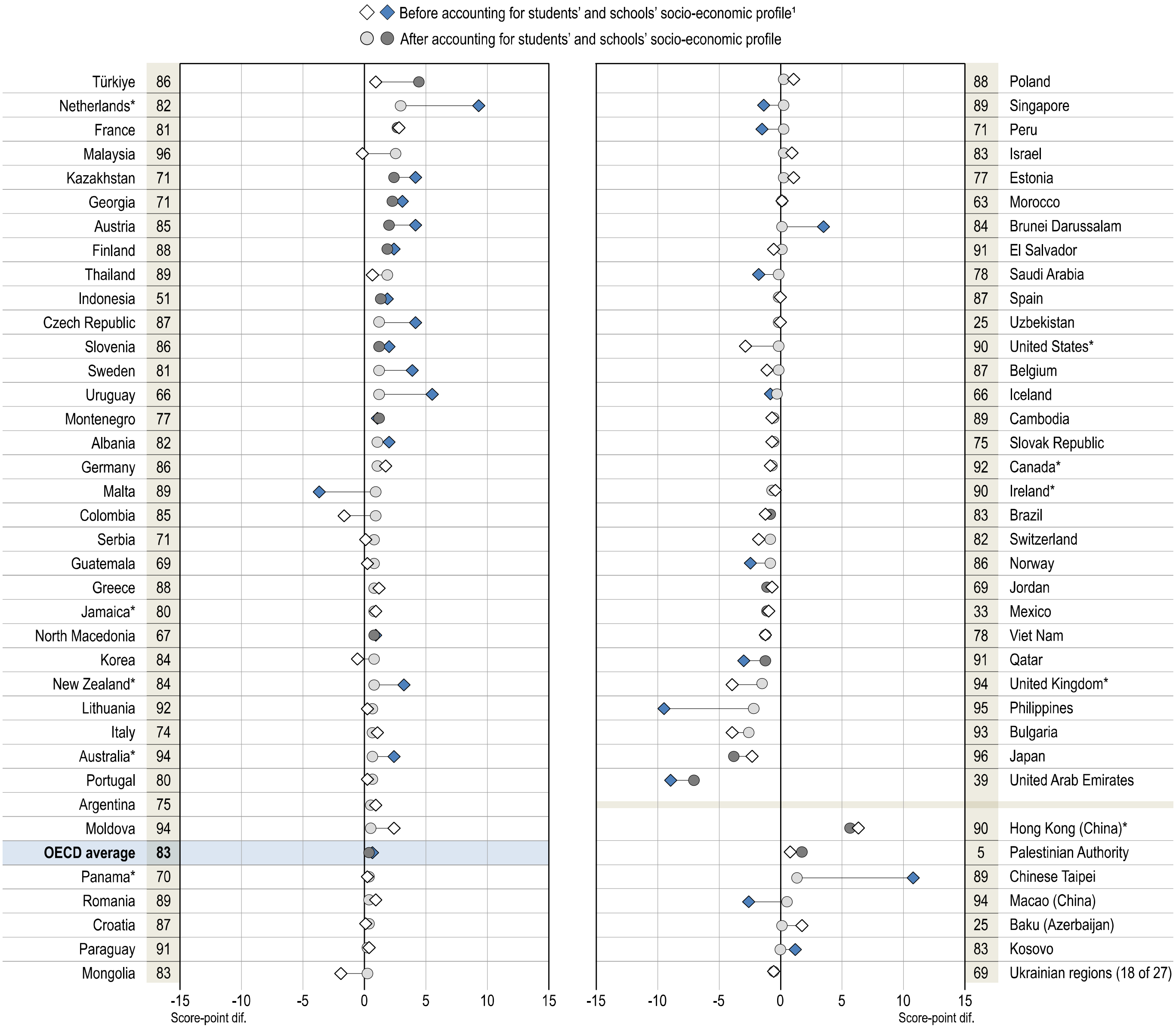
In most PISA-participating countries/economies, most teachers were fully certified, i.e. they are licensed to teach based on standards defined by national or local institutions.[4] On average across OECD countries in 2022, 87% of teachers working in schools with the modal ISCED level for 15-year-old students were fully certified by the appropriate national or local authority. In 13 countries/economies at least 95% of teachers were fully certified and in Macao (China), Australia*, Bulgaria and Ireland* (in descending order), more than 97% of teachers were fully certified (Table II.B1.5.9). On average across OECD countries, the percentage of certified teachers remained stable between 2018 and 2022, but this share decreased in 21 countries/economies, and by more than 10 percentage-points in Baku (Azerbaijan), Kazakhstan, Iceland, Argentina, Viet Nam, the Slovak Republic, Panama*, Brunei Darussalam and Korea (in descending order). In 13 countries/economies, the percentage of certified teachers increased during the period, and by more than 10 percentage points in Colombia, Georgia, Israel, North Macedonia and Montenegro (in descending order).

Schools with more fully certified teachers tended to score higher. After accounting for students' and schools' socio-economic profile, in 12 countries/economies, and on average across OECD countries, students in schools with a larger share of fully certified teachers scored higher in mathematics (Figure II.5.5); in 6 countries and economies they scored lower.

In 8 countries/economies, namely Brunei Darussalam, Uruguay, Slovenia, Chinese Taipei, Iceland, Sweden, the Czech Republic and France (in descending order), the share of fully certified teachers was larger in advantaged than in disadvantaged schools; but in 10 countries/economies, namely Türkiye, Singapore, Philippines, Peru, Colombia, Morocco, Mongolia, Brazil, El Salvador and the United Arab Emirates, the opposite was observed (Table II.B1.5.8).

Figure II.5.5. Certified teachers and mathematics performance

Change in mathematics performance per 10 percentage-point increase in the share of certified teachers at school; based on principals' reports



1. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

Notes: The percentage of certified teachers in schools attended by 15-year-olds is shown next to the country/economy name.

Statistically significant differences are shown in a darker tone (see Annex A3).

Countries and economies are ranked in descending order of the score-point difference related to a 10 percentage-point increase in the share of certified teachers at school, after accounting for students' and schools' socio-economic profile.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Components of resilience: Reducing student-teacher ratios and class size

Education systems that reported lower student-teacher ratios showed higher mathematics scores even after accounting for per capita GDP (Table II.B1.5.101). The change in class size between 2018 and 2022 was negatively associated with the change in performance between 2018 and 2022. This means that education systems where average class size increased more between 2018 and 2022 tended to show a greater deterioration in mathematics performance over the same period (Table II.B1.5.104). Across all countries/economies, smaller classes and fewer students per teacher were associated with a stronger sense of belonging at school, even after accounting for per capita GDP (Table II.B1.5.101).

In most education systems, student-teacher ratios and class size did not change between 2018 and 2022

PISA 2022 asked school principals to report the number of teachers and students in their schools from which the student-teacher ratio was computed (Table II.B1.5.11). Across OECD countries, there were about 12 students for every teacher. Student-teacher ratios ranged from 27 students per teacher in El Salvador and the Philippines, to fewer than 8 students per teacher in Argentina, Brunei Darussalam, Greece, Italy, Malta and Slovenia.

Between 2018 and 2022, the student-teacher ratio decreased on average across OECD countries (a decrease of 0.2 student per teacher) and in 22 countries/economies. In Cambodia, the Dominican Republic, Brazil, Chile and Kosovo (in descending order) the student-ratio decreased by more than two students per teacher. In 14 countries, the student-teacher ratio increased, and in Peru, the Philippines, Poland and Viet Nam by more than 2 students per teacher. In 36 countries/economies, the student-teacher ratio remained stable between 2018 and 2022. The PISA 2022 results based on school principals' report confirm the latest data published in Education at a Glance (OECD, 2023[2]), yet some caution is advised when interpreting student-teacher ratios, as the ratio may not reflect a possible increase in teacher absenteeism.

On average across OECD countries and in 28 countries/economies, the student-teacher ratio was higher in advantaged than disadvantaged schools (a difference of 1.1 students, on average across OECD countries). The opposite was observed only in Cambodia, the Dominican Republic, Morocco, the Palestinian Authority, Türkiye and the United Arab Emirates where disadvantaged schools had higher student-teacher ratios than advantaged schools. On average across OECD countries and in 28 countries/economies, the student-teacher ratio was higher in public schools than private schools (a difference of 1.3 students, on average across OECD countries). The opposite was observed in 11 countries/economies, namely Argentina, Brunei Darussalam, Chile, Kazakhstan, Korea, Portugal, Slovenia, Spain, Sweden, Chinese Taipei and the United Arab Emirates, where private schools had higher student-teacher ratios than public schools.

PISA 2022 also asked school principals to report the average size of language-of-instruction classes in the national modal grade for 15-year-olds (Table II.B1.5.15). According to school principals, on average across OECD countries there were 26 students per language-of-instruction class. In the Philippines, Cambodia and Viet Nam (in descending order), there were 40 or more students per language-of-instruction class and in Malta, Switzerland and Finland (in ascending order) there were 20 or fewer students per class.

The average size of language-of-instruction class shrank between 2018 and 2022 in 21 countries/economies (by 5 or more students in Argentina, Guatemala, Kazakhstan, Panama*, Saudi Arabia and Türkiye) while it grew in 13 countries/economies (by 2 or 3 students in Albania, Baku [Azerbaijan], Costa Rica, Peru and Poland). On average across OECD countries, there was 0.3 fewer student per language-of-instruction class in 2022 than in 2018 (Table II.B1.5.16). In 40 of 74 countries/economies with available data, class size did not change between 2018 and 2022. Some caution is advised when interpreting class size, as it may not reflect a possible increase in teacher absenteeism.

On average across OECD countries, smaller classes were more frequently observed in socio-economically disadvantaged schools than in advantaged schools (3.3 fewer students per language-of-instruction class), and in public than in private schools (1.5 fewer students per language-of-instruction class) (Table II.B1.5.15).

Components of resilience: Providing adequate and high-quality educational material

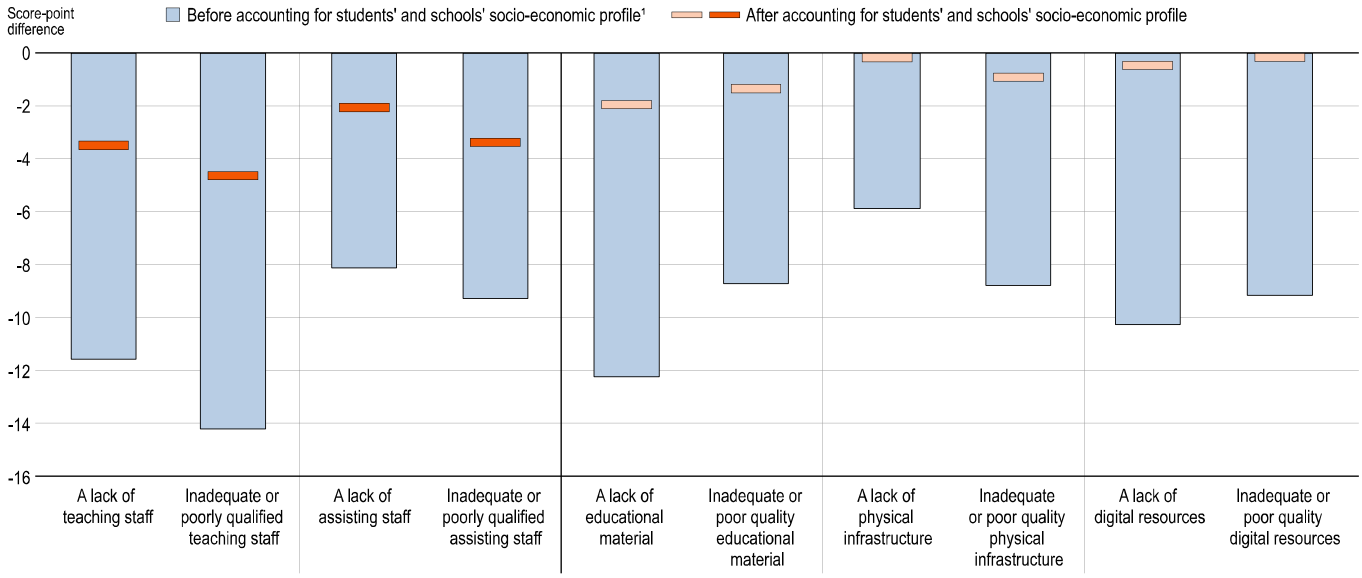
In systems where students scored lower in mathematics, on average, school principals reported that instruction was hindered to a greater extent by a lack of or inadequate/poor-quality educational material and digital resources (Table II.B1.5.100). Across all countries/economies, a negative association was found between a lack of or inadequate/poor-quality digital resources and student performance. PISA 2022 results also show that higher performing systems ensure that every student has access to a digital device (computer or tablet); but the availability of these devices does not, in itself, indicate their capacity to enhance teaching and learning. School policies and practices on the use of digital devices is also important, and having adequate guidelines for their use is key to ensuring a school's preparedness for digital learning.

High-performing schools, which tend to have a more advantaged student body, suffer less from shortages of educational material

In each education system, it is important to ensure that all schools, regardless of their socio-economic profile, enjoy adequate and quality educational material. Students attending schools with fewer shortages of material resources[5] performed better in mathematics, on average across OECD countries and in about 60% of all participating countries/economies, before accounting for students' and schools' socio-economic profile; but this relationship was observed in only 20% of countries/economies after accounting for the socio-economic profiles of students and schools (Table II.B1.5.23). In almost 80% of countries/economies material resources and mathematics scores were unrelated when comparing schools with similar socio-economic intakes. On average across OECD countries, shortages of educational material were more strongly associated with poorer mathematics performance than shortages of physical infrastructure (Figure II.5.6). However, after accounting for students' and schools' socio-economic profile, these associations became statistically insignificant, showing that disadvantaged schools and students suffer the most from a lack of educational material and physical infrastructure.

Figure II.5.6. Shortage of education staff and material resources, and mathematics performance

Change in mathematics performance associated with principals reporting that the school's capacity to provide instruction is hindered to some extent or a lot by the following; OECD average



1. The socio-economic profile is measured by the PISA index of economic, social and cultural status.

Notes: Statistically significant score-point differences are shown in a darker tone. All score-point differences are statistically significant before accounting for students' and schools' socio-economic profile (see Annex A3).

Educational material includes textbooks, ICT equipment, library, laboratory material, etc. Physical infrastructure includes school building, grounds, heating/cooling systems, lighting and acoustic systems, etc.

Digital resources include desktop or laptop computers, Internet access, learning-management systems or school learning platforms, etc.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Half of all participating education systems suffered fewer shortages of educational material in 2022 than in 2018

In about half of education systems with available data, principals in 2022 reported fewer shortages of educational material than their counterparts did in 2018 (Table II.B1.5.21). Fewer students in 2022 than in 2018 attended schools whose principal reported that instruction is hindered by a lack of educational material (e.g. textbooks, IT equipment, library or laboratory material) or physical infrastructure (e.g. building, grounds, heating/cooling, lighting and acoustic systems), or due to inadequate or poor-quality educational material or physical infrastructure, on average across OECD countries (Table II.B1.5.22). Figure II.5.3 contrasts the change between 2018 and 2022 in school principals' perception of the shortage of teaching staff and educational material. It shows that most countries/economies were more affected by perceived increases in the shortage of education staff than in shortages of material resources. On average across OECD countries and in about half of all participating countries/economies, school principals in 2022 were more likely than their counterparts in 2018 to report a shortage of teaching staff and less likely to report a shortage of educational material. The greatest improvements in the concerns of principals about the quantity of educational material during the period were observed in Ireland*, Indonesia, Croatia, Spain, Serbia, the Slovak Republic, Finland, Kosovo and Italy (in descending order); when considering the quality of educational material, the greatest improvements were observed in Indonesia, Croatia, Ireland*, Finland, Germany, the Slovak Republic, Italy and Portugal (in descending order). The most marked improvements in the quantity of physical infrastructure between 2018 and 2022 were found in Indonesia, Korea, Ireland*, Croatia, Hong Kong (China)*, New Zealand* and Colombia (in descending order); Indonesia, Korea, Ireland*, Finland, the Czech Republic, Georgia and Hong Kong (China)* (in descending order) saw the greatest improvements in the quality of the physical infrastructure during that period.

But in Costa Rica, Latvia*, Montenegro and Norway principals were more likely – and by the largest increases -- to report more shortages of educational material. In 25 countries/economies, school principals in 2022 were less likely than their counterparts in 2018 to report that instruction is hindered due to inadequate or poor-quality educational material; but over the same period, principals in Albania, Costa Rica, Latvia*, Macao (China), Montenegro, Morocco and Qatar were more likely to report so. In 23 countries/economies, school principals in 2022 were less likely than their counterparts in 2018 to report that instruction is hindered by a lack of physical infrastructure; by contrast, in Costa Rica, Malta, Qatar and Ukrainian regions (18 of 27) principals in 2022 were more likely than those in 2018 to report so. In 28 countries/economies, school principals in 2022 were less likely than those in 2018 to report that instruction is hindered by inadequate or poor-quality physical infrastructure; but during the same period, principals in in Iceland, Latvia*, Qatar and Singapore were more likely to report so.

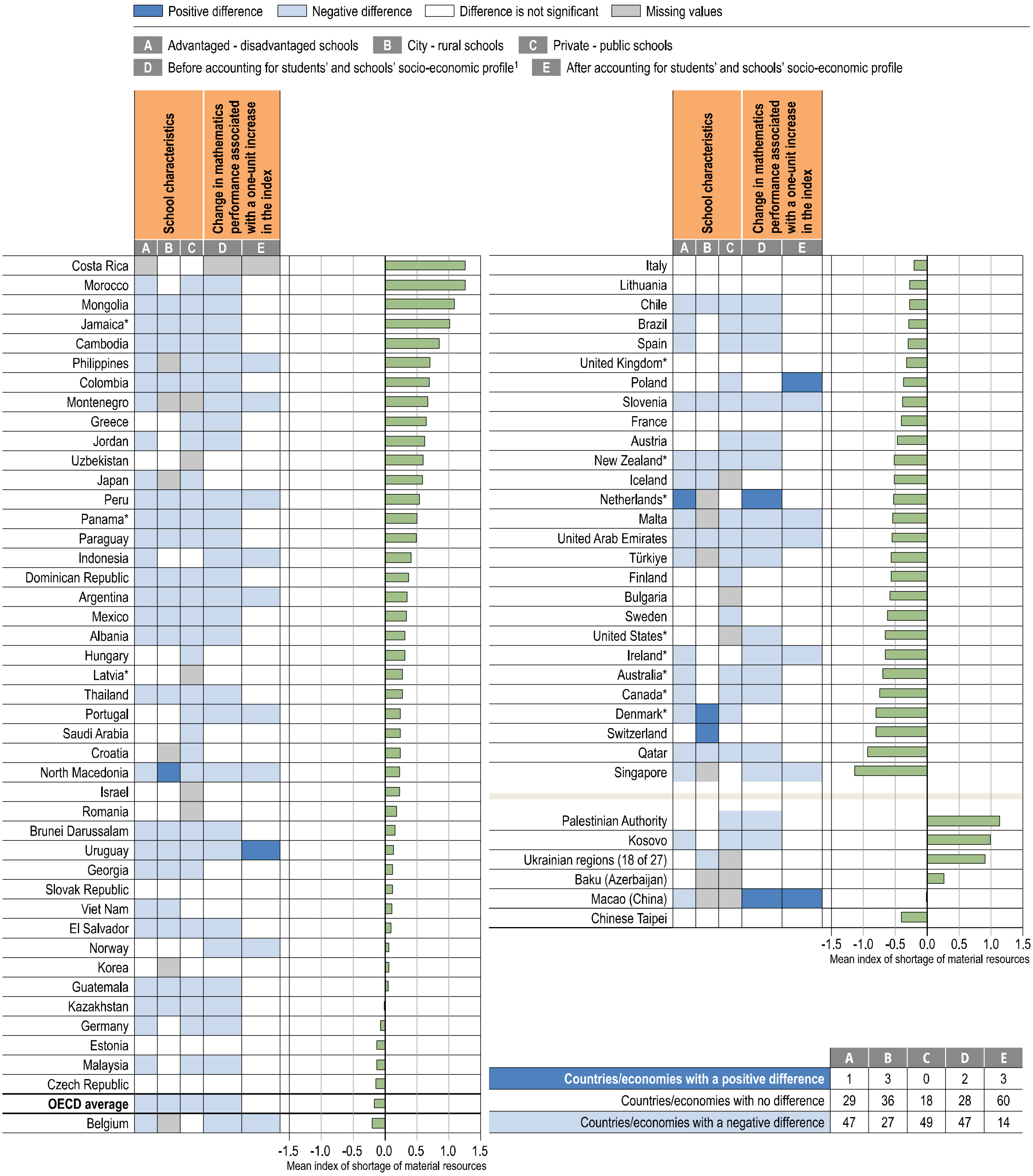
In 2022, school principals in Singapore, Qatar, Switzerland, Denmark* and Canada* (in ascending order) reported fewer shortages of material resources than other participating countries/economies (Figure II.5.7 and Table II.B1.5.17). In Australia*, Canada*, Denmark*, Ireland*, Malta, the Netherlands*, Qatar, Singapore, Sweden, Switzerland, Chinese Taipei and the United States* fewer than one in ten students attended a school whose principal reported that instruction is hindered by either a lack of or inadequate or poor-quality educational material. In Canada*, Denmark*, Finland, Hong Kong (China)*, Qatar, Singapore and Türkiye, fewer than one in six students attended a school whose principal reported that instruction is hindered by either a lack of or inadequate or poor-quality infrastructure.

In PISA 2022, more principals in Costa Rica, Morocco, the Palestinian Authority, Mongolia, Jamaica*, Kosovo, Ukrainian regions (18 of 27), Cambodia and the Philippines (in descending order) reported concerns about shortages of material resources than in other participating countries/economies (Table II.B1.5.17). In Costa Rica, Jamaica*, Kosovo, Mongolia, Montenegro, Morocco and Ukrainian regions (18 of 27) more than two in three students were in schools whose principal reported that the school's capacity to provide instruction is hindered, to some extent or a lot, by a lack of educational material. In Jamaica*, Kosovo, Mongolia, Morocco and Ukrainian regions (18 of 27) more than two in three students were in schools whose principal reported that the school's capacity to provide instruction is hindered by inadequate or poor-quality educational material. In Cambodia, Costa Rica, Jamaica*, Morocco and the Palestinian Authority more than six in ten students were in schools whose principal reported that the school's capacity to provide instruction is hindered by a lack of physical infrastructure. In Cambodia, Costa Rica, Jamaica*, Mongolia, and the Palestinian Authority more than 60% of students were in schools whose principal reported that the school's capacity to provide instruction is hindered by inadequate or poor-quality physical infrastructure.

Education systems where students attended schools with fewer shortages of, or with adequate/high-quality, digital resources performed better in mathematics, on average across OECD countries and in half of all participating countries/economies, before accounting for students' and schools' socio-economic profile; but this relationship is observed in only 20% of countries/economies after accounting for the socio-economic profiles of students and schools (Table II.B1.5.23). In more than 75% of countries/economies digital resources and mathematics scores were unrelated when comparing schools with similar socio-economic intakes.

Figure II.5.7. Shortage of material resources and school characteristics

Based on principals' reports



	A	B	C	D	E
Countries/economies with a positive difference	1	3	0	2	3
Countries/economies with no difference	29	36	18	28	60
Countries/economies with a negative difference	47	27	49	47	14

1. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

Note: Higher values in the index indicate greater shortages of educational material.

Countries and economies are ranked in descending order of the index of shortage of educational material.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Socio-economically disadvantaged schools were more likely than advantaged schools to experience shortages of material resources, on average across OECD countries and in 46 education systems. Only in the Netherlands* did disadvantaged schools report fewer shortages of educational material than advantaged schools.

Disparities in shortages of material resources were also observed between rural and urban schools (in 27 education systems, rural schools suffered more from shortages) and between public and private schools (in 49 education systems, public schools suffered more from shortages) (Figure II.5.7). Only in Denmark*, North Macedonia and Switzerland did rural schools report fewer shortages of educational material than urban schools; and in no county/economy did public schools report fewer shortages of educational material than private schools.

Components of resilience: Providing access to high-quality digital devices and developing guidelines for their use

A negative association was found between a lack of or inadequate/poor-quality digital resources (e.g. desktop or laptop computers, Internet access, learning management systems or school learning platforms) and student performance (Table II.B1.5.100). Across all countries/economies, 17% of the variation in student performance was accounted for by differences in the extent to which instruction is hindered by a lack of digital resources, according to school principals, after accounting for per capita GDP. Across all countries/economies, 13% of the variation in student performance is explained by differences in the extent to which instruction is hindered by inadequate or poor-quality digital resources, after accounting for per capita GDP. No clear pattern is observed between the availability of digital resources and either equity or well-being.

PISA 2022 results show that higher performing systems ensure that every student has access to a digital device (Table II.B1.5.24). Across all countries/economies, the average computer-to-student ratio was 0.6 (variability of 0.3)[6] and in higher performing systems, the computer-to-student ratio was higher, both before and after accounting for per capita GDP. Across OECD countries, the computer-to-student ratio was 0.8 (variability of 0.3) and this relationship was observed before, but not after, accounting for per capita GDP. Across OECD countries, the average tablet-to-student ratio was 0.4 (variability of 0.2) and higher tablet-to-student ratios were associated with higher performance, both before and after accounting for per capita GDP. Across all countries/economies, the average tablet-to-student ratio was 0.3 (variability of 0.4) but no relationship with mathematics performance was observed.

High-performing schools, which tend to have a more advantaged student body, suffer less from shortages of digital resources

Schools, like most other institutions in society, are adapting to the increasing digitalisation of daily life. In Australia*, Bulgaria, Denmark*, Lithuania, the Netherlands*, New Zealand*, Norway, Singapore, Slovenia, Sweden and the United States* less than 10% of students were in schools whose principal reported that shortages of digital resources hinder instruction to some extent or a lot; in Australia*, Bulgaria, Canada*, Denmark*, the Netherlands*, New Zealand*, Qatar, Singapore, Sweden and the United States* less than 10% of students were in schools whose principal reported inadequate or poor-quality digital resources (Table II.B1.5.17). But in Argentina, Baku (Azerbaijan), Cambodia, Colombia, Costa Rica, Jamaica*, Kosovo, Mongolia, Morocco, the Palestinian Authority, Panama* and Ukrainian regions (18 of 27) more than two in three students were in schools whose principal reported that the school's capacity to provide instruction is hindered by a lack of digital resources.[7] In Argentina, Cambodia, Costa Rica, Jamaica*, Kosovo, Mongolia, Morocco, the Palestinian Authority, Panama* and Ukrainian regions (18 of 27) more than two in three students were in schools whose principal reported that the school's capacity to provide instruction is hindered by inadequate or poor-quality digital resources.

On average across OECD countries and in 40 education systems, socio-economically disadvantaged schools were more likely than advantaged schools to suffer from a lack of or poor-quality digital resources. In no participating country/economy were principals in disadvantaged schools less likely than those in advantaged schools to report that instruction is hindered by a lack of digital resources. Disparities in the shortage of digital resources were also observed between rural and urban schools (in 21 education systems, rural schools suffered more from shortages) and between public and private schools (in 48 education systems, principals in public schools reported more shortages; in no participating country/economy were principals in public schools less likely than those in private schools to report shortages of digital resources) (Table II.B1.5.19). In 40 countries/economies, principals in disadvantaged schools were more likely than those in advantaged schools to report inadequate or poor-quality digital resources (Table II.B1.5.20). In 22 countries/economies, rural schools reported more inadequate or poor-quality digital resources than urban schools; and in 49 countries/economies public schools suffered more than private schools from inadequate or poor-quality digital resources. Only in Canada*, North Macedonia and Chinese Taipei were principals in rural schools less likely than their counterparts in urban schools to report inadequate or poor-quality digital resources; in Belgium, Korea and Slovenia principals in public schools were less likely than those in private schools to report inadequate or poor-quality digital resources.

In OECD countries, nearly every 15-year-old has access to a computer at school

On average across OECD countries in 2022 there was about 0.8 computer (laptop and desktop combined) and 0.4 tablet device and e-book reader available at school for educational purposes for every 15-year-old student (Tables II.B1.5.24 and II.B1.5.27). In Australia*, Austria, El Salvador, New Zealand*, Singapore, the United Kingdom* and the United States* the computer-to-student ratio was higher than one-to-one. In 31 countries/economies, there was fewer than one computer available for every two students; and in 10 countries/economies there was fewer than one computer for every 4 students. In the Dominican Republic, Hong Kong (China)* and Romania the tablet-to-student ratio was higher than one-to-one. In 66 countries/economies, there was fewer than one tablet available for every 2 students, and in 21 countries/economies there was fewer than one tablet for every 10 students.

As in earlier assessments, the computer-to-student ratio increased between 2018 and 2022, though by much less than between 2012 and 2022 (Table II.B1.5.25). The computer-to-student ratio increased in 19 out of 72 countries/economies between 2018 and 2022. The largest increases in the average number of computers per 15-year-old student were observed in Bulgaria, Finland, France, Kazakhstan and Portugal.

In 20 countries/economies, socio-economically disadvantaged schools tended to have more computers per student than advantaged schools (Table II.B1.5.24); in 20 countries/economies, advantaged schools had more computers per student than disadvantaged schools. In 12 countries/economies the tablet-to-student ratio was higher in disadvantaged schools than in advantaged schools (Table II.B1.5.27). The disparity in favour of disadvantaged schools was the largest in Australia*, El Salvador, Japan, Korea, Lithuania, New Zealand* and Poland (in computers-per-student) and in Austria, Korea, Lithuania and Peru (in tablets-per-student). The disparity in favour of advantaged schools was the largest in Guatemala, Panama* and Qatar (in computers-per-student) and in Macao (China) and the United Arab Emirates (in tablets-per-student).

On average across OECD countries and in 28 countries/economies, the ratio of computers to students was higher in private than in public schools; but in 9 countries/economies, namely Argentina, Australia*, Austria, El Salvador, Japan, Singapore, the Slovak Republic, Slovenia and the United Arab Emirates, the computer-to-student ratio was higher in public schools than in private schools. On average across OECD countries, the computer-to-student ratio was higher in rural schools (ratio = 1.0) than in urban schools (ratio = 0.8). In 24 countries/economies, the computer-to-student ratio was higher in rural schools than in urban schools (especially in El Salvador, Hungary, Latvia*, Lithuania, the United Arab Emirates and the United Kingdom*), but the opposite was observed in Albania, Guatemala and Paraguay.

Developing guidelines for using digital devices prepares schools and students for digital learning

The availability and quality of instructional materials, in themselves, do not guarantee better learning; schools and teachers must be able to use these resources effectively to enhance learning and teaching (Burns and Gottschalk, 2019[3]) This is particularly true regarding digital devices in education, as a growing number of countries have invested heavily to equip their schools and students with these tools. This process of digitalisation intensified during the COVID-19 pandemic and the sudden shift towards remote learning when schools were closed (Box II.2.4).

PISA 2022 asked school principals about different aspects of their school's preparedness for digital learning (Table II.B1.5.29).[8] PISA 2022 results show that the availability of computers does not, in itself, indicate a school's preparedness for digital learning; having adequate guidelines for their use is also important (Figure II.5.8). The number of computers available per student at school was positively related to schools' preparedness for digital learning, on average across OECD countries and in 20 countries/economies, even after accounting for students' and schools' socio-economic profile; it was negatively related in 5 countries/economies. On average across OECD countries and in 34 countries/economies, having formal guidelines for using digital devices for teaching and learning in specific subjects was positively related to the index of preparedness for digital learning, after accounting for the number of computers per student.

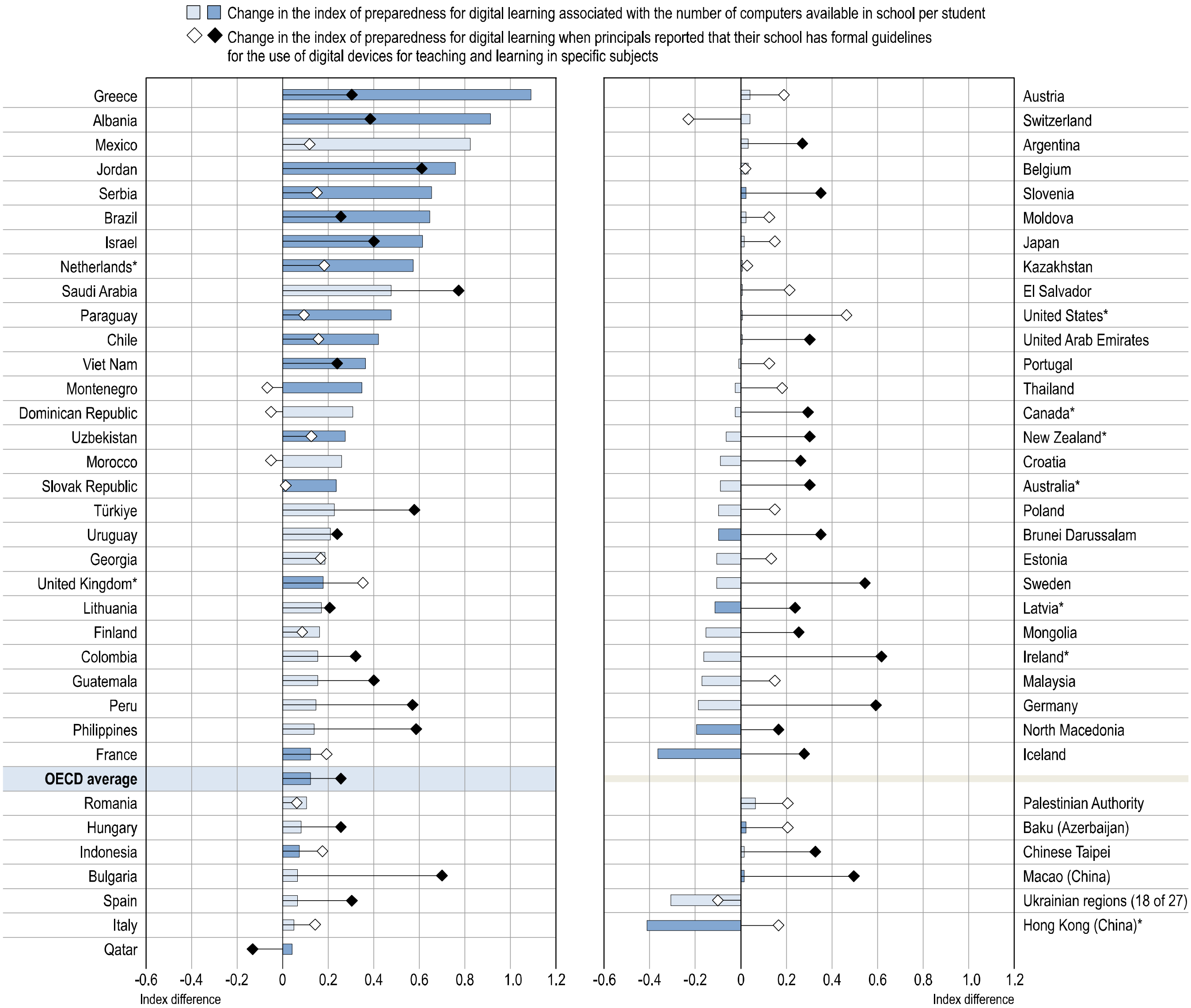
On average across OECD countries, the largest improvements in schools' preparedness for digital learning observed between 2018 and 2022 concern the availability of an effective online learning-support platform (in 2022, 78% of principals agreed or strongly agreed that this is available – a 26 percentage-point increase over 2018); teachers having the necessary technical and pedagogical skills to integrate digital devices into their instruction (88% of principals in 2022 so reported, a 24 percentage-point increase over 2018); and the availability of effective professional resources for teachers to learn how to use digital devices (76% of principals in 2022 so reported, a 13 percentage-point increase over 2018) (Table II.B1.5.32). The largest increases (of more than 50 percentage points) in providing an effective online learning-support platform were observed in Brunei Darussalam, Bulgaria, France, Germany, North Macedonia, Romania and Viet Nam. The largest increases (of more than 40 percentage points) in teachers having the necessary technical and pedagogical skills to integrate digital devices into their instruction were observed in Finland, Ireland*, Japan and Morocco. The largest increases (of more than 30 percentage points) in the availability of effective professional resources for teachers to learn how to use digital devices were observed in Ireland*, North Macedonia, Portugal and Viet Nam.

In 2022 about 59% of students, on average across OECD countries, attended schools where teachers have sufficient time to prepare lessons integrating digital devices; 59% of students were in schools with sufficient qualified technical assistance staff; and 55% of students attended schools where teachers are offered incentives to integrate digital devices into their teaching. There was no significant change, between 2018 and 2022, in teachers having sufficient time to prepare lessons integrating digital devices, according to principals' reports (Table II.B1.5.32). Principals also reported only a three percentage-point increase during the same period in the prevalence of offering incentives to teachers to integrate digital devices into their teaching.

In Cambodia, Indonesia, Kazakhstan, Macao (China), the Philippines, Qatar, Saudi Arabia, Sweden, Thailand, the United Arab Emirates, Uzbekistan and Viet Nam, more than 90% of students attended schools where teachers have sufficient time to prepare lessons integrating digital devices (Table II.B1.5.32). In Argentina, Belgium, Costa Rica, Germany, Greece, Hungary, Japan, Latvia*, Paraguay, Portugal, Spain and Uruguay the opposite was observed: more than 50% of students attended schools where teachers did not have sufficient time to prepare lessons integrating digital devices, according to principals. In Bulgaria, Croatia, Iceland, Kazakhstan, Lithuania, Poland, Slovenia, Thailand, Türkiye, Ukrainian regions (18 of 27) and Uzbekistan, more than 90% of students attended schools where teachers are offered incentives to integrate digital devices in their teaching. The opposite was observed in Costa Rica, Jamaica*, Romania, Spain and Uruguay, where more than 80% of students were in schools where teachers are not offered incentives to integrate digital devices in their teaching. More than 80% of students in Bulgaria, Cambodia, Indonesia, Kazakhstan, the Netherlands*, North Macedonia, Qatar, Sweden, Thailand, the United Arab Emirates, Uzbekistan and Viet Nam attended schools with a sufficient number of qualified technical-assistance staff. By contrast, in Brazil, Greece, Ireland*, Japan, Latvia*, Morocco, Paraguay and Portugal more than 60% of students attended a school whose principal reported insufficient numbers of qualified technical-assistance staff.

Figure II.5.8. Relationship between preparedness for digital learning, availability of computers and school guidelines

Formal guidelines for the use of digital devices for teaching and learning in specific subjects; based on students' and principals' reports



Notes: Only countries and economies with available data are shown.

Results based on linear regression analysis, after accounting for students' and schools' socio-economic profile. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

Statistically significant differences are shown in a darker tone (see Annex A3).

Countries and economies are ranked in descending order of the change in the index of preparedness for digital learning associated with the number of computers available in school per student.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

In 23 countries/economies, socio-economically advantaged schools were better prepared for digital learning than were disadvantaged schools (Table II.B1.5.30). The largest disparities were observed in Albania, Brunei Darussalam, Colombia, the Dominican Republic, El Salvador, Guatemala, Macao (China), Mexico, Peru and Spain. In 18 countries/economies, principals in urban schools were more likely than their counterparts in rural schools to report that their school is prepared for digital learning, with the largest disparities found in Chile, Guatemala, Mexico, New Zealand*, Qatar and Chinese Taipei. In 25 countries/economies, private schools showed greater preparedness for digital learning than public schools, with the largest disparities observed in Albania, Colombia, Costa Rica, Greece, Mexico, Peru and Serbia.

Most schools have established rules about using digital devices on their premises

Using digital devices successfully to enhance teaching and learning may also depend on school policies and practices. PISA 2022 asked school principals whether they had formal guidelines (e.g. written statements, programmes or policies) or specific practices (e.g. regularly scheduled meetings) that focus on how to use digital devices effectively in the classroom.

On average across OECD countries, the most common school practices were teachers establishing rules for when students may use digital devices during lessons (95% of students attended such schools), the school having a written statement about the general use of digital devices on school premises (83% of students) and teachers establishing rules in collaboration with students about using digital resources at school or in class (73% of students) (Table II.B1.5.35).

By contrast, on average across OECD countries, the least common practices were: not allowing the use of cell phones on school premises (34% of students attended such schools), having a specific policy about using social networks in teaching and learning (51% of students) and having a specific programme to promote collaboration on the use of digital devices among teachers (55% of students).

In 13 countries/economies, namely Albania, Brunei Darussalam, Greece, Hong Kong (China)*, Jordan, Kosovo, Malta, Morocco, the Palestinian Authority, Qatar, Saudi Arabia, Spain and the United Arab Emirates, more than two in three students attended schools where the use of cell phones is not allowed. In Canada*, Finland, Lithuania, the Netherlands* and Uruguay less than 10% of students attended schools where the use of cell phones is not allowed. As shown in Box II.5.1, when the use of cell phones on school premises is banned, students are less likely to report becoming distracted by using digital devices in mathematics lessons.

On average across OECD countries and in 13 countries/economies, namely Baku (Azerbaijan), Brazil, Cambodia, Colombia, El Salvador, Guatemala, Kosovo, Malta, Mongolia, Montenegro, Morocco, Panama* and Paraguay, school guidelines and practices to enhance teaching and learning using digital devices were more likely to be found in socio-economically advantaged schools than in disadvantaged schools (Table II.B1.5.36). But in Brunei Darussalam, North Macedonia and Slovenia disadvantaged schools were more likely than advantaged schools to have guidelines and practices for using digital devices.

On average across OECD countries and in 14 countries/economies, disadvantaged schools were more likely than advantaged schools to forbid the use of cell phones. By contrast, in eight countries/economies (Albania, Jamaica*, Macao [China], Montenegro, New Zealand*, North Macedonia, Peru and Qatar) advantaged schools were more likely than disadvantaged schools to forbid the use of cell phones on their premises.

On average across OECD countries and in 27 countries/economies, private schools were more likely than public schools to restrict the use of cell phones. The disparity was the largest in Georgia, Jamaica*, Lithuania, the Philippines, Serbia and Sweden. In six countries/economies, public schools were more likely than private schools not to allow the use of cell phones; the largest disparities were observed in Brunei Darussalam and the United Arab Emirates.

Box II.5.1. Digital devices and distraction

How students use digital resources, and the types of digital devices they rely on, shape the extent to which students might become distracted when using digital technologies. Evidence from PISA 2022 shows that 30% of students reported becoming distracted by using digital devices in mathematics lessons (Figure II.3.4); and students who use digital devices in mathematics class more frequently reported that they are likely to become distracted, after accounting for students' and schools' socio-economic profile and students' mathematics performance (Figure II.5.9). Indeed, students can easily be tempted to multitask, shift their attention to other information or tools available on the devices, or use the Internet browser for non-academic activities when using these devices (Amez and Baert, 2020[4]; Beland and Murphy, 2016[5]; UNESCO, 2023[6]). Students might not be able to navigate through digital environments smoothly and thus can easily lose concentration. Evidence from PISA 2018 showed that, on average across OECD countries, 68% of students displayed limited or no digital navigation skills (OECD, 2021[7]).

Further analyses examining the type of digital technologies students use at school show that students who used smartphones at school more frequently reported that they were likely to become distracted while using digital devices in mathematics lessons (Table II.B1.5.44). Relying on students' cell phones at school increases the risk that students use their phones in class for non-educational activities or get distracted by notifications. By contrast, the use of educational software at school has a more moderately negative association with students' concentration (Table II.B1.5.42), suggesting that the use of digital resources with pedagogical intent makes a difference, although it does not completely eliminate distractions.

Indeed, students appear to be less distracted when they switch off notifications from social networks and apps on their digital devices during class, when they do not have their digital devices open in class to take notes or search for information, and when they do not feel pressured to be on line and answer messages while in class (Table II.B1.5.44). Policies that target students' skills and behaviours when interacting with digital environments are critical in limiting distractions, particularly since students can also become distracted by using other types of digital devices besides cell phones. These findings are consistent with previous evidence from PISA 2018 showing that student-led uses of digital devices in class were negatively associated with student performance in reading, science and mathematics, whereas teacher-led or combined student-teacher uses of digital technologies tend to be more effective (OECD, 2022[8]).

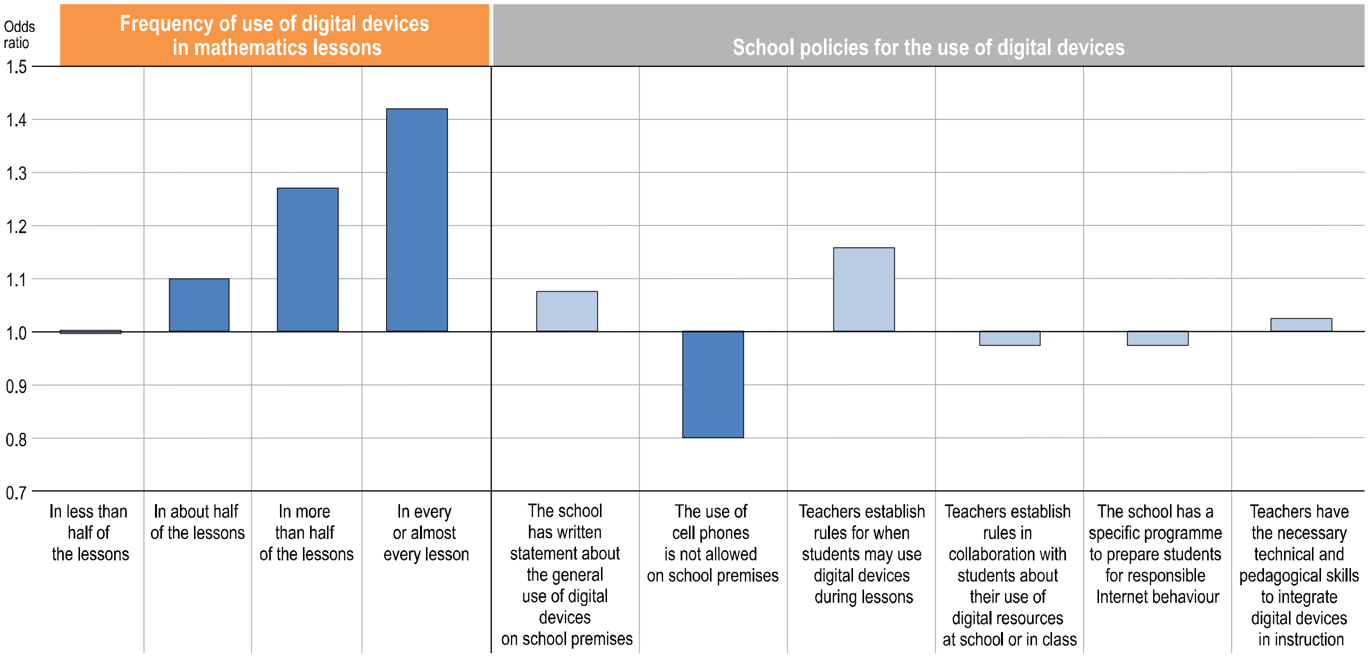
Many schools introduced guidelines addressing the problem of distraction when students use digital devices in school (Table II.B1.5.35). Whether these are written statements about the general use of devices, rules established by teachers concerning students' use of these devices during lessons, rules established by teachers in collaboration with students, or programmes to prepare students for responsible Internet behaviour, these types of school policies show little association with the likelihood of students becoming distracted when using digital devices in class. Additional analyses suggest that this also holds for school policies that specifically target the use of digital resources in mathematics instruction (for example, the amount of time computers are used in mathematics lessons or using specific mathematics computer programs) (Table II.B1.5.43).

The content and design of such rules, as well as the capacity to enforce them, likely play a critical role in determining their effectiveness. When a school's written statements or rules are too generally designed, imprecise or lenient, they are unlikely to support effective teaching and learning with digital devices. Schools and teachers also need the time and capacity to enforce such rules. Teachers are probably unable to monitor what their students are doing with their digital devices in class, even when they are used as part of the lesson. Indeed, teachers' preparedness in integrating digital devices in instruction bears little relationship with the possibility of students becoming distracted while using digital devices during mathematics class (Figure II.5.9).

At the same time, students are less likely to report being distracted by using digital devices in mathematics lessons when the use of cell phones on school premises is banned. While mobile phones have expanded access to learning resources and provide flexibility in using them (particularly in classrooms where other devices may not be available), they may also be the source of distractions for students. Banning cell phones in class can help reduce distractions – especially when those bans are enforced. Analyses based on PISA 2022 data show that school phone bans appear to be most effective in reducing distraction in education systems where students' use of smartphones is substantially lower in schools where smartphones are banned on school premises than in schools where they are not banned (as a proxy for enforcement) (Figure II.5.10). However, on average across OECD countries, 29% of students in schools where the use of cell phones is banned reported using a smartphone several times a day, and an additional 21% reported using one every day or almost every day at school (Table II.B1.5.39). This finding illustrates that cell phone bans are not always effectively enforced. Banning cell phones at school may also be related to students' use of digital devices outside of school. In Canada*, Chile, Indonesia, Korea, New Zealand*, Peru, the Philippines, the Slovak Republic and Chinese Taipei, when cell phones are banned at their school, students are less likely to turn off notifications from social networks and apps on their digital devices when going to sleep, even after taking into account students' and schools' socio-economic profile and students' performance (Table II.B1.5.45).

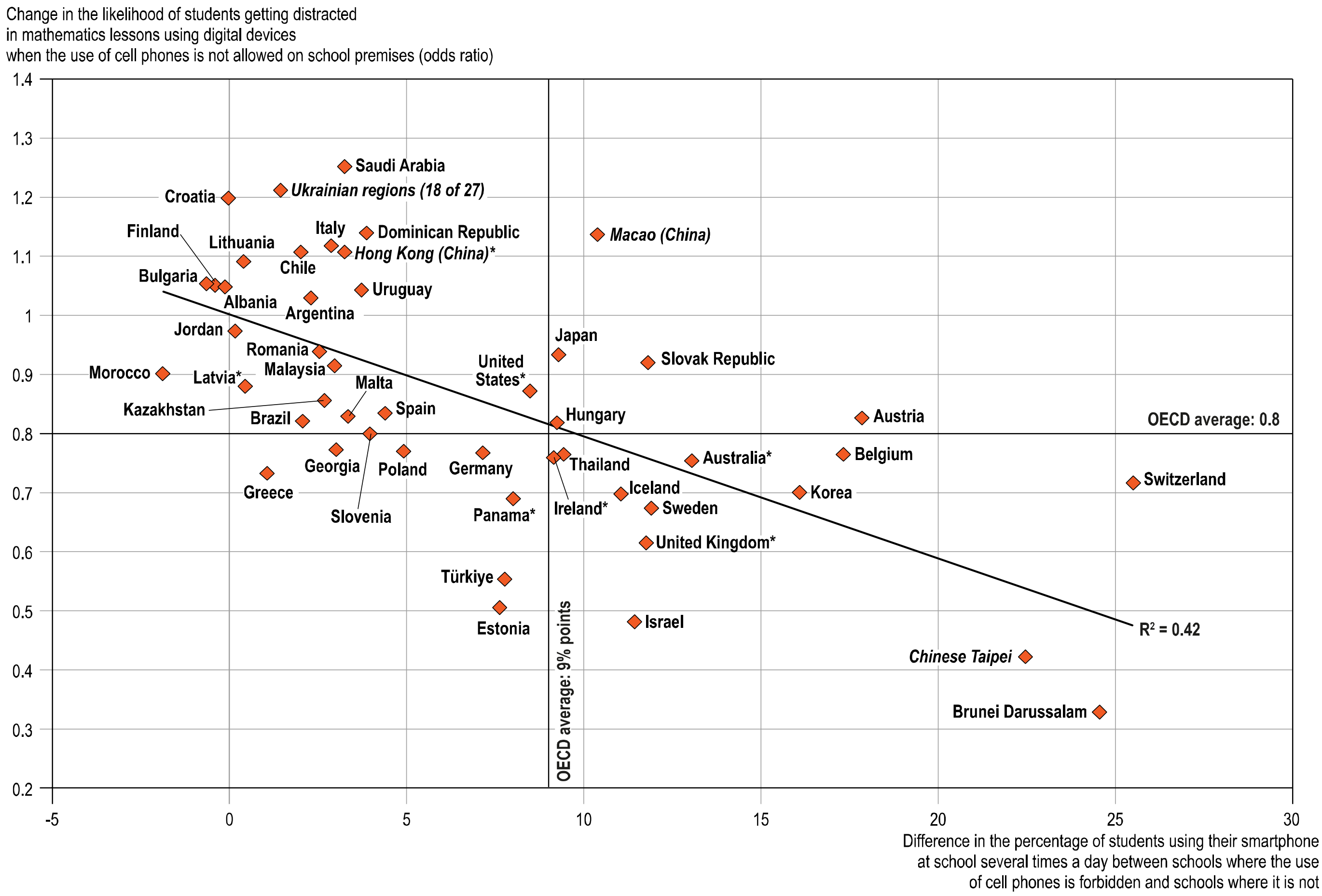
Figure II.5.9. Digital devices, distraction and school policies

Change in the likelihood of students becoming distracted by using digital devices in mathematics lessons when students reported that they use their smartphone at school and school principals reported the school's policy on smartphone use; OECD average



Note: Statistically significant differences are shown in a darker tone (see Annex A3).
Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Figure II.5.10. Digital devices, distraction and cell phone bans



Note: Country/Economy coefficients for the change in the likelihood of students becoming distracted with digital devices in mathematics class when the use of cell phones is not allowed on school premises are derived from the analysis in Figure II.5.9.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Components of resilience: Ensuring sufficient, but not excessive, time for learning

PISA 2022 found that in higher-performing education systems, most students spend a moderate amount of time in regular lessons.[9] Systems where more students spend 20 hours or less per week in regular school lessons (in all subjects combined) tended to score lower in mathematics (Table II.B1.5.102). Education systems where more students spend 39 hours or more per week in regular lessons (in all subjects combined) also tended to score lower in mathematics. These relationships were observed across OECD countries and across all countries/economies, even after accounting for per capita GDP.

Education systems where more students spend up to two hours per day doing homework tended to score higher in mathematics, on average (Table II.B1.5.102). By contrast, those systems where more students spend three hours or more on homework tended to score lower in mathematics. These relationships were observed both across OECD countries and across all countries/economies, even after accounting for per capita GDP. Education systems where more students spent up to an hour per day on homework tended to show a greater sense of belonging at school; but systems where students spent more than two hours per day on homework showed a weaker sense of belonging, after accounting for per capita GDP.

With these correlational results, it cannot be concluded that studying for longer is detrimental to students' learning. In systems with more low-performing students, students may need more time to master content. In these cases, more hours of learning may be for remedial purposes. Some systems may lack high-quality teachers and educational material, as discussed above, which can result in both lower student performance and longer learning hours. While further studies are necessary to fully understand why there is a negative relationship between more learning hours and performance, Figure II.5.11, which shows the ratio of PISA score points to dedicated learning hours in and outside of school, helps identify those systems that show outstanding learning time and performance patterns.[10]

The average score in mathematics associated with the number of hours spent in regular school lessons and doing homework varied between 8 and 19 points across all countries/economies (Figure II.5.11). On average across OECD countries, in 2022 students spent 24 hours in regular lessons and 10.8 hours doing homework per week (Tables II.B1.5.52 and II.B1.5.56). The average score-point increase in mathematics performance per hour of total learning time across OECD countries was 14 points. In Switzerland, the United States*, the Czech Republic, Finland, New Zealand*, the Slovak Republic, Canada*, the Netherlands, Korea, Denmark and Norway (in descending order), the score-point improvement in mathematics performance per hour of total learning time amounted to 15 points or more; in Morocco, Argentina, Colombia, Costa Rica, Uzbekistan, Mongolia, Peru, Albania and Cambodia (in ascending order), the improvement amounted to less than 10 score points.

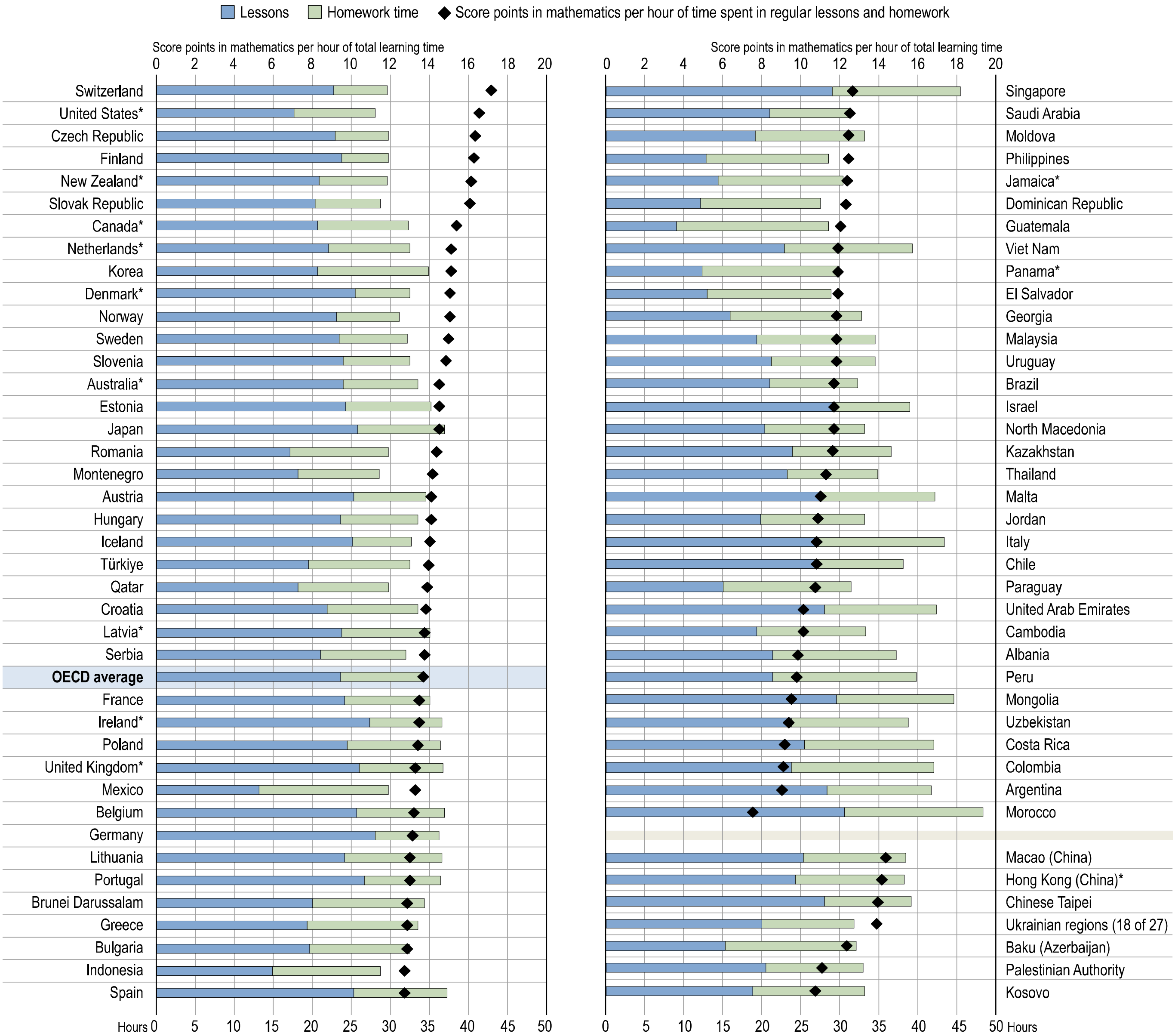
Investing more hours in regular lessons and on homework is not always related to higher scores

PISA measures learning time as the number of hours per week that students are required to attend regular school lessons.[11] In 2022, learning time in regular school lessons varied across countries. In Morocco, Singapore, Israel, Mongolia, Argentina, Chinese Taipei, Germany, the United Arab Emirates, Malta, Ireland* and Italy (in descending order) students attended regular lessons for more than 27 hours per week (Table II.B1.5.52), and in 24 countries/economies, students spent less than 20 hours per week in regular lessons.

Similar to the system-level relationship between learning time in regular lessons and student performance, on average across OECD countries, performance in mathematics is positively associated with each additional hour of regular lessons per week, up to 27 hours per week (Table II.B1.5.55). Students who spent 20 hour or less per week in regular lessons scored 432 points in mathematics. Students who spent between 20 and 24 hours per week in regular lessons scored 42 points higher, on average, after accounting for students' and schools' socio-economic profile. The relationship remained positive but not as strong as the number of hours in regular lessons increased: students who spent between 24 and 27 hours per week in regular lessons scored 7 points higher, on average, than students who spent between 20 and 24 hours, after accounting for students' and schools' socio-economic profile.[12] Figure II.5.12 shows case studies of countries/economies where the association between time spent in regular lessons and mathematics performance are markedly different. For example, students in Brunei Darussalam, the Czech Republic, Slovenia and Spain who spent up to 27 hours in regular lessons scored higher in mathematics, while students in Greece, Israel, Japan and Morocco who spent up to 32 hours in regular lessons scored higher in mathematics.

Figure II.5.11. Mathematics performance and time spent on learning activities

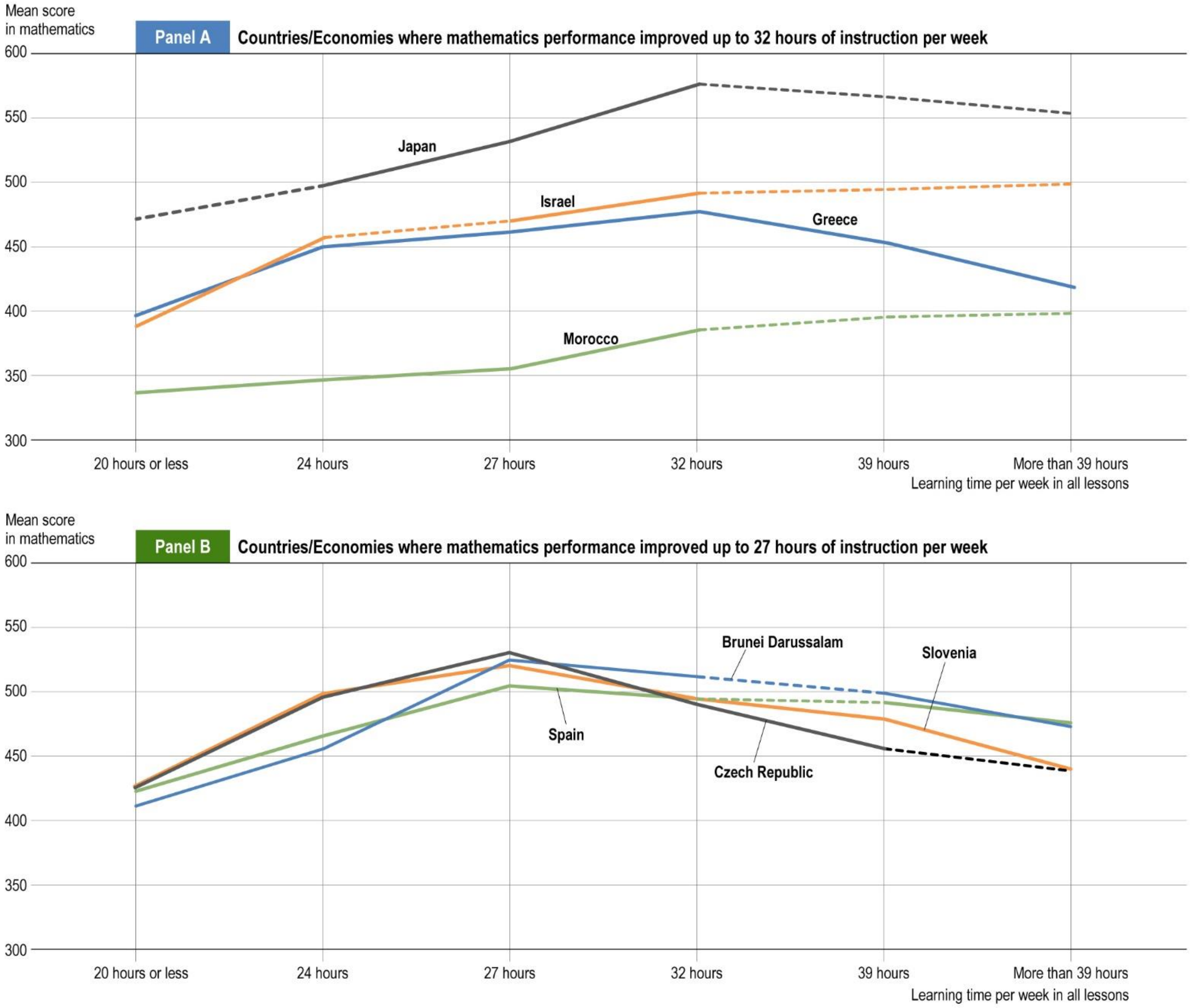
Based on students' reports



Countries and economies are ranked in descending order of the score points in mathematics per hour of total learning time.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 5 and Table I.B1.2.1.

Figure II.5.12. Time spent in regular lessons and mathematics performance

Based on students' reports; selected cases



Notes: For each learning time displayed, the time range covered starts where the previous range ends; for example, for 24 hours, learning time could be 24 hours or less but more than 20 hours.
Differences between categories that are not statistically significant are marked with dotted lines (see Annex A3).
Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

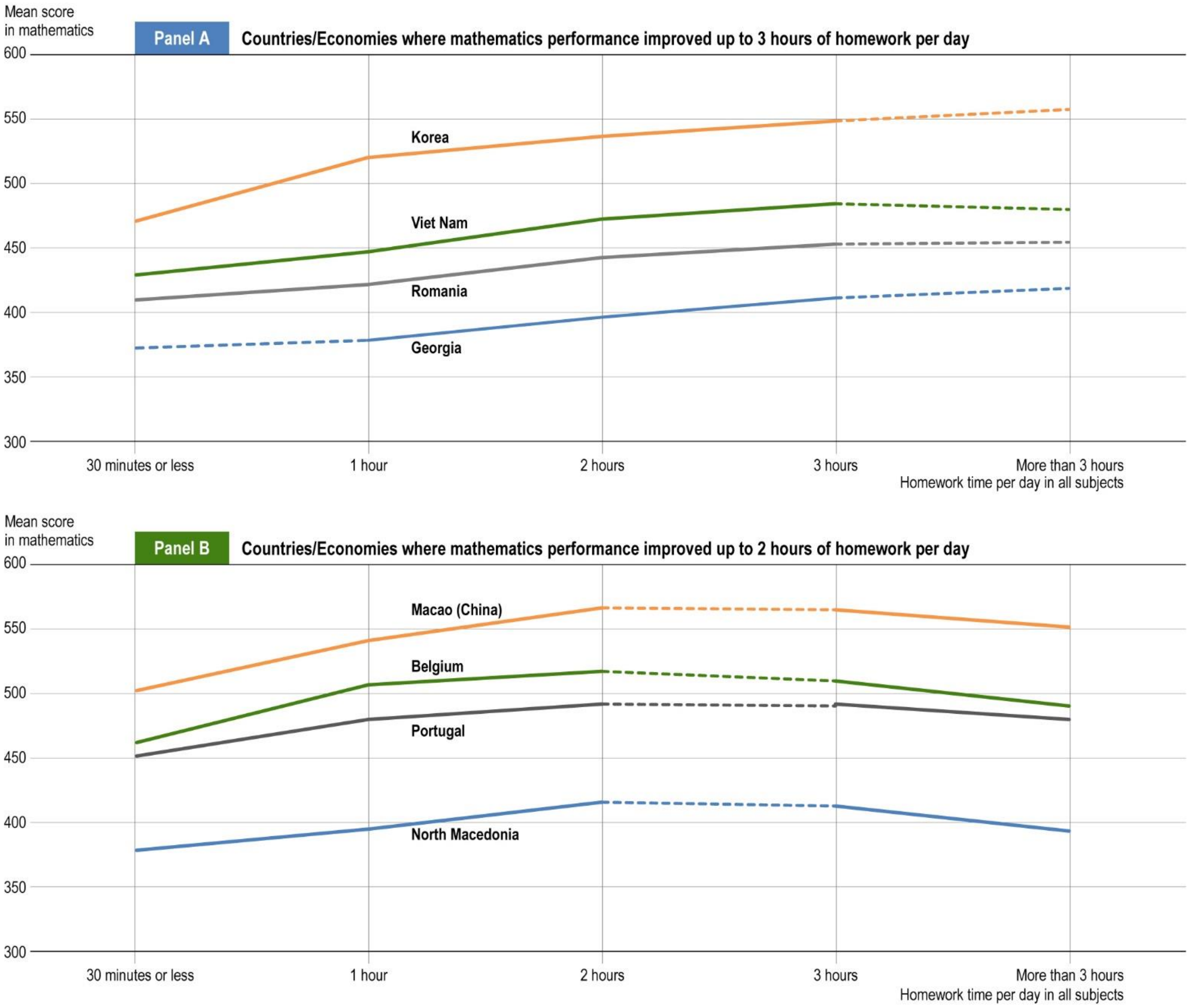
PISA 2022 collected information about how much time per day students spend doing homework[13] during a typical school week.[14] On average across OECD countries, students reported that they spend 1.5 hours per day on homework during a typical school week (Table II.B1.5.56): 27% of students spent up to half an hour a day on homework, 19% spent between half an hour and an hour a day, 23% spent between one and two hours per day and 31% spent more than two hours per day. In 54 countries/economies, students spent up two hours per day on homework. In Colombia, Guatemala, Morocco, Panama* and Peru students spent on average more than two and a half hours per day on homework. By contrast, students in the Czech Republic, Finland and Switzerland spent less than an hour per day on homework.

Performance in mathematics was positively associated with time spent on homework, on average across OECD countries, when students spent up to two hours per day on homework (Table II.B1.5.61). Students who spent between half an hour and an hour per day on homework scored 16 points higher in mathematics than students who spent less than half an hour on homework per day, on average and after accounting for students' and schools' socio-economic profile. The relationship remained positive but weaker after one hour per day of homework. Students who spent between one and two hours per day on homework scored two points higher in mathematics, on average, than students who spent between half an hour and an hour per day, after accounting for students' and schools' socio-economic profile. Above two hours, time spent on homework was negatively associated with mathematics performance. Figure II.5.13 shows case studies of countries/economies where the association between time spent on homework and mathematics performance are notably different. For example, students in Brunei Darussalam, Macao (China), the Netherlands*, North Macedonia and Portugal who spent up to 2 hours on homework scored higher in mathematics, while students in Georgia, Korea, Romania and Viet Nam who spent up to 3 hours on homework scored higher in mathematics

This result, showing an association between longer learning time in regular lessons and homework, on the one hand, and lower performance, on the other, may imply that low-performing students need more time to master the same content or complete the same homework as high-performing students. Most parents would like to see their children acquire academic knowledge and skills, and also have enough time to participate in non-academic activities, such as sports, theatre or music, playing with friends, volunteering – all of which develop children's social and emotional skills, and contribute to their well-being. Those students who spend long hours in class and on homework and still fail to achieve may need individualised support rather than more learning time.

Figure II.5.13. Time spent doing homework in all subjects, and mathematics performance

Based on students' reports; selected cases



Notes: For each homework time displayed, the time range covered starts where the previous range ends; for example, for 1 hour, homework time could be 1 hour or less but more than 30 minutes.
Differences between categories that are not statistically significant are marked with dotted lines (see Annex A3).
Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

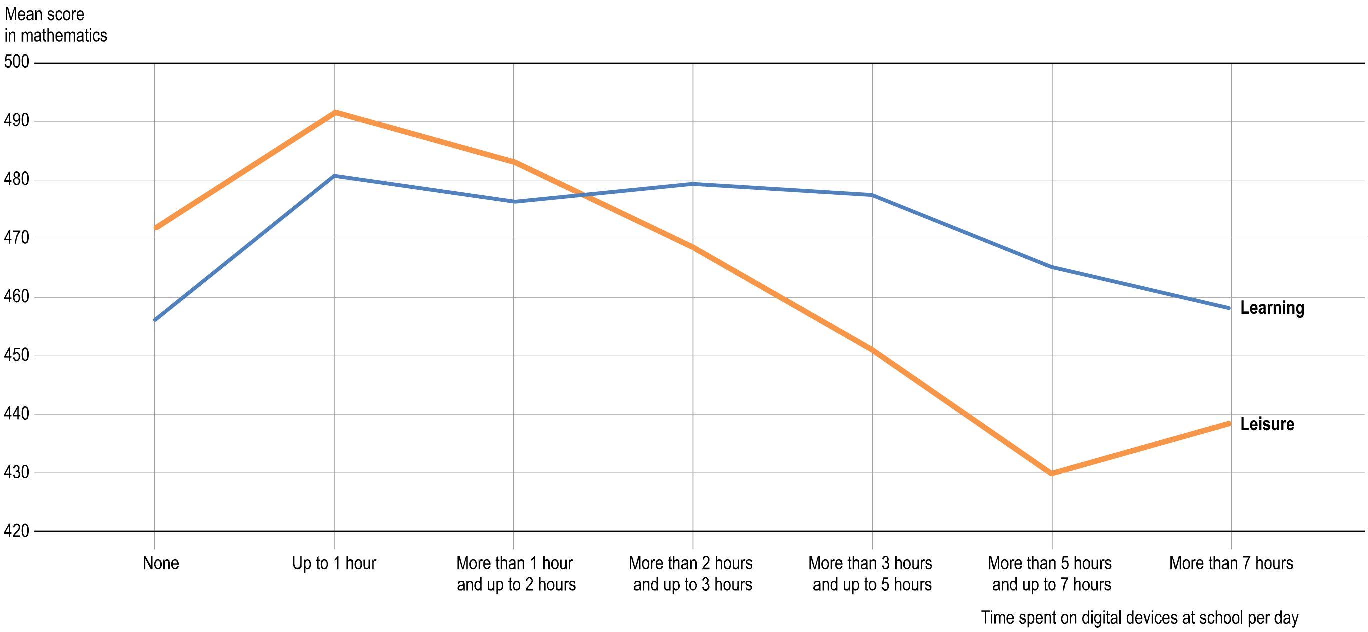
Moderate use of digital devices in school is related to higher performance

PISA 2022 asked students to report the number of hours they spend per day on digital devices for learning and leisure activities at school.[15] Figure II.5.14 shows the average mathematics performance of students according to the time they spent on digital devices for learning or leisure at school.

On average across OECD countries, students who did not spend time on digital devices for learning at school scored 456 points in mathematics (14% of students were in this category) (Tables II.B1.5.64 and II.B1.5.62). Students who spent up to one hour per day on digital devices for learning activities in school (31% of students) scored 25 points higher in mathematics than students who spent no time, on average across OECD countries. Even after accounting for students' and schools' socio-economic profile, students scored 14 points higher, and this positive relationship is observed in over half of all systems with available data (Table II.B1.5.66). However, on average across OECD countries, students who spent between 5 and 7 hours per day on digital devices for learning activities in school (7.8% of students) scored 12 points lower than students who spent between 3 and 5 hours per day; after accounting for students' and schools' socio-economic profile, the former group of students scored 10 points lower. Students who spent over 7 hours per day on digital devices for learning activities in school scored even lower.

Figure II.5.14. Time spent on digital devices at school and mathematics performance

Based on students' reports; OECD average



Note: Differences between categories are all statistically significant (see Annex A3).Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

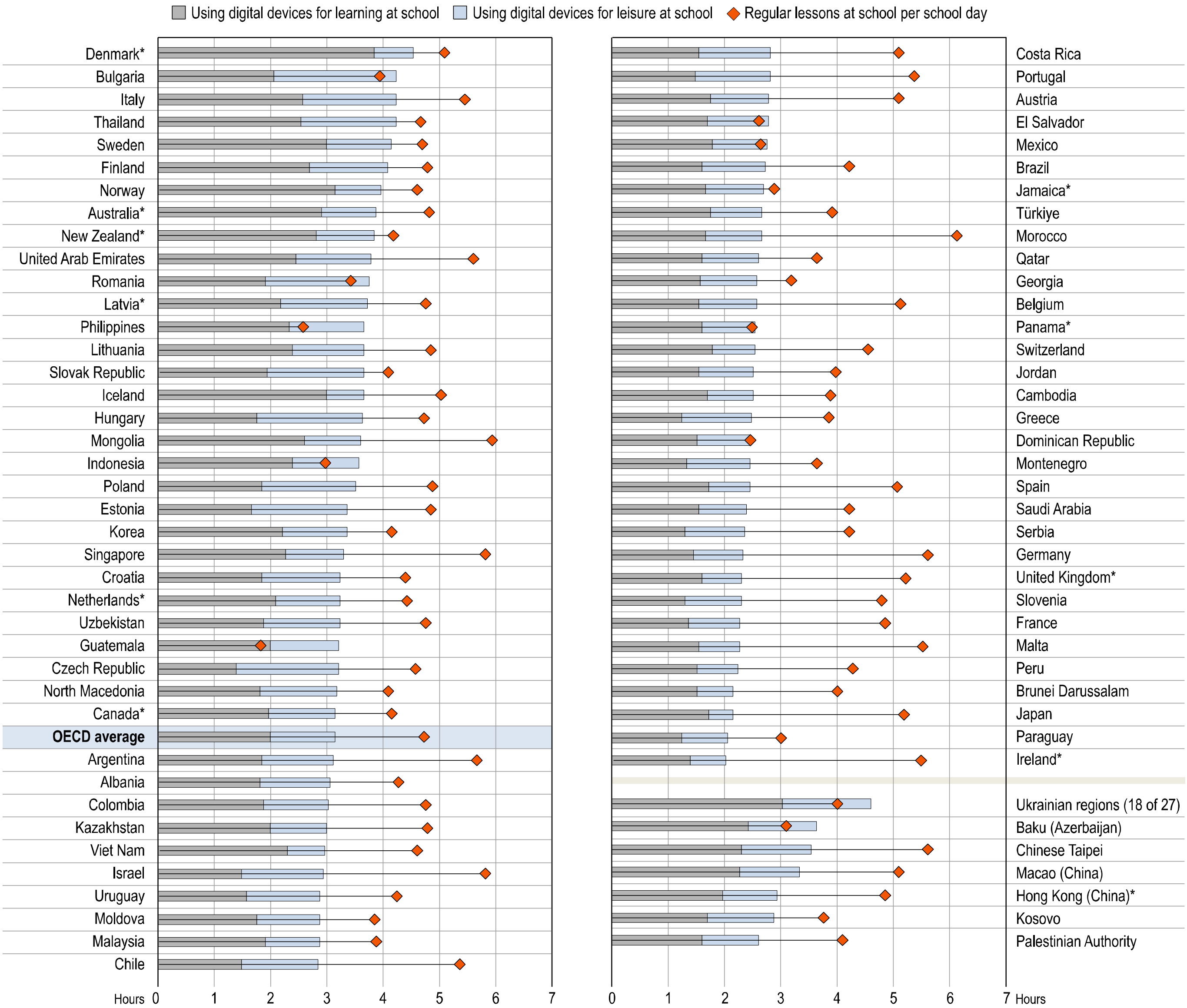
When it comes to the use of digital devices for leisure activities, on average across OECD countries, students who did not spend time on digital devices for leisure at school (19% of students were in this category) (Table II.B1.5.62) scored 472 points in mathematics. Students who spent up to one hour per day on digital devices for leisure activities (31% of students) scored 20 points higher in mathematics than students who spent no time. The difference in performance is equal to 10 points even after accounting for students' and schools' socio-economic profile; and a positive relationship is observed in around half of all systems with available data (Table II.B1.5.67). But students who spent more than an hour on digital devices for leisure scored lower in mathematics.

These findings are in line with the "Goldilocks hypothesis" (Przybylski and Weinstein, 2017[9]) that moderate use of digital devices is not intrinsically harmful and can even be positively associated with performance. It is the overuse and/or misuse of digital devices that is negatively associated with performance. These findings confirm the need for better guidelines on how to use digital devices at school.

The amount of time students spent on digital devices at school[16] in 2022 varied widely across education systems (Table II.B1.5.62). Figure II.5.15 shows the time spent on digital devices at school for learning and leisure activities and contrasts it to the time spent in regular lessons per day. It is important to keep in mind that students may use digital devices at school but outside of regular lessons. On average across OECD countries, students reported spending 2.0 hours per day on digital devices for learning activities and 1.1 hours per day on digital devices for leisure at school (Table II.B1.5.62). Students in Chile, the Czech Republic, France, Germany, Greece, Ireland*, Israel, Montenegro, Paraguay, Portugal, Serbia and Slovenia spent less than 1.5 hours per day learning on digital devices at school, while students in Denmark*, Norway and Ukrainian regions (18 of 27) spent more than 3 hours per day.

Figure II.5.15. Time spent at school in regular lessons and on digital devices

Time spent per day by students (in hours)



Notes: Only countries and economies with available data are shown.

Time spent in regular lessons at school per school day refers to the time spent in regular lessons per school week divided by five (with the assumption there are five days per school week).

Countries and economies are ranked in descending order of the time spent using digital devices at school for both learning and leisure.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Box II.5.2. Student well-being, performance and use of digital devices

On average across OECD countries, 45% of students reported feeling nervous/anxious when they did not have their digital devices near them (Figure II.5.16). On average across OECD countries and in all countries/economies with available data, students who reported that they feel nervous/anxious when they don't have their digital devices near them also reported less satisfaction with life, and had lower values in the index of resistance to stress and in the index of emotional control, even after accounting for students' and schools' socio-economic profile (Figure II.5.17). The relationship between students' feeling nervous/anxious when they don't have their digital device near them was negatively correlated with mathematics performance, on average across OECD countries and in 45 countries/economies, even after accounting for students' and schools' socio-economic profile (Table II.B1.5.81). Only in Brunei Darussalam, Hong Kong (China)*, Indonesia, Kazakhstan, Malaysia, Chinese Taipei and Thailand was this association positive.

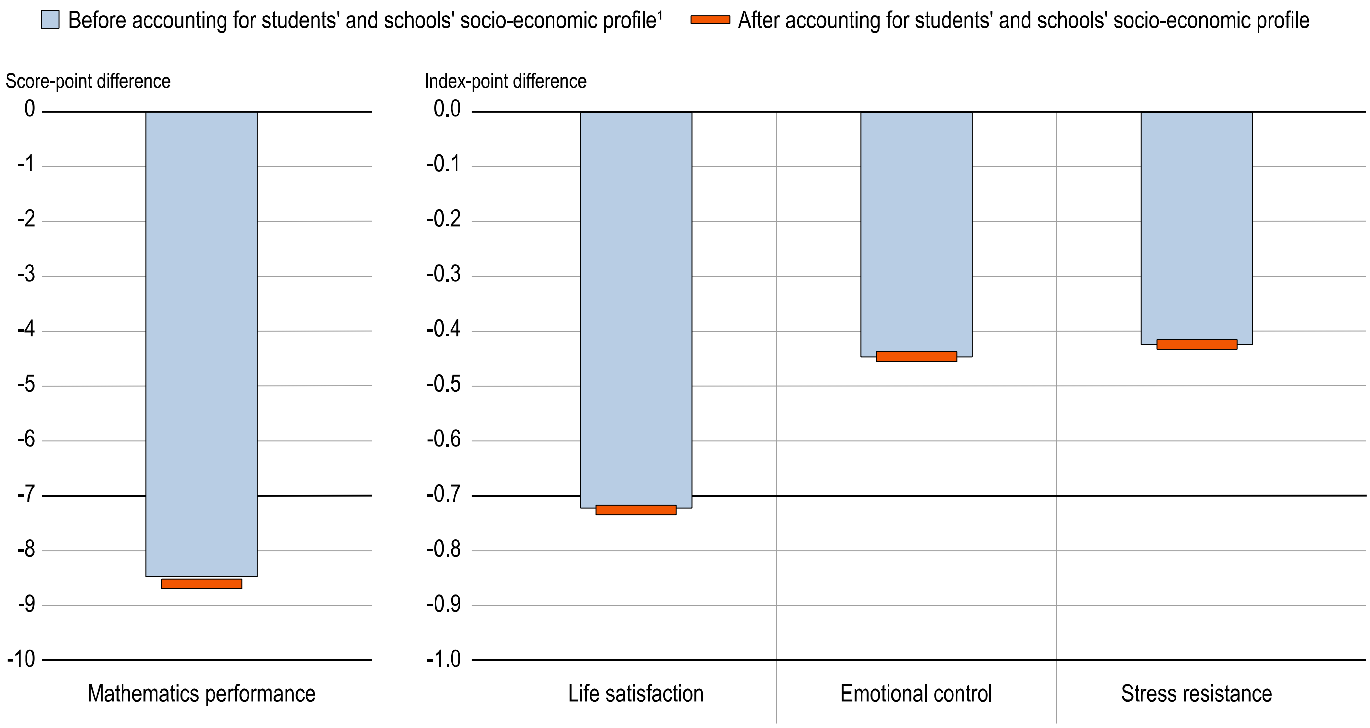
Figure II.5.16. Feeling nervous/anxious when digital devices are not near

Based on students' reports

Countries and economies are ranked in descending order of the percentage of students who never or almost never feel nervous/anxious when they don't have digital devices near them. Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Figure II.5.17. Feeling nervous/anxious when digital devices are not near and selected student outcomes

Based on students' reports; OECD average



1. The socio-economic profile is measured by the PISA index of economic, social and cultural status.

Notes: All values are statistically significant before and after accounting for students' and schools' socio-economic profile (see Annex A3).

The results show the difference between students who feel nervous/anxious less than half of the time, about half of the time, more than half of the time or all or almost all of the time when they don't have their digital devices near them compared to those who never or almost never feel nervous/anxious when they don't have their digital devices near them.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Components of resilience: Establishing schools as hubs for social interaction

The PISA 2022 results show that schools can serve as hubs not only for students' learning but also for well-being. In high-performing education systems, schools tend to provide a room where students can do their homework, and school staff provides help with students' homework (Table II.B1.5.102). This relationship is observed both across OECD countries, and across all countries/economies, even after accounting for per capita GDP.

PISA results also show that, across OECD countries, an increase in peer-to-peer tutoring is associated with an increase in students' sense of belonging at school. In systems where more students in 2022 than in 2018 attended schools that offer peer-to-peer tutoring, students' sense of belonging at school strengthened during the period (Table II.B1.5.105).

School support for homework and study varies across systems

Of the three kinds of school support for homework and study after regular school hours – a room where students can do their homework, staff providing help, and peer-to-peer tutoring – the most frequently observed is having a room where students can do their homework. On average across OECD countries in 2022, 74% of students attended a school that provides a room where students can do their homework (Table II.B1.5.82), 62% of students attended a school where staff provides help with homework, and 51% of students attended a school that provides peer-to-peer tutoring. In Canada*, France, Japan, Macao (China), the Netherlands*, Singapore, Sweden and the United Kingdom* at least 90% of students had access to a study room after regular hours. In 18 countries/economies, 75% of students or more were in schools where staff can help them with homework. Of those countries/economies, in Canada*, Kazakhstan, Singapore, Sweden, Ukrainian regions (18 of 27), the United Kingdom*, the United States* and Viet Nam 90% of students or more attended such schools. In 20 countries and economies, 75% of students or more were in schools with peer-to-peer tutoring after regular hours; in Macao (China), Thailand and Viet Nam 90% of students or more attended such schools.

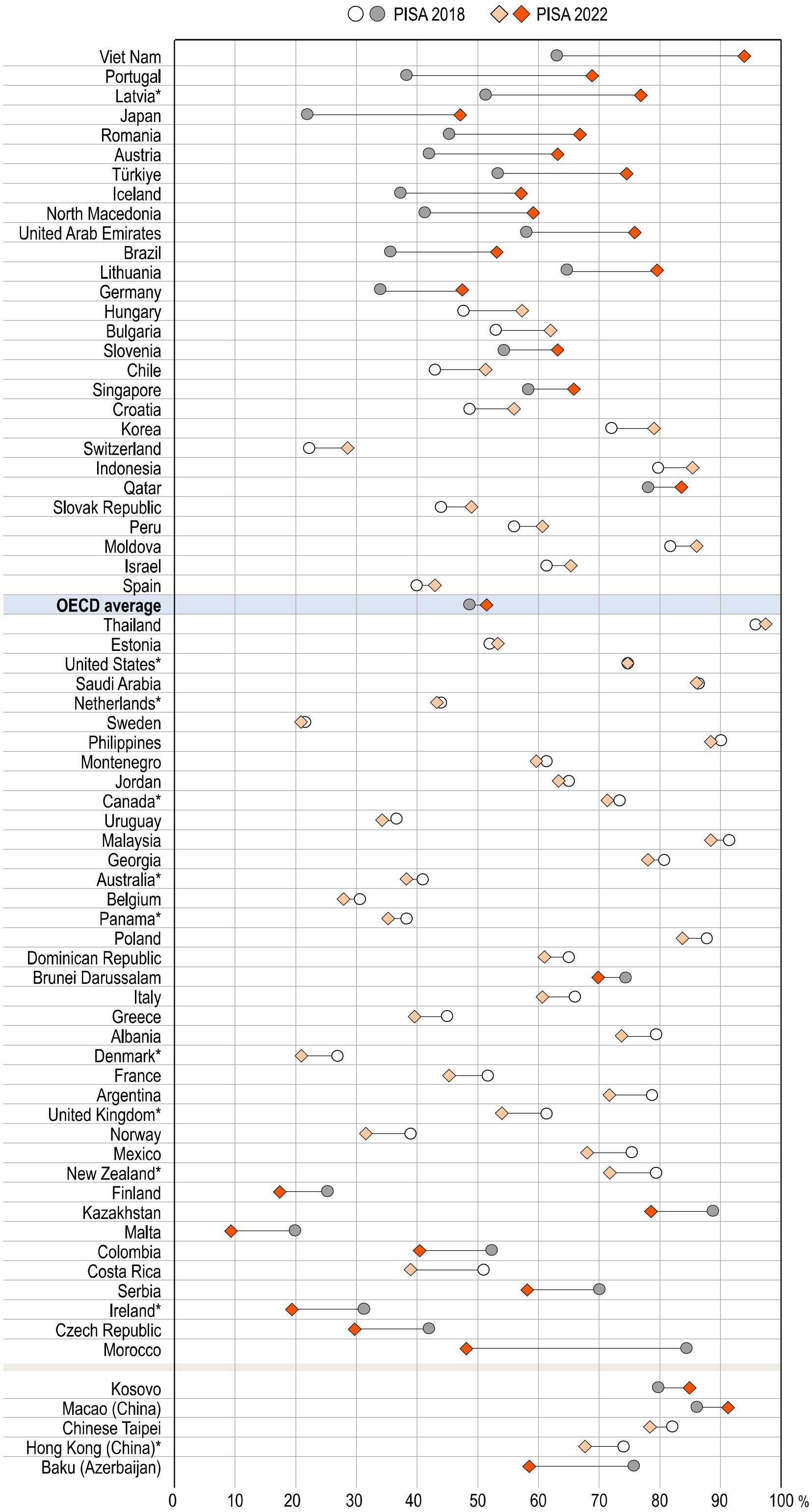
In 19 education systems, peer-to-peer tutoring became more prevalent between 2018 and 2022

The share of students in schools that provided a room for homework or where staff provides help with homework remained stable between 2018 and 2022, but the share of students in schools that offer peer-to-peer tutoring increased by three percentage points between 2018 and 2022, on average across OECD countries (Figure II.5.18). This proportion grew in 18 countries/economies and shrank in 11 countries/economies out of the 73 countries/economies for which data are available. In Viet Nam, Portugal, Latvia*, Japan, Romania, Austria, Türkiye and Iceland (in descending order), the share increased by more than 20 percentage points; but in Morocco, Baku (Azerbaijan), the Czech Republic, Ireland*, Serbia, Colombia and Malta (in descending order) the share decreased by more than 10 percentage points.

Differences related to socio-economic status were greater regarding the availability of peer-to-peer tutoring at school (Table II.B1.5.85). On average across OECD countries, the share of students in advantaged schools whose school provides peer-to-peer tutoring was about 13.5 percentage points larger than the share of students in disadvantaged schools whose school provides this form of study help. In 21 education systems, this disparity in favour of students in advantaged schools was statistically significant; in 8 education systems the disparity favoured students in disadvantaged schools.

Figure II.5.18. Change between 2018 and 2022 in peer-to-peer tutoring at school

Percentage of students in schools that provide peer-to-peer tutoring; based on principals' reports



Notes: Only countries and economies with available data are shown.

Statistically significant differences are shown in a darker tone (see Annex A3).

Countries and economies are ranked in descending order of the change in peer-to-peer tutoring between PISA 2018 and PISA 2022.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 5.

Table II.5.1. Investments in a solid foundation for learning and well-being figures

Figure II.5.1	Resources covered in PISA 2022
Figure II.5.2	Mathematics performance and spending on education
Figure II.5.3	Change between 2018 and 2022 in shortage of education staff and material resources
Figure II.5.4	Shortage of education staff and school characteristics
Figure II.5.5	Certified teachers and mathematics performance
Figure II.5.6	Shortage of education staff and material resources and mathematics performance
Figure II.5.7	Shortage of educational material and school characteristics
Figure II.5.8	Relationship between preparedness for digital learning, availability of computers and school guidelines
Figure II.5.9	Digital devices, distraction and school policies
Figure II.5.10	Digital devices, distraction and cell phone bans
Figure II.5.11	Mathematics performance and time spent on learning activities
Figure II.5.12	Time spent on regular lessons and mathematics performance
Figure II.5.13	Time spent doing homework in all subjects, and mathematics performance
Figure II.5.14	Time spent on digital devices at school, and mathematics performance
Figure II.5.15	Time spent at school in regular lessons and on digital devices
Figure II.5.16	Feeling nervous/anxious when digital devices are not near
Figure II.5.17	Feeling nervous/anxious when digital devices are not near and selected student outcomes
Figure II.5.18	Change between 2018 and 2022 in peer-to-peer tutoring

StatLink https://stat.link/6jbfey

Notes

1 Averages using the Word Bank's classification of income groups, based on gross national income (GNI) per capita in 2021, calculated using the World Bank Atlas method.

2 Correlation between the change, between 2018 and 2022, in the proportion of students in schools whose principal reported that the school's capacity to provide instruction is hindered to some extent or a lot by inadequate or poorly qualified teaching staff (Table II.B1.5.4) and the change, during the same period, in the proportion of full-time teachers in schools attended by 15-year-olds (Table II.B1.5.98).

3 The literature clearly shows that effective teachers are the foundation on which successful education systems are built (OECD, 2005[24]; OECD, 2010[25]; OECD, 2019[33]; OECD, 2020[32]) and that assisting staff play an essential role in supporting students, parents and teachers (Farrell et al., 2010[38]; Blatchford et al., 2011[41]; Masdeu Navarro, 2015[40]).

4 The goal of teacher certification is to guarantee that schools are staffed with quality teachers; but not all countries have a formal teacher certification process, and teacher shortages may lead some schools or countries to resort to hiring a larger proportion of uncertified teachers. In general, research finds a positive association between teacher certification and student achievement (Clotfelter, Ladd and Vigdor, 2006[12]; Goldhaber and Brewer, 2000[13]).

5 PISA measures the availability and quality of material resources in schools by asking school principals if their school's capacity to provide instruction is hindered by: a lack of educational material (i.e. textbooks, ICT equipment, library or laboratory materials); inadequate or poor-quality educational material; a lack of physical infrastructure (i.e.

building, grounds, heating/cooling systems, lighting and acoustic systems); or inadequate or poor-quality physical infrastructure.

6 Figures of variability were calculated using each ratio available in Tables II.B1.5.24 and II.B1.5.27.

7 Digital technologies hold great potential for enhancing learning and teaching, including by creating new ways of engaging with content, peers and teachers, personalising instruction and reducing teachers' administrative work (Singh and Thurman, 2019[27]; van der Vlies, 2020[23]; OECD, 2021[35]). But to be able to tap this potential and use these technologies effectively, teachers and students need to be supported with dedicated policies (OECD, 2023[36]; Martin, Sun and Westine, 2020[42]; UNESCO, 2022[28]; OECD, 2019[37]).

8 Some of these aspects referred to the availability of professional and learning resources for teachers (e.g. professional resources to learn how to use digital devices and online learning-support platforms), while others referred to teachers' and the school's capacity to integrate digital devices into instruction (e.g. pedagogical and technical skills and technical assistance staff). Teachers' skills and online and professional resources are key components of schools' preparedness for digital learning, as are the time available for teachers to integrate digital technologies into their instructional practices, and incentives and support to teachers as they do so (OECD, 2023[36]).

9 The relationship between learning time and academic achievement is complex: additional learning time does not translate automatically into better outcomes (Gromada and Shewbridge, 2016[10]; Radinger and Boeskens, 2021[34]) and can differ widely depending on where (at school or outside of school) students learn and the tools (physical or digital) they use for learning.

10 The ratios between dedicated learning time and PISA scores can be interpreted in various ways. They can be an indication of the quality of a school system; they can also be indicative of the differences in learning time across education levels. For example, 15-year-olds in some education systems may be compensating for (or reaping the benefits of) the time spent learning in earlier stages of their education. Another explanation is that, to succeed academically, students in some education systems need to spend more time in "planned" or "deliberate" learning because they have fewer opportunities to learn informally outside of school.

11 To create measures of learning time, PISA 2022 asked each student to report the number of class periods she/he is required to attend in all subjects per week. The average number of minutes per class period attended by students in the modal grade for 15-year-old students was reported by school principals. See Annex A3 for more details.

12 Given the cross-sectional nature of the PISA surveys and the potential reverse causality between learning time and student outcomes (lower-performing students might need more hours in class to catch up), PISA cannot determine causality. However, these results are in line with recent research that shows that additional learning time has positive but diminishing effects on student performance, and that the benefits of additional learning time can be heterogeneous, depending on the type of student (e.g. low-performing or socio-economically disadvantaged) (Cattaneo, Oggenfuss and Wolter, 2017[14]; Patall, Cooper and Allen, 2010[15]; Gromada and Shewbridge, 2016[10]; Bellei, 2009[16]).

13 A longstanding and widely used instructional practice (Murillo and Martinez-Garrido, 2014[17]), homework can have a positive influence on student achievement (Cooper, Robinson and Patall, 2006[18]) and also on the development of attitudes towards achievement, such as motivation and self-regulation (Ramdass and Zimmerman, 2011[19]). However, critics argue that too much homework is ineffective, that it takes time away from leisure activities, or that it is stressful or harmful to children's development or family life (Baker and Letendre, 2005[20]; Dudley-Marling, 2015[21]). A key concern about homework is whether it might have the unintended consequence of widening the performance gap between students from different socio-economic backgrounds. PISA results show that socio-

economically advantaged students and students who attend socio-economically advantaged schools tend to spend more time doing homework (OECD, 2014[26]). The reasons disadvantaged students tend to spend less time doing homework may include the lack of a quiet space to study at home, the disparity in home Internet service and computer access, or possibly less parental support for their studies (Bolkan, 2017[22]).

14 To create measures of time spent on homework, PISA 2022 asked each student to report the time they spend on homework in a typical school week: "up to 30 minutes a day", "more than 30 minutes and up to 1 hour a day", etc., and "more than 4 hours a day". The average time spent on homework was converted to a continuous variable by taking the median of each time interval, and assuming 4.5 hours if the answer was "more than 4 hours".

15 To create measures of time spent on digital devices, PISA 2022 asked each student to report the number of hours they usually spend on digital devices per day during the current school year: "none", "up to 1 hour", "more than 1 hour and up to 2 hours", etc., and "more than 7 hours". The average time spent on digital devices was converted to a continuous variable by taking the median of each time interval, and assuming 7.5 hours if the answer was "more than 7 hours".

16 The use of digital devices at school can, on the one hand, augment learning opportunities by providing a way to check information and offer personalised learning. On the other hand, digital devices can have an adverse impact on students' cognitive skills and performance if they distract students and interfere with students' capacity to focus in class or acquire language skills (Poulain et al., 2018[29]; Adelantado-Renau et al., 2019[30]; Madigan et al., 2020[31]; OECD, 2023[11]; OECD, 2021[7]).

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6 Governing education systems

This chapter explores how education systems balance the autonomy they give schools with the choices they give parents who are choosing a school and the mechanisms they put in place to ensure that certain quality standards are met. The chapter also examines how all of the above are related to student performance and equity of school systems.

For Australia*, Canada*, Denmark*, Hong Kong (China)*, Ireland*, Jamaica*, Latvia*, the Netherlands*, New Zealand*, Panama*, the United Kingdom* and the United States*, caution is advised when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Over the past few decades, education systems have grown in complexity (Burns and Köster, 2016[1]). Many decisions that were previously made by education authorities are today shared among multiple actors, including principals, teachers, labour unions, local communities, parents and students themselves.

Partly fuelled by a growing demand for school choice, the private sector is also playing an increasingly important role in education (OECD, 2020[2]), even if the state remains the guarantor of compulsory education. In this regard, large corporations and multinationals are ever more present in the world of education, and not only as providers of online and foreign-language learning (Engwall, 2008[3]; Facts and Factors, 2022[4]; Healey, 2023[5]).

The decentralisation of school governance and the greater choice of school given to parents have usually been accompanied by the implementation of quality-assurance mechanisms. These measures are related to how student progress is assessed, how teacher practices are monitored, how school leaders are appraised, and how schools are held accountable for the quality of the education they provide. These quality-assurance mechanisms are common to responsive education systems (OECD, 2013[6]).

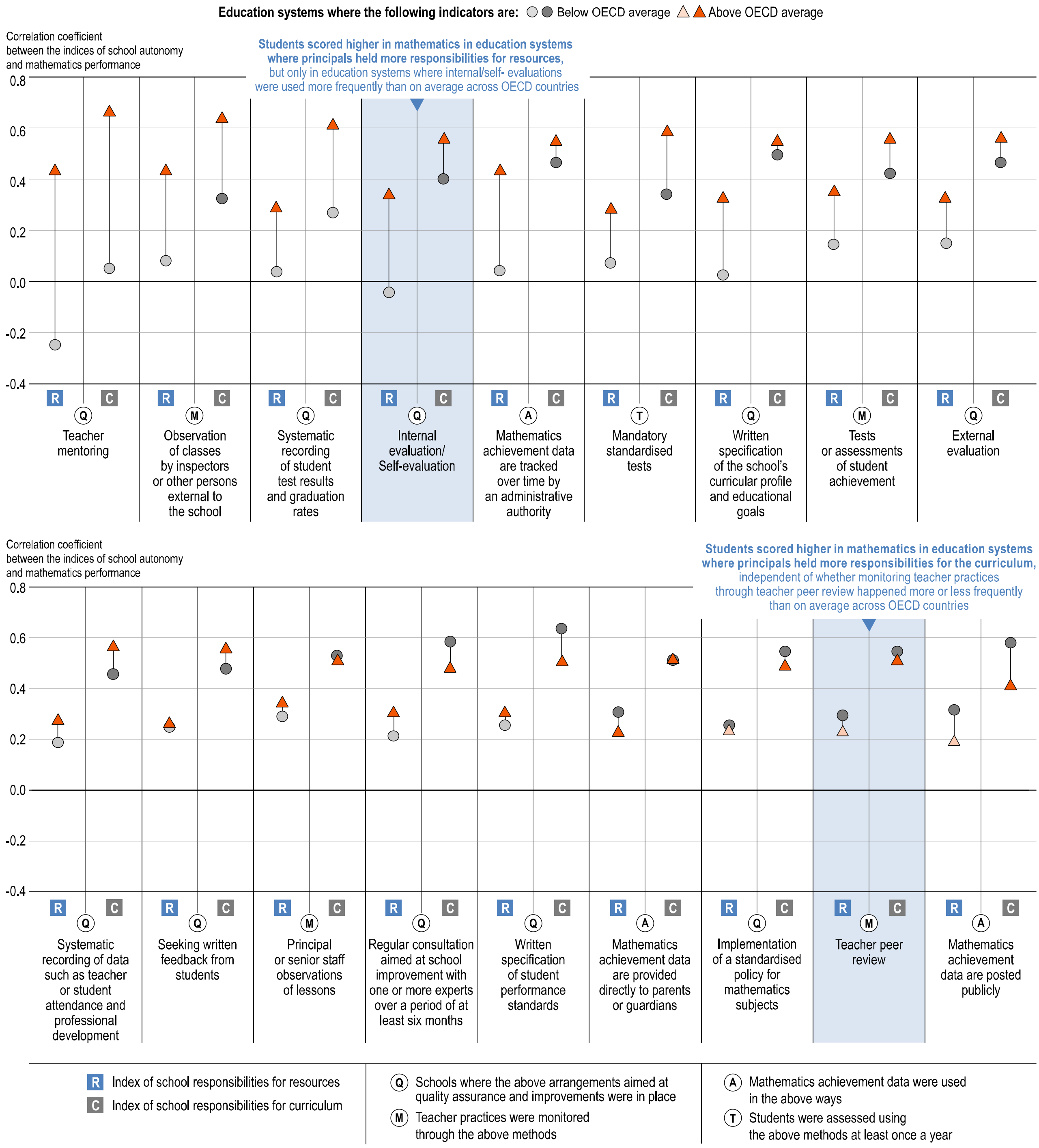
What the data tell us

- The top three quality-assurance mechanisms that appear to ensure that greater school autonomy is associated with better academic performance in mathematics are: teacher mentoring; monitoring teacher practice by having inspectors observe classes; and systematic recording of students' test results and graduation rates.
- Strong-performing school systems entrust principals and teachers with more responsibility.
- Students in disadvantaged public schools outperformed their peers in disadvantaged private schools; but this performance gap narrowed as schools moved up the socio-economic ladder.
- School fees appear to discourage some disadvantaged families from enrolling their children: a ten percentage-point increase in the share of school funding that comes from fees paid by parents was associated with a 3.5 percentage-point decrease in the share of students from disadvantaged homes.
- Principals of private schools were more likely than their counterparts in public schools to report that their school is prepared for remote learning – even after all the efforts public schools made to improve digital learning during the COVID-19 pandemic.

Understanding the conditions under which schools' increasing autonomy works in the interests of students is critical for education policy making. In this regard, PISA data show that the greater the autonomy granted to schools in an education system, the higher the average mathematics performance; but this was more the case when education authorities and schools had certain quality-assurance mechanisms in place (Figure II.6.1). More specifically, the quality-assurance mechanisms that appeared to ensure that greater school autonomy was associated with better academic performance in mathematics across PISA-participating countries/economies were (in descending order of importance):[1] teacher mentoring arrangements; the monitoring of teacher practices through the observation of classes by inspectors; schools' systematic recording of students' test results and graduation rates; internal or self-evaluations; the tracking of achievement data by an administrative authority; and the use of mandatory standardised tests at least once a year. Other quality-assurance arrangements, such as posting achievement data publicly, implementing a standardised policy for mathematics subjects, and monitoring teacher practices through teacher peer review, seemed to matter less.

Figure II.6.1. Quality-assurance mechanisms, school autonomy and mathematics performance

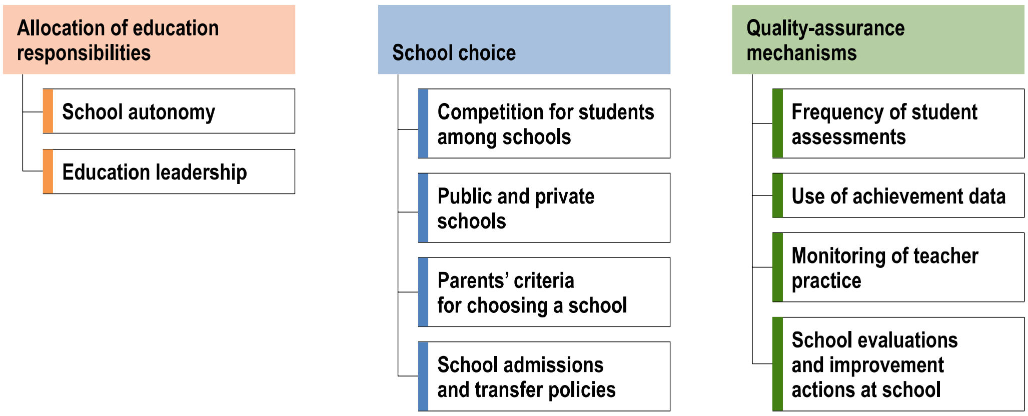
Results based on System-level analyses



1. Index of school responsibilities for resources. 2. Index of school responsibilities for curriculum. Q: Schools where the above arrangements aimed at quality assurance and improvements were in place. M: Teacher practices were monitored through the above methods. A: Mathematics achievement data were used in the above ways. T: Students were assessed using the above methods at least once a year. Notes: Results based on correlation analyses of all PISA-participating countries/economies. Statistically significant correlation coefficients are shown in a darker tone (see Annex A3). *The variables are ranked in descending order of the differences in the correlation coefficients between the education systems with values "above OECD average" and "below OECD average" in the quality-assurance indicators (indices of school responsibilities for resources and curriculum combined).* Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

This chapter begins by describing the distribution of responsibilities within education systems, focusing on the autonomy granted to schools, the degree to which teachers participate in school governance, and the role played by school leaders (Figure II.6.2). The chapter then considers four aspects of school choice: school competition; public and private schools; parents' criteria for choosing a school; and schools' admissions and transfer policies. The third section of the chapter examines the quality-assurance mechanisms put in place by education systems, including the assessment of student performance, the monitoring of teacher practices, and school evaluations and improvement actions.

Figure II.6.2. Governance of education systems as covered in PISA 2022



Allocation of education responsibilities

One of the most important decisions education authorities have to make is how responsibilities for education are distributed among different levels of government, and among education authorities, school leaders and educators. Over the past few decades, many education systems have given local authorities and schools greater responsibility, most notably in the areas of resource allocation, curriculum planning and student assessment (Burns and Köster, 2016[1]). Policy makers and experts have highlighted the benefits associated with granting schools greater autonomy, which almost always entails giving principals greater authority to make decisions and, in some cases, getting teachers involved in school management. Indicators in this section are mostly related to the performance (school autonomy) and fairness (educational leadership) components of resilience (Table II.B1.6.71).

PISA 2022 asked school principals to report whether the principal, the teachers, the school's governing board, the local/municipal education authority, the regional/state education authority, the national/federal education authority have the main responsibility for allocating resources to schools (appointing and dismissing teachers; determining teachers' starting salaries and salary raises; and formulating school budgets and allocating them within the school), for the school curriculum (choosing learning materials; deciding which courses are offered; and determining the content of those courses), and for establishing student assessment, disciplinary and school admissions policies. .

Table II.6.1 presents a summary of "who is responsible for what" in managing schools. On average across OECD countries in 2022, hiring and firing responsibilities lay mainly with school principals, while decisions on salaries were made mostly by national/regional authorities. The budgeting process was led mainly by the school principal, with assistance from the school governing board and education authorities. Responsibilities for curriculum and assessment were largely held by teachers or members of the school management team, but national/regional authorities also played a big role in determining how students were assessed, which courses were offered and what content was covered in these courses. Principals played the central role in the school's admissions process, and disciplinary policies were established by teachers, with a secondary role played by principals and the school board.

The distribution of education responsibilities differed considerably from this general picture in many education systems (Table II.B1.6.1). Appointing and dismissing teachers is usually the task of school principals, but in some school systems, such as Argentina, Brazil, France, Japan, Morocco, Spain and Viet Nam, these tasks were mainly the responsibility of regional authorities, and in others, such as Costa Rica, Greece, Malaysia, Panama*, Paraguay, Saudi Arabia, Singapore, Türkiye and Uruguay, such responsibility lay largely with national authorities. Establishing teacher salaries tends to be managed by national authorities. Nonetheless, in several school systems, including Bulgaria, the Czech Republic, the Netherlands* and Sweden, this responsibility lay mainly with principals. Formulating the school budget is typically the remit of principals, but in some education systems, such as Albania, Canada*, Costa Rica, Georgia and Montenegro, this responsibility was held mostly by the school governing board, while in Baku (Azerbaijan), the Dominican Republic, El Salvador, Panama* and Uruguay, this task was centralised at the national level.

The school governing board was the key actor in determining student disciplinary policies in several school systems, such as Colombia, France, Ireland*, Italy, Morocco, Romania and Ukrainian regions (18 of 27), while this is a task usually performed by principals and teachers (Table II.B1.6.1). In the majority of school systems, principals played the central role in the school's admissions process. However, in Ireland*, this responsibility lay mostly with the school governing board; in Malaysia, with local authorities; in France, Spain and Viet Nam, with regional authorities; and in Chile, Croatia, Montenegro and Romania, with the national authority. Choosing which learning materials to use is generally the remit of teachers, but in several countries and economies, such as Baku (Azerbaijan), Greece, Jordan, Morocco, the Palestinian Authority, Saudi Arabia and Uzbekistan, the national authority took responsibility in this area. Determining course content is a task typically shared between teachers and national authorities, but in Estonia, Iceland, Macao (China), the Netherlands*, New Zealand*, Thailand and the United Kingdom*, the responsibility for the curriculum lay almost exclusively with teachers, probably a sign that these systems are placing greater trust in them.

Table II.6.1. Summary of how responsibilities for school governance are allocated

Based on principals' reports; OECD average

Responsibility		Held mainly by[1]	Shared with[2]
Human resources	Appointing or hiring teachers	Principal	National/Regional authorities[3]
	Dismissing or suspending teachers from employment	Principal	National/Regional authorities
	Establishing teachers' starting salaries, including setting pay scales	National/Regional authorities	Principal
	Determining teachers' salary increases	National/Regional authorities	Principal
Financial resources	Formulating the school budget	Principal	National/Regional authorities, local authority and school board
	Deciding on budget allocations	Principal	School board and local authority
Curriculum and assessment	Choosing which learning materials are used	Teachers	
	Determining course content, including national/regional curricula	National/Regional authorities and teachers	
	Deciding which courses are offered	National/Regional authorities and teachers	Principal
	Establishing student assessment policies, including national/regional assessments	National/Regional authorities and teachers	Principal
Establishing student disciplinary policies and procedures		Teachers	Principal and school board
Approving students for admission to the school		Principal	

1. More than 30% of students attended a school whose principal reported that a given actor had the main responsibility. 2. Between 15% and 30% of students attended a school whose principal reported that a given actor had the main responsibility. 3. For the purposes of this table, national and regional authorities are merged into the same category.
Note: "Teachers" include members of the school management team.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

Public schools in some education systems enjoy greater autonomy than the typical private school in OECD countries

School systems differ in the degree of autonomy granted to schools and in the domains over which this autonomy is awarded. Since the early 1980s, many school systems have given individual schools more discretion to make decisions about curricula and resource allocation (Cheng, Ko and Lee, 2016[7]; Mentini and Levatino, 2023[8]; Wang, 2014[9]). The underlying premise is that individual schools are best placed to promote innovation, allocate resources more effectively, and respond to local needs. They have highly qualified teachers and effective leaders who are good judges of their students' learning needs, and who can (re)design and implement rigorous curricula, internal evaluations and appraisal mechanisms without feeling overburdened (Caldwell and Spinks Jim M., 2013[10]; Department for Education of the United Kingdom, 2010[11]).

However, when given greater responsibilities, some school leaders may lack the time, motivation or skills to innovate (Almeida et al., 2020[12]; Hanushek, Link and Woessmann, 2013[13]; Lubienski, 2003[14]). Some may even use greater authority over school matters for their own selfish interests. For these reasons, education authorities, as the ultimate guarantor of the quality of the school system, have typically coupled such decentralisation efforts with accountability mechanisms (OECD, 2013[15]; Verger, Parcerisa and Fontdevila, 2019[16]). But these, in turn, have sometimes created new challenges, such as limiting, in practice, the autonomy granted to schools, constraining the professionalism of the school staff, and increasing teachers' feeling of being constantly scrutinised (Earley, 2019[17]; Skerritt, 2020[18]).

The indices of school responsibility for resources and for curriculum measure the extent to which members of the school staff (principal, teachers or the school governing board) assumed governance responsibilities in their schools. They were calculated as a ratio between the responsibilities granted to the school staff and the responsibilities retained by education authorities. The index of responsibility for resources combines the six tasks related to human and financial resources, and the index of responsibility for curriculum combines the four tasks related to the curriculum and assessment. Higher values in the indices imply that the school staff assumed more responsibilities than education authorities.

According to the index of school responsibility for resources, the education systems where schools enjoyed the highest degree of autonomy were Bulgaria, the Czech Republic, Guatemala, Latvia*, Macao (China), the Netherlands*, Thailand, the United Arab Emirates, the United Kingdom* and the United States* (Table II.B1.6.1). At the other end of the spectrum, the autonomy over resources that management granted to school principals, teachers or the governing board was limited in Austria, Baku (Azerbaijan), France, Germany, Greece and Kosovo, at least in comparison with other education systems.

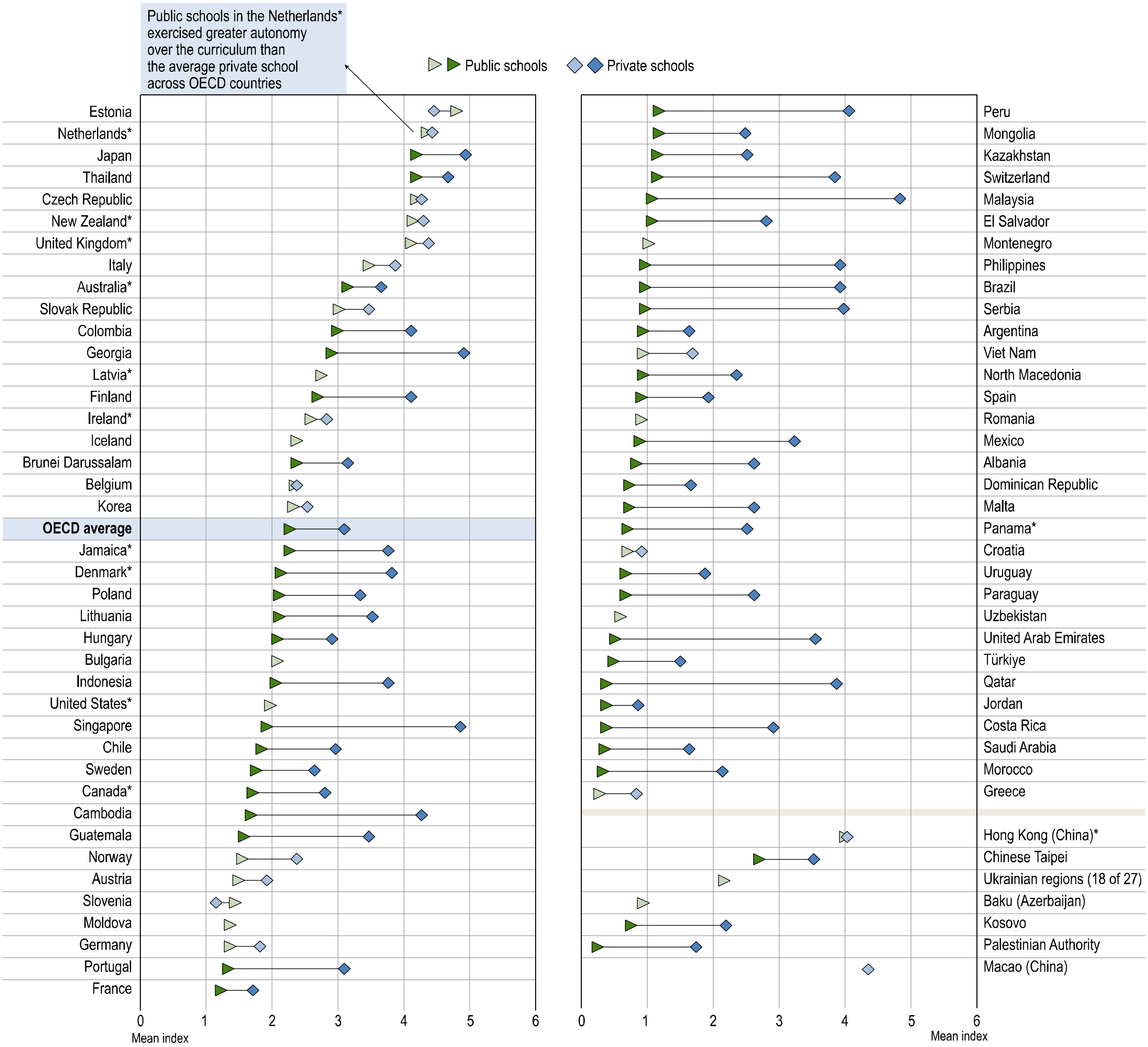
The analysis of the index of school responsibility for curriculum provides some interesting contrasts. For instance, Estonia and Japan stood out as granting the greatest levels of curricular autonomy to schools among all PISA-participating countries/economies but displayed moderate levels of school autonomy over resource management. Other education systems granting schools considerably more autonomy over curricular matters than over resource management included Colombia, Finland, Iceland, Ireland*, Italy, Korea and New Zealand*. By contrast, countries/economies where the education authorities granted more autonomy over resource management than over the curriculum included Bulgaria, Macao (China), the Netherlands*, Sweden, the United Arab Emirates and the United States*.

On average across OECD countries, socio-economically advantaged schools enjoyed greater autonomy than disadvantaged schools over resources and the curriculum; and likewise, urban schools were granted more autonomy than rural schools, but only over resource management (Tables II.B1.6.2 and II.B1.6.3). Not surprisingly, in a great majority of education systems, private schools exercised greater autonomy than public schools (Figure II.6.3 and Figure II.6.4). The largest differences between these two types of schools were observed in Japan, Malaysia and Türkiye, in the case of resource management, and in Malaysia, Qatar, Serbia and the United Arab Emirates, in the case of curriculum. Some of the smallest private-public gaps in school autonomy were observed in Belgium[2], Estonia, Ireland*, Korea and the Netherlands*. In some of these cases, most notably in the Netherlands*, the absence of differences in autonomy between private and public schools was due to the high levels of autonomy enjoyed by public schools, while in others, especially Korea, moderate differences in autonomy between the two types of schools were related to the limited autonomy granted to private schools.

On average across OECD countries, students in schools whose principal reported that more responsibilities for the curriculum or resource management lie with the school scored slightly lower in mathematics, after accounting for socio-economic factors (Table II.B1.6.4). These results are consistent with a comprehensive review by Jensen, Weidmann and Farmer (2013[19]) who reported that increasing school autonomy may improve academic achievement only to some extent, and only in some countries. After all, several studies found that to reap the full benefits of school autonomy, education systems need to have effective accountability systems, as well as highly qualified teachers and strong school leaders to design and implement rigorous internal evaluations and curricula (Hanushek, Link and Woessmann, 2013[13]; OECD, 2011[20]). In any case, variations in school autonomy within education systems are expected to be modest in size and are largely explained by the public or private nature of schools. To fully understand the relationship between school autonomy and student outcomes, it is helpful to examine cross-country variations.

Figure II.6.3. Index of school responsibility for curriculum, by school type

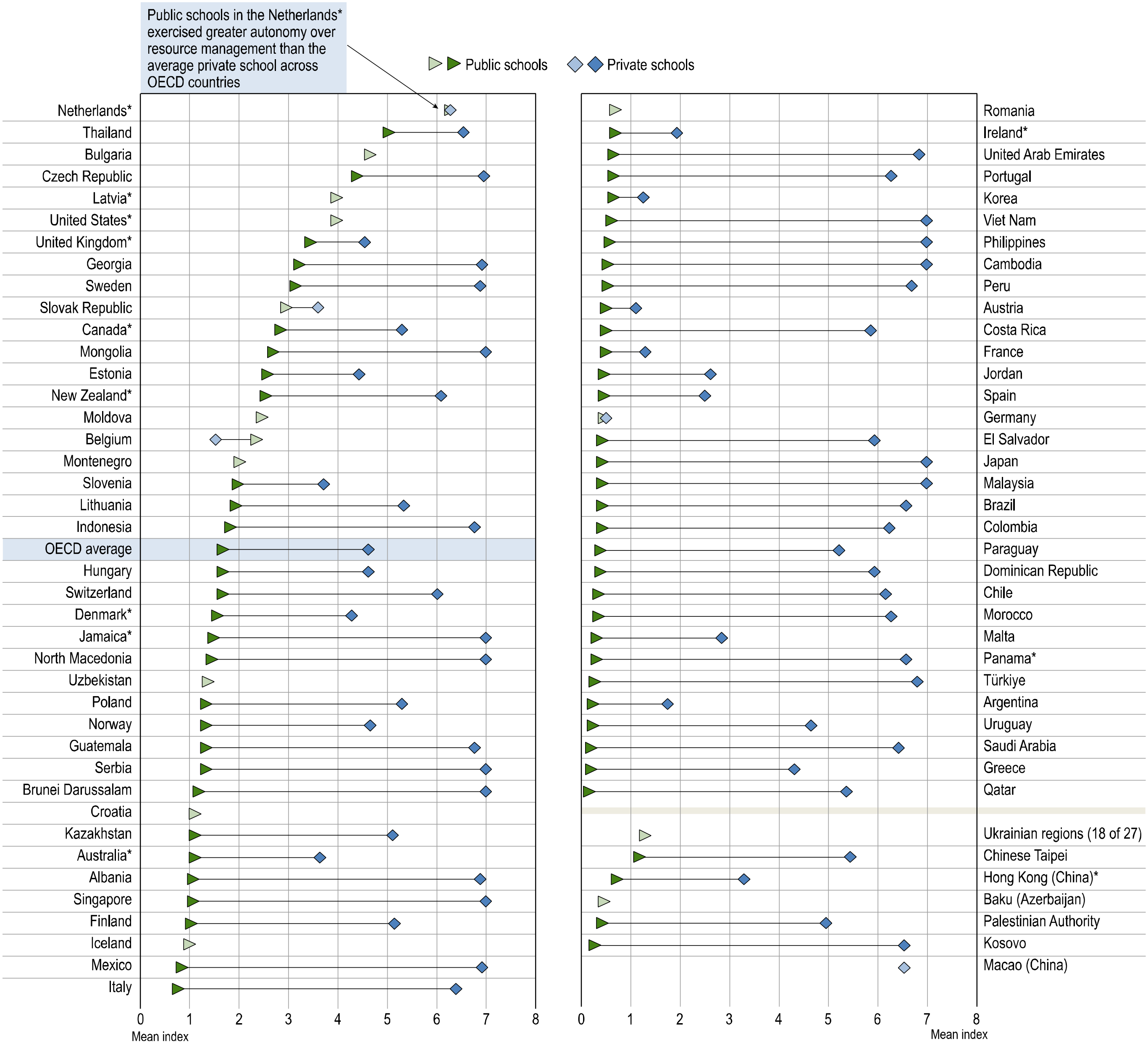
Based on principals' reports



Notes: Statistically significant differences between public and private schools are shown in a darker tone (see Annex A3).
Questions about the type of school were not asked in the Flemish-speaking Community of Belgium. Data for Belgium represent only the French-speaking and German-speaking Communities.
Countries and economies are ranked in descending order of the index of school responsibility for curriculum for public schools.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

Figure II.6.4. Index of school responsibility for resources, by school type

Based on principals' reports



Notes: Statistically significant differences between public and private schools are shown in a darker tone (see Annex A3).
Questions about the type of school were not asked in the Flemish-speaking Community of Belgium. Data for Belgium represent only the French-speaking and German-speaking Communities.
Countries and economies are ranked in descending order of the index of school responsibility for resources for public schools.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

Strong-performing school systems entrust principals and teachers with more responsibility

This section examines how education responsibilities were allocated in four groups of 20 education systems that were organised according to their average performance in mathematics. The analysis shows that the way education responsibilities were distributed varied greatly across school systems, and that part of these differences were associated with the academic performance of 15-year-olds. As Figure II.6.5 shows, education responsibilities were allocated very differently in low- and high-performing education systems. In the education systems in the bottom quarter of mathematics performance, the responsibilities for human resources (i.e. hiring, firing, salaries) were largely centralised at the national level, whereas in the 20 education systems in the top quarter of mathematics performance, principals had been granted the main responsibility over human resources (Figure II.6.5a). A somewhat similar picture emerges from the analysis of budgeting responsibilities. In high-performing school systems, the budget is managed almost exclusively by principals, whereas in low-performing school systems, they are managed to a similar extent by principals, the national authorities and the school governing board (Figure II.6.5b).

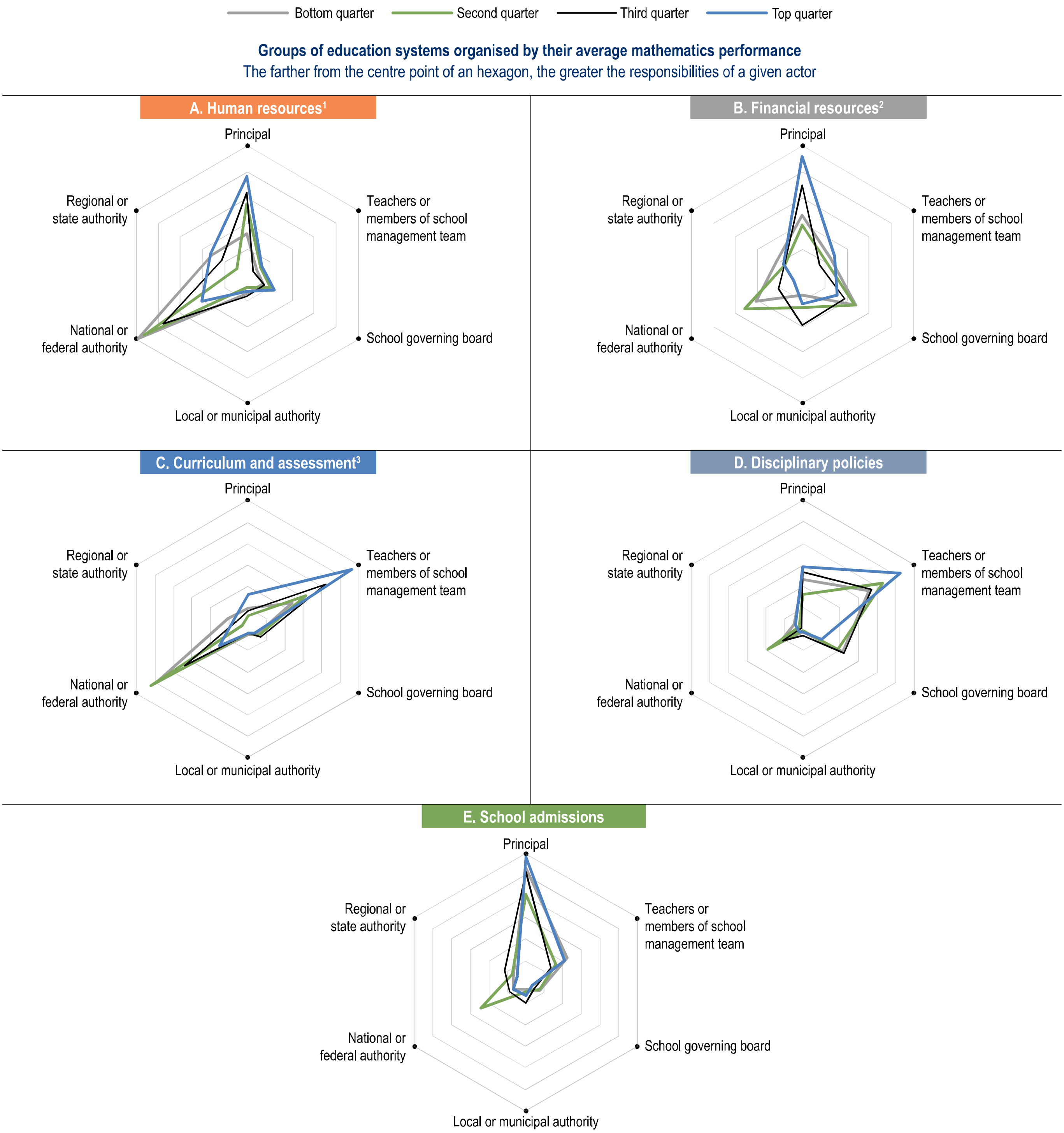
More striking are the results for curriculum and assessment (Figure II.6.5c). In education systems in the bottom quarter of mathematics performance, national authorities played the central role in these areas, with teachers playing a minor role. By contrast, in strong-performing school systems, the responsibilities over curriculum and assessment were mostly assumed by teachers or members of the school management team, and in a few cases by the principal or national authorities.

Low- and high-performing systems looked more alike when examining who had the main responsibility for disciplinary and school admissions policies (Figure II.6.5d and Figure II.6.5e). In both low- and high-performing school systems, the school principal usually led the process of admitting students to the school, with other school staff playing a minor role; teachers played the main role when tackling disciplinary problems.

Overall, these results indicate that strong-performing school systems granted more responsibility to school principals and teachers. Analyses at the system level show that students scored higher in mathematics in the education systems that granted more autonomy to schools over the curriculum, even after accounting for per capita GDP (Table II.B1.6.71). The cross-sectional nature of PISA data cannot determine whether granting greater responsibilities for resources to principals, and for curriculum and assessment to teachers, were the reasons students excelled academically in these strong-performing school systems; but the results suggest that, in these countries/economies, education authorities have learned to trust their principals and teachers. As for low-performing education systems, the literature suggests that granting greater autonomy to schools may not necessarily produce the desired results, either because the schools lack effective quality-assurance and accountability mechanisms, or because the school staff is not qualified enough to take full advantage of the greater responsibilities (Hanushek, Link and Woessmann, 2013[13]).

Figure II.6.5. Allocation of education responsibilities, by average performance in mathematics

System-level analysis



1. Average of the following items: "Appointing or hiring teachers"; "Dismissing or suspending teachers from employment"; "Establishing teachers' starting salaries, including setting pay scales"; and "Determining teachers' salary increases".

2. Average of the following items: "Formulating the school budget"; and "Deciding on budget allocations".

3. Average of the following items: "Establishing student assessment policies, including national/regional assessments"; "Choosing which learning materials are used"; "Determining course content, including national/regional curricula"; and "Deciding which courses are offered".

Note: Each quarter is composed of 20 education systems.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

Quality education leadership builds supportive school environments

School leaders not only manage administrative and organisational tasks, such as budgeting, staffing and planning the maintenance of school buildings, they also play a key role by actively shaping the school culture and the learning environment (Barber, Whelan and Clark, 2010[21]; Bloom et al., 2015[22]; Leithwood, 2021[23]; Pont, Nusche and Moorman, 2008[24]). The most effective schools are led by principals who define, communicate and build consensus around the school's education goals, ensure that the curriculum and instructional practices are aligned with these goals, and foster healthy social relationships within the school community (Branch, Rivkin and Hanushek, 2013[25]; Goddard et al., 2019[26]; Grissom, Loeb and Master, 2013[27]). Some of the educational practices in which principals usually engage include setting and communicating learning standards; collaborating with teachers on curriculum, instruction and assessment; planning the professional development of school staff; fostering a positive school climate; and identifying ways to involve parents and the larger community in school life. The extent to which principals emphasise different activities and leadership styles largely depend on the school context (Brauckmann, Pashiardis and Ärlestig, 2023[28]; Hardwick-Franco, 2019[29]). The adaptive nature of school leadership has never been more evident than during the COVID-19 pandemic when most principals were obliged to engage in crisis-management activities (Adams et al., 2021[30]; Chatzipanagiotou and Katsarou, 2023[31]; Harris and Jones, 2020[32]).

The PISA 2022 school questionnaire asked school principals to report how frequently ("never or almost never", "about once or twice a year", "about once or twice a month", "about once or twice a week", or "every day or almost every day") they, or someone else in the school management team, engaged in seven actions related to school management in the previous academic year. These actions were combined to create the index of education leadership. An index of instructional leadership was also created based only on the five items referring to instructional leadership. Higher values in both indices indicate that school principals engaged in these activities more frequently. Some of the answers given by school principals may be coloured by social desirability, particularly those referring to leadership styles that are positively viewed by others, so over-reporting should be considered when interpreting the findings.

Almost all school principals reported doing all of the leadership activities at least once during the previous year (Table II.6.2 and Table II.B1.6.5 from Annex B1). On average across OECD countries, more than nine out of ten students were enrolled in schools whose principal reported that they, or someone else in the school management team, engaged in each of the seven management activities at least once a year. The action in which more principals engaged, at least once a month, was collaborating with teachers to solve classroom discipline problems (85%), whereas the activity in which fewer principals engaged was working on a professional development plan for the school (35%). Between 58% and 67% of principals reported that, at least once a month, they: provided feedback to teachers based on classroom observations (58%); ensured that teachers take responsibility for improving their teaching skills (61%); provided parents with information on the school and student performance (65%); supported teacher co-operation to develop new teaching practices (67%); or ensured that teachers feel responsible for their students' learning outcomes (67%).

According to the index of education leadership, school principals in Brazil, the Philippines, Qatar, the United Arab Emirates and Uzbekistan were the most likely to report participating in education leadership actions, while those in Austria, France, the Slovak Republic, Slovenia and Switzerland were the least likely to report so (Table II.B1.6.5). Overall, OECD countries showed lower values in the index of education leadership than partner countries/economies.

In general, school differences in education leadership did not follow clear patterns (Table II.B1.6.6). On average across OECD countries, principals of private and public schools reported similar levels of education leadership, and the rural-urban or socio-economic gaps, while statistically significant, were small.

In most PISA-participating countries/economies, the measures of education leadership examined were only weakly associated with students' performance in mathematics, after accounting for the socio-economic profile of students and schools (Table II.B1.6.8). The only item that showed a relatively strong, and negative, association with mathematics performance was "collaborating with teachers to solve classroom discipline problems", which can probably be explained by the fact that school leaders may (need to) show more active leadership when the disciplinary climate deteriorates (OECD, 2016[33]). In Israel, for instance, students who were enrolled in a school whose principal performed this action at least once a month scored 43 points lower than students who attended a school whose principal engaged in this type of action less frequently.

Education systems that scored higher in the indices of educational and instructional leadership scored lower in mathematics, on average (not when OECD countries were examined separately), but were more socio-economically fair, after accounting for per capita GDP (Table II.B1.6.71).

School choice

Students are often assigned to their neighbourhood school. However, in recent decades, reforms in many countries have tended to give greater choice to parents and students, enabling them to choose the schools that meet the child's education needs or family preferences. As a result, competition for enrolment among schools has increased (Heyneman, 2009[34]; Musset, 2012[35]).

There are different types of school-choice policies with different financial implications for schools. In some systems, schools receive public funding based on the number of enrolled students; in others, families are given vouchers or scholarships to use on the "approved" school of their choice. School-choice systems also differ in the role played by the private sector. In some education systems, school choice is a way of offering families alternatives to public schooling; in others, school-choice policies give families a greater choice within the public education system, i.e. instead of being assigned to the school in their catchment area.

Advocates of school choice argue that competition among schools creates incentives for institutions to organise programmes and instruction in ways that better meet diverse student requirements and interests (Card, Dooley and Payne, 2010[36]; Wößmann, 2007[37]; Wößmann et al., 2007[38]). Some studies find moderate positive effects of school choice on student outcomes (Epple, Romano and Urquiola, 2017[39]; Jabbar et al., 2022[40]). Advocates also posit that school choice widens access to private schools for low-income families.

However, some studies have questioned the validity of the underlying assumptions about school choice, such as equal access to information about schools (Ainsworth et al., 2021[41]; Jensen, Weidmann and Farmer, 2013[19]). Findings in this report show that, among families searching for high-quality schools, socio-economically disadvantaged families ranked financial considerations higher in importance than advantaged families did (Table II.B1.6.25), often because of the time and money required to commute to a distant school, and the existence of "hidden" fees (Bierbaum, Karner and Barajas, 2021[42]; Boeskens, 2016[43]; Fast, 2020[44]; Palm and Farber, 2020[45]). Adopting school-choice practices may thus lead to greater socio-economic segregation among schools (Burgess and Briggs, 2010[46]; Rowe and Lubienski, 2017[47]; Valenzuela, Bellei and Ríos, 2014[48]), and to greater differences in teacher quality and student achievement across schools (Behrman et al., 2016[49]). Analyses in this report, however, show that education systems with more students in private schools and greater competition among schools enjoyed similar levels of socio-economic fairness than education systems with fewer private school students and less school competition (Table II.B1.6.71). Only the extent to which the school admissions process is selective was negatively associated with socio-economic fairness in mathematics.

Table II.6.2. Education leadership actions

Based on principals' reports

- A Collaborating with teachers to solve classroom discipline problems
- B Providing feedback to teachers based on observations of instruction in the classroom
- C Taking actions to support co-operation among teachers to develop new teaching practices
- D Taking actions to ensure that teachers take responsibility for improving their teaching skills
- E Taking actions to ensure that teachers feel responsible for their students ' learning outcomes
- F Providing parents or guardians with information on the school and student performance
- G Working on a professional development plan for this school

Less than half of students | From 50% to 75% of students | From 75% to 90% of students | More than 90% of students

	Percentage of students in schools whose principals reported that they, or someone else in the management team, engaged in the following actions:						
	A	B	C	D	E	F	G
	At least once a month						At least once a year
Philippines	91	89	93	94	99	93	100
Uzbekistan	97	98	91	89	97	87	100
United Arab Emirates	86	94	96	93	95	87	100
Brazil	95	91	94	91	92	88	94
United States*	93	92	91	90	95	84	100
Qatar	86	90	93	95	94	79	100
Kazakhstan	89	99	90	82	90	85	100
Panama*	98	81	87	84	93	88	97
Jordan	87	94	90	90	89	79	97
Albania	82	94	86	87	83	87	99
Dominican Republic	94	91	94	87	84	69	97
Australia*	93	74	90	91	93	74	100
Bulgaria	92	83	75	85	88	89	99
New Zealand*	94	70	89	87	92	78	100
Latvia*	90	88	91	75	75	89	100
Montenegro	97	80	76	80	84	86	96
Chile	92	73	89	83	83	78	98
Cambodia	88	87	77	80	88	85	89
Guatemala	75	79	84	85	88	85	93
Viet Nam	63	88	87	88	90	73	99
Canada*	95	72	82	74	85	84	97
Romania	89	83	77	71	78	83	99
Spain	95	86	82	70	72	80	95
Saudi Arabia	78	76	82	77	79	87	99
Peru	83	84	86	84	81	70	85
United Kingdom*	89	70	88	87	89	49	100
Singapore	93	71	90	84	82	51	100
Thailand	92	85	84	83	90	35	100
Serbia	78	84	78	68	79	78	99
Georgia	80	86	75	56	84	85	98
Moldova	89	94	88	66	75	51	99
Türkiye	89	59	71	78	88	80	97
Mongolia	75	89	88	86	54	64	98
Israel	95	58	79	76	88	57	99
Jamaica*	97	85	82	68	84	36	100
North Macedonia	79	74	64	66	78	90	100
Uruguay	90	44	93	85	80	77	81
Colombia	88	60	79	76	75	82	90
El Salvador	86	61	78	78	80	72	93
Costa Rica	94	78	79	74	75	62	76
Argentina	85	68	76	74	74	75	86

	Percentage of students in schools whose principals reported that they, or someone else in the management team, engaged in the following actions:						
	A	B	C	D	E	F	G
	At least once a month						At least once a year
Mexico	82	59	77	71	75	78	92
Paraguay	77	65	81	76	74	63	93
Brunei Darussalam	83	64	76	80	87	36	99
Netherlands*	71	79	72	61	71	70	98
Korea	91	64	73	70	68	54	100
Malaysia	85	59	83	83	87	20	99
Czech Republic	77	76	55	60	68	81	98
Lithuania	87	67	56	55	69	65	97
OECD average	85	58	67	61	67	65	94
Norway	87	47	78	63	72	45	100
Malta	91	62	66	62	62	53	94
Indonesia	76	69	69	70	70	36	98
Portugal	87	13	81	75	74	70	89
Italy	82	49	67	54	56	80	98
Iceland	95	31	70	46	67	72	99
Croatia	71	68	61	61	66	55	95
Ireland*	82	23	73	69	74	58	97
Estonia	83	58	47	56	67	67	97
Greece	92	43	67	57	73	69	70
Sweden	84	51	68	56	59	49	97
Hungary	63	72	55	44	62	69	99
Slovak Republic	83	63	42	37	40	82	99
Belgium	91	47	49	47	54	60	94
Poland	61	72	36	45	56	66	100
Germany	88	59	47	41	46	50	93
Morocco	81	20	39	47	57	63	95
Slovenia	66	52	44	40	47	48	98
Denmark*	75	56	56	42	45	24	96
Austria	68	39	43	42	50	55	94
Finland	86	31	67	45	38	52	69
Switzerland	76	46	36	26	32	35	88
France	84	26	36	28	31	50	81
Baku (Azerbaijan)	97	96	91	89	81	87	97
Palestinian Authority	93	88	89	81	84	69	98
Macao (China)	82	85	71	71	75	70	100
Kosovo	91	63	67	64	74	88	99
Ukrainian regions (18 of 27)	60	80	48	65	79	87	100
Chinese Taipei	68	70	68	65	70	69	100
Hong Kong (China)*	54	52	49	41	44	37	98

Countries and economies are ranked in descending order of the average of the seven actions.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

Competition for students is limited in rural areas

School choice usually entails greater competition across schools, if only because school funding usually depends on the number of students enrolled. However, even when parents are given the opportunity to choose a school freely, several factors may limit school competition in practice. In rural and isolated areas, for instance, parents often have only one school to choose from, at least without enduring long commutes. In socio-economically disadvantaged neighbourhoods, the choice of school may also be constrained as private schools tend to have fewer incentives to operate in these areas. In education systems where the funding of schools is guaranteed regardless of the number of students enrolled, which is often the case among public and government-dependent private schools, there may be little to no competition among schools.

According to principals, competition for students between schools is common across the countries/economies that participated in PISA 2022 (Table II.B1.6.9). On average across OECD countries, about four in five students were enrolled in a school whose principal reported that there was at least one other school competing for their students in the same area. Competition between schools was most common in densely populated countries/economies, such as Belgium, Hong Kong (China)*, Japan, Macao (China), the Netherlands*, Singapore and Chinese Taipei, but also in Australia*, Latvia* and Türkiye. By contrast, in four sparsely populated countries (Finland, Iceland, Montenegro and Norway), but also in densely populated Switzerland, at least one in two students attended a school with no other school competing for students in the same area.

The prevalence of school competition barely changed between 2018 and 2022, on average across OECD countries (Table II.B1.6.11). According to principals, school competition decreased in a handful of education systems, most notably in the Czech Republic, Estonia and Slovenia. However, school competition increased considerably in several education systems, including the Dominican Republic, Malaysia, Montenegro, Poland and Saudi Arabia. In these education systems, the percentage of students enrolled in schools competing for students with at least one other school in the area increased by 10 percentage points or more during the period. In Poland, for instance, the share of students who were enrolled in a school that competes with other schools increased from 73% in 2018 to 91% in 2022.

The share of students in schools whose principal reported that one or more schools in the same area compete for students was larger in socio-economically advantaged schools (84% of students) than in disadvantaged schools (73% of students), in urban schools than in rural schools, and in private schools than in public schools, on average across OECD countries (Table II.B1.6.10).

In most countries/economies, and on average across OECD countries, school competition was associated with higher mathematics scores before accounting for socio-economic disparities; but this difference disappeared in most of these education systems after accounting for socio-economic characteristics (Table II.B1.6.12). Only in 13 school systems were mathematics scores higher among students in schools that competed with one other school in the area, relative to students in schools that did not compete with other schools. By contrast, in six education systems, students in schools that did not compete with other schools performed better in mathematics, relative to students in school that competed with one other school.

Public schools can help disadvantaged students thrive

Schooling mainly takes place in public institutions; but some countries, including Belgium, Ireland, the Netherlands, Spain and the United Arab Emirates, have a long-standing tradition of private schooling. Other countries, including Chile, Sweden, the United Kingdom and the United States, have implemented reforms to allow a greater variety of programmes and providers to enter the education system (Zancajo et al., 2021[50]). Advocates of private schooling argue that private schools are more responsive to parents, more cost-effective, and increase competition, accountability and pedagogical diversity throughout the school system (Bloom et al., 2015[22]; Chapman and Salokangas, 2012[51]; Jimenez and Paqueo, 1996[52]). Critics point to the detrimental effects of school choice, including social segregation of students and the threat to social cohesion (Cordini, Parma and Ranci, 2019[53]; Cordini, Parma and Ranci, 2019[53]; Dumay and Dupriez, 2014[54]; Frohly, 2022[55]; Levin, Cornelisz and Hanisch-Cerda, 2013[56]).

Evidence of the benefits of private schooling is mixed. Some studies show that government-dependent private schools are particularly well-managed and produce the best student outcomes (Angrist, Pathak and Walters, 2013[57]; Bloom et al., 2015[22]; West and Woessmann, 2010[58]); others point to the benefits of private schooling more generally (DeAngelis, 2019[59]; Henderson et al., 2020[60]; Moulin, 2023[61]; Schwalbach and DeAngelis, 2022[62]). Some findings paint a more nuanced picture (Geller, Sjoquist and Walker, 2006[63]; Mancebón and Muñiz, 2008[64]; Smith and Meier, 1995[65]).

As defined in PISA, public schools are those managed by a public education authority, government agency, or governing board appointed by a government or elected by public franchise. Private schools refer to schools managed directly or indirectly by a non-government organisation (such as a church, trade union, business or other private institution). PISA distinguishes between two types of schools within the private school sector, based on their level of public funding. Private independent schools are those funded mainly through student fees or other private contributions (e.g. benefactors, donations); government-dependent private schools are privately managed schools that receive more than half of their funding from government sources.

According to these definitions, in 2022 about 82% of 15-year-old students attended public schools, 12% attended government-dependent private schools, and 6% attended private independent schools, on average across OECD countries (Table II.B1.6.13). About 1 in 20 students was enrolled in a school managed by a religious organisation; about 1 in 10 was enrolled in a school managed by other not-for-profit organisations; and a fraction of students (less than 3%) was enrolled in a school managed by for-profit organisations.

In some education systems, including Baku (Azerbaijan), Iceland, Latvia*, Moldova, Montenegro, Romania, Serbia and Uzbekistan, almost all 15-year-old students attended a public school (Table II.B1.6.13 and Figure II.6.6). In others, such as Australia*, Belgium, Chile, Guatemala, Hong Kong (China)*, Macao (China), Malta, the Netherlands*, Qatar, the United Arab Emirates and the United Kingdom*, more than four in ten students were enrolled in a private school. Attendance at government-dependent private schools was particularly common in Belgium, Chile, Hong Kong (China)*, Macao (China), the Netherlands* and the United Kingdom*, whereas attendance at private independent schools was most frequently observed in Guatemala, Japan, Qatar and the United Arab Emirates. Students attending religious schools was most common in Australia*, Hong Kong (China)*, Macao (China) and Malta; in these education systems at least one in three students were enrolled in this type of school. Students attending other not-for-profit schools was most frequently observed in Chile, Hong Kong (China)*, Japan, Macao (China), the Netherlands* and the United Kingdom*. Qatar and the United Arab Emirates showed the largest shares of students enrolled in for-profit schools; in the United Arab Emirates almost one in two students was enrolled in this type of school.

Across OECD countries, about 74% of socio-economically advantaged students, but 87% of their disadvantaged peers, were enrolled in public schools (Table II.B1.6.14). The largest gaps in enrolment in public schools related to students' socio-economic status were observed mostly in Latin American countries, such as Argentina, Brazil, Chile, Colombia, El Salvador, Guatemala, Panama*, Peru and Uruguay, and also in Malta and Qatar. In Argentina, for instance, almost 90% of disadvantaged students but only 41% of advantaged students were enrolled in public schools. Interestingly, in several education systems, such as Hungary, Indonesia, Macao (China), the Netherlands*, Chinese Taipei and Thailand, where many schools are managed by the private sector, there was no, or only a small, difference in enrolment at public schools related to socio-economic status. In 16 education systems, students with an immigrant background were more likely than those without an immigrant background to attend a public school, whereas the opposite was observed in 11 education systems (Figure II.6.6). The school systems where the native-immigrant gap in public school attendance was the largest, in favour of students with an immigrant background, were Chile, Denmark*, France, Malta, the Netherlands*, Peru and Spain.

On average across OECD countries and in more than 60% of education systems with available data, students in private schools (government-dependent and government-independent combined) scored higher in mathematics than students in public schools (the "raw" difference, i.e. before accounting for socio-economic profile) (Table II.B1.6.21 and Figure II.6.6). The raw score-point difference in favour of students in private schools was particularly large in

Brazil, the United Arab Emirates and Uruguay. By contrast, the raw score-point difference in mathematics performance favoured public schools in Kazakhstan, Serbia, Chinese Taipei and Thailand.

However, after accounting for students' and schools' socio-economic profile, mathematics scores were higher in public schools than in private schools, on average across OECD countries (an 11 score-point difference in favour of public schools) and in 22 education systems (Table II.B1.6.21 and Figure II.6.6). In Jamaica*, Singapore and Türkiye, the public-private school gap in mathematics performance, in favour of public schools, amounted to more than 50 points even after accounting for students' and schools' socio-economic profile. By contrast, in 17 education systems, students in private schools scored higher than students in public schools, after accounting for socio-economic characteristics.

When compared with public schools, private-dependent schools scored higher in mathematics than private-independent schools, after accounting for students' and schools' socio-economic profile (Table II.B1.6.21). On average across OECD countries, students in private-dependent schools scored 8 points lower than students in public schools, whereas students in private-independent schools scored 17 points lower than students in public schools, after accounting for socio-economic characteristics.

The public-private gaps in mathematics performance are also presented in Figure II.6.7 in a more intuitive way. As expected, the graph shows that students in both private and public schools in OECD countries scored higher as the socio-economic profile of the school improved. More tellingly, at the bottom end of the socio-economic ladder, students in public schools outperformed their peers in private schools; but this public-private gap closed as schools moved up the socio-economic ladder.

Another way in which the public-private gap can be analysed is by grouping schools according to their socio-economic profile. However, few public schools attained the very top of the socio-economic ladder, and even fewer private schools were found at the bottom of the socio-economic distribution, which means that examining the public-private gap in schools with an average socio-economic profile is the most appropriate comparison. Figure II.6.8 shows that, when schools with similar socio-economic profiles are compared, the differences in mathematics performance between public and private schools were mostly significant, but not always in the same direction. For instance, for the schools with negative values in the PISA index of economic, social and cultural status, students in public schools outperformed their peers in private schools by about 12 score points. By contrast, when schools with a higher socio-economic profile were compared, the public-private gap either disappeared (in the 0 to 0.25 group) or switched direction in the group with the highest socio-economic profile. In this group, students in public schools scored 501 points in mathematics, whereas those in private schools scored 508 points, a difference of 7 points.

Figure II.6.6. Attendance at public school, student characteristics and mathematics performance

	A	B	C	D
Countries/economies with a positive difference	0	16	4	22
Countries/economies with no difference	22	47	19	28
Countries/economies with a negative difference	54	11	45	17

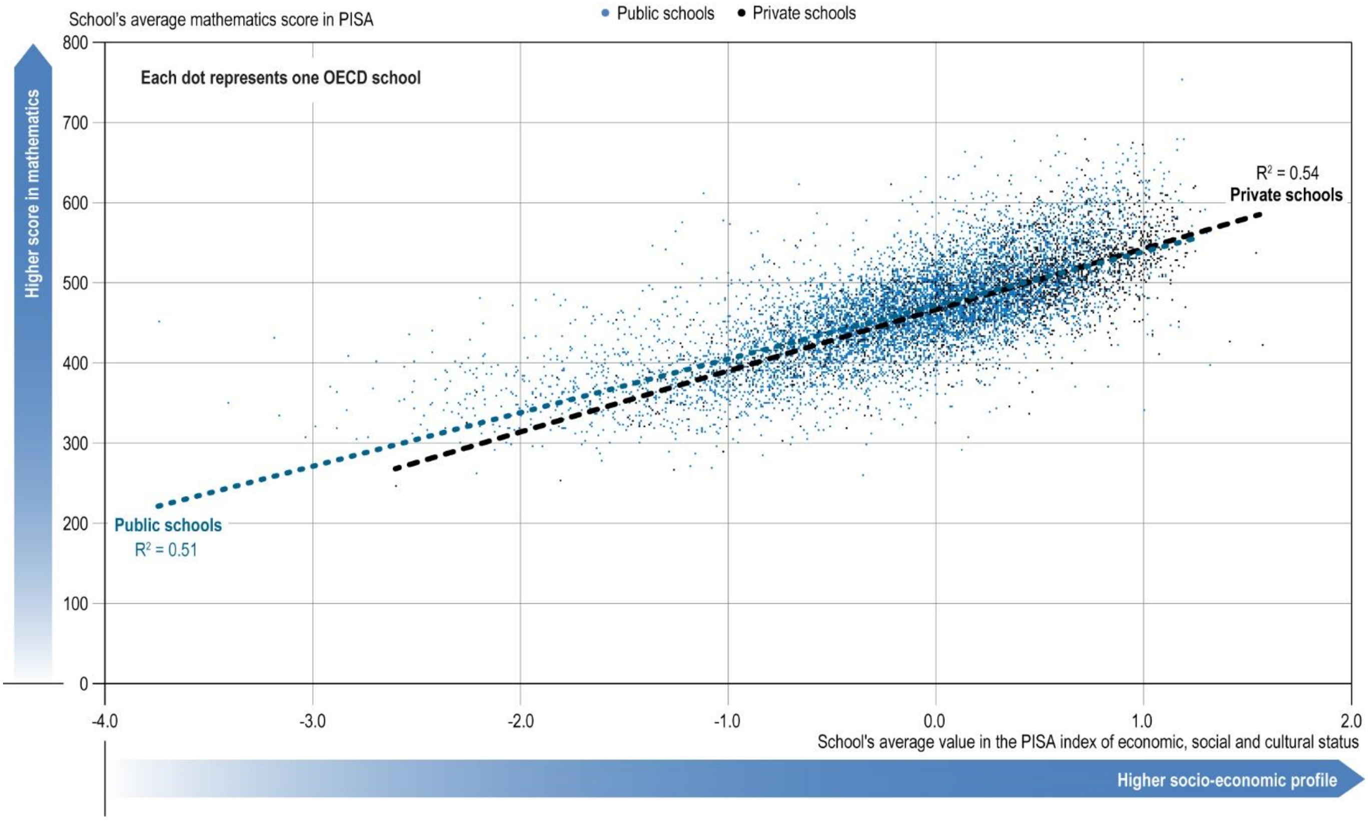
Note: Questions about the type of school were not asked in the Flemish-speaking Community of Belgium. Data for Belgium represent only the French-speaking and German-speaking Communities.

Countries and economies are ranked in descending order of the percentage of students who attended a public school.

Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

Figure II.6.7. Mathematics performance and socio-economic status, by type of school

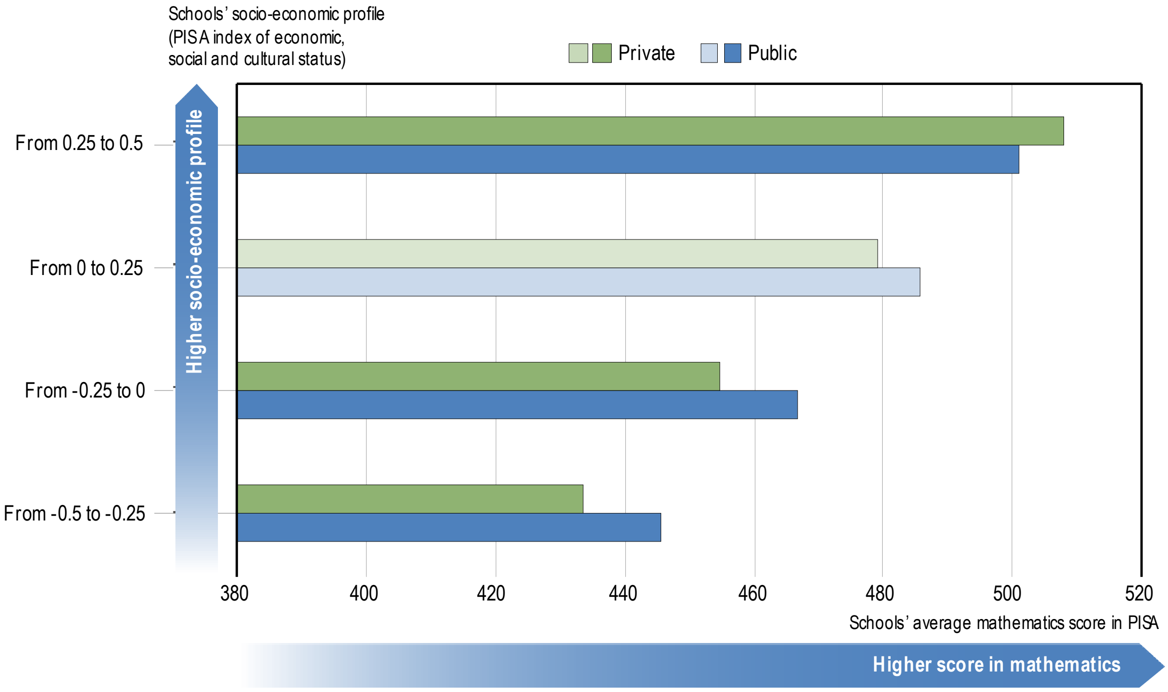
Data aggregated at the school level; OECD countries



Note: The regression lines need to be interpreted with caution because only within-school student-level weights have been applied.
Source: OECD, PISA 2022 Database.

Figure II.6.8. Mathematics performance in public and private schools with a similar socio-economic profile

OECD countries



Notes: Statistically significant differences between public and private schools are shown in a darker tone (see Annex A3).
Results are based on a pooled analysis of all students in OECD countries. Senate weights have been applied so that all countries contribute equally to the results.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

School fees discourage disadvantaged families from enrolling their children

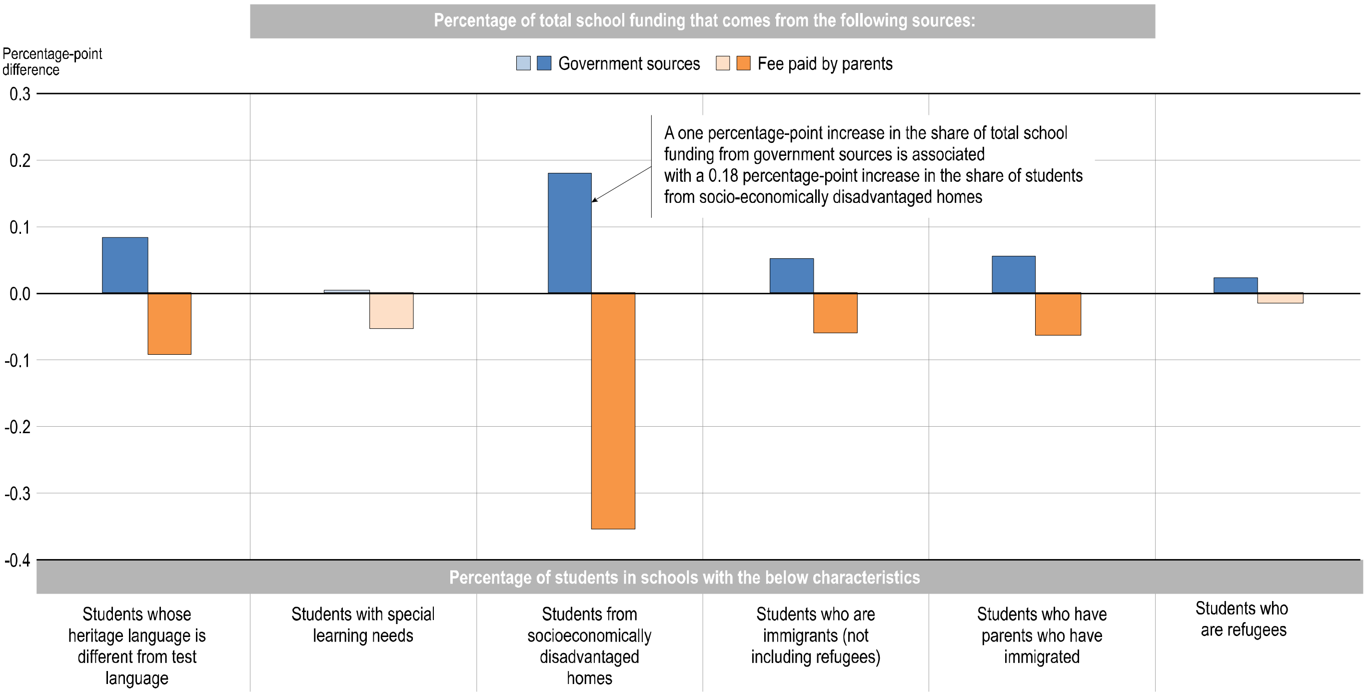
While most school funding typically comes from government sources (88% according to Table II.B1.6.22), schools often charge different types of fees to parents, either because they receive little or no funding from the government, as in the case of private independent schools, or because they provide services that are not (fully) covered by the government. These (additional) fees, however, may discourage some families, particularly those that are socio-economically disadvantaged, from enrolling their children (as the next section on parents' criteria for choosing a school shows).

PISA 2022 asked principals about their school's sources of funding (government, families, voluntary contributions and other sources), and about the composition of their school (see Chapter 4 for more details). Based on principals' answers to these questions, it is possible to estimate how much the characteristics of the student body varies depending on the amount of fees these schools charge to parents (Figure II.6.9). On average across OECD countries, the share of funding that comes from government sources was positively associated with the presence of students from more challenging circumstances, such as having a heritage language that is different from the test language; coming from socio-economically disadvantaged homes; or having an immigrant background (including refugees). However, the only student characteristic that was strongly and consistently associated, across most PISA-participating systems, was students´ socio-economic status. When considering the percentage of school funding that comes from fees paid by parents, the opposite is observed. For example, a ten percentage-point increase in the share of school funding that comes from fees paid by parents was associated with a 3.5 percentage-point decrease in the share of students from disadvantaged homes. Interestingly, the sources of school funding and the presence of students with special learning needs were not associated, on average across OECD countries.

So: are the fees paid by parents related to the composition of the student body? The answer is yes: school fees appear to discourage some disadvantaged families from enrolling their children. These results suggest that policies to increase school choice should be combined with measures to reduce, or eliminate, student fees so that greater school choice does not lead to more school segregation (Lewis and Patrinos, 2011[66]).

Figure II.6.9. School funding sources and school composition

Percentage-point change in the share of students with a given characteristic per percentage-point increase in the share of total school funding from a given source (based on principals' reports); OECD average



Note: Statistically significant percentage-point differences are shown in a darker tone (see Annex A3).
Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

Did private schools handle school closures due to COVID-19 better than public schools?

There is a widely held belief that private schools handled the COVID-19 pandemic better than public schools, at least in the initial days of the pandemic (Harris et al., 2020[67]), and that this unequal response aggravated pre-existing inequalities in some education systems (Anders, 2022[68]). PISA data show that, not only did private schools close their buildings for a shorter period of time than public schools did (13 fewer days, on average across OECD countries), but they also entered the early days of the pandemic better prepared for remote learning (Table II.B1.6.23 and Figure II.6.10). On average across OECD countries, private schools scored higher than public schools in the index of school preparation for remote instruction before COVID-19, which measures the extent to which, prior to the pandemic, schools took a series of actions to prepare students and staff for distance learning activities. Private schools also reached a larger number of their students through distance learning activities than public schools did. The public-private gap in the percentage of students who attended distance learning activities in a typical week, in favour of private schools, was 8 percentage-points wide; in Argentina, Cambodia, Costa Rica, Jordan, Morocco, New Zealand*, the Palestinian Authority, Türkiye and Uruguay the gap was at least 20 percentage-points wide. In Costa Rica, for instance, about 1 in 4 students in public schools never participated in distance learning activities, compared to only 1 in 50 students in private schools.

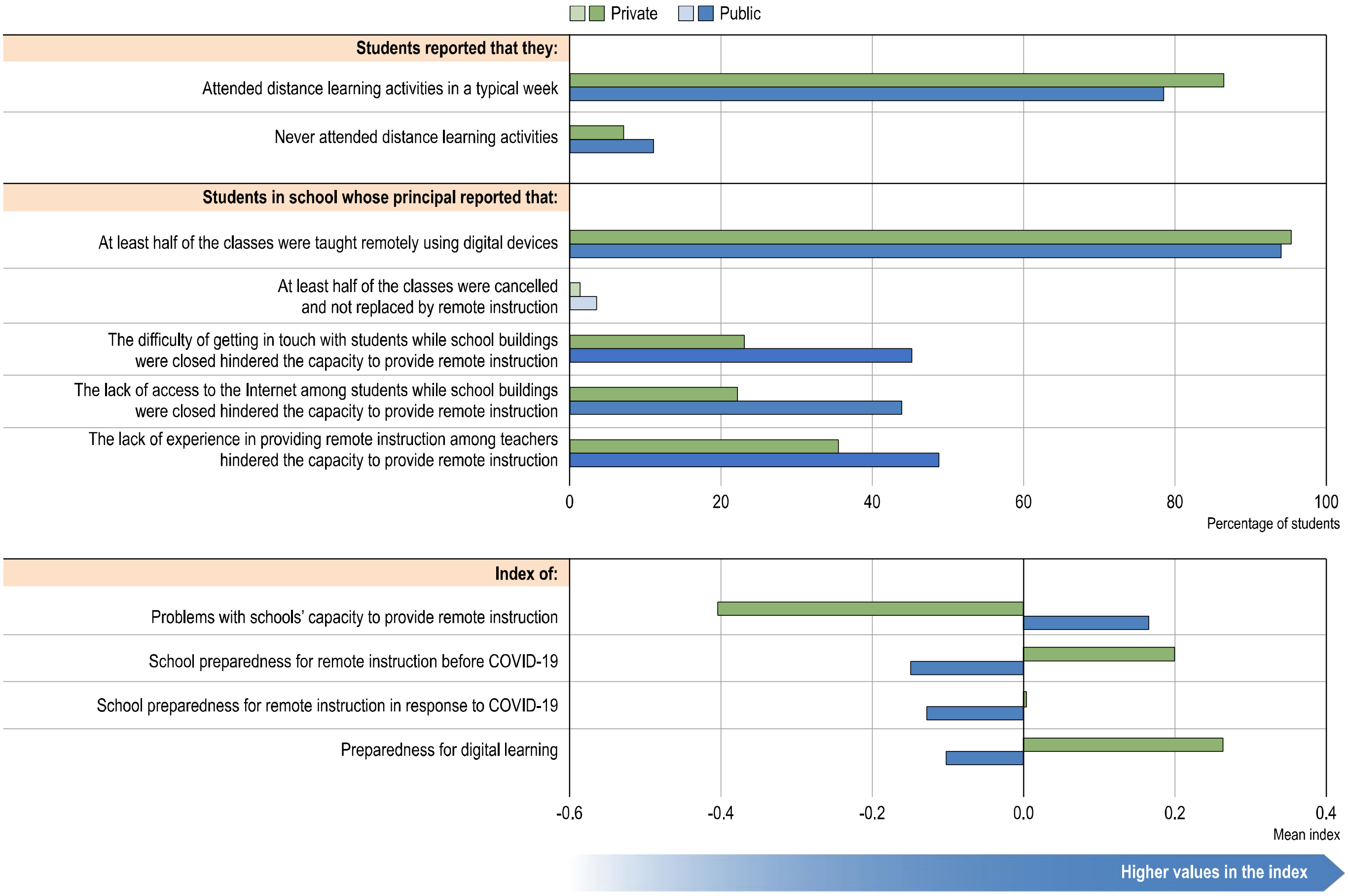
Although public schools entered the pandemic less prepared than private schools, many ended up catching up as the pandemic unfolded. PISA data show that, on average across OECD countries, public schools scored lower than private schools in the index of school preparedness for remote instruction in response to COVID-19, but the gap was less than half the size of that observed concerning preparation for remote teaching prior to the pandemic (Figure II.6.10). In addition, the share of classes that were taught remotely using digital devices was similar in public and private schools. For instance, for 94% of students in public schools, more than half of their classes were taught remotely using digital devices, similar to the percentage observed in private schools (95% of students). Furthermore, 4% of students in public schools saw at least half of their classes cancelled (and not replaced by remote instruction) – just two percentage points larger than the share observed in private schools. A similar finding had been observed in the United Kingdom (Anders, 2022[68]), where the gap in the provision of online learning between public and private schools, which was clearly evident in the first national lockdown, largely disappeared by the third national lockdown, especially when schools with similar socio-economic intakes were compared. However, despite the efforts public schools put into catching up with remote learning, by the time the PISA assessment took place, private schools were still more prepared for digital learning than public schools, according to school principals. On average across OECD countries and in 25 education systems, private schools showed higher values in the index of preparedness for digital learning; the opposite was observed in only 4 education systems (Table II.B1.6.23).

One explanation for the differences observed above is related to the greater problems that public schools faced, in comparison to private schools, in organising distance learning activities. On average across OECD countries and in most education systems, principals in public schools reported higher values than principals in private schools in the index of problems with their school's capacity to provide remote instruction, which measures the extent to which the capacity to provide remote instruction was hindered by nine different issues (Figure II.6.10). For instance, 44% of public-school students, but only 22% of private-school students, attended a school where the capacity to provide remote instruction was hindered to some extent or a lot by the lack of access to the Internet for students. More surprisingly, a similar public-private gap was observed when principals were asked whether the difficulty of getting in touch with students was a barrier to distance teaching.

Interestingly, the differences in the way public and private independent schools handled the pandemic seem to be unrelated to enrolment patterns. The share of students who attended public schools, government-dependent private schools and private independent schools remained stable between 2018 and 2022, on average across OECD countries (Table II.B1.6.20). There may be several reasons for this stability. For instance, parents may have anticipated that the exceptional circumstances during COVID-19 would soon disappear and preferred not to choose a new school based on the ways schools responded (or were perceived to respond) to the pandemic. In addition, the ways in which public and private schools responded to COVID-19 were not that different once the pandemic unfolded. Another reason could simply be that, during the COVID-19 pandemic, parents decided not to disrupt their children's lives even further.

Figure II.6.10. Handling school closures due to COVID-19, by school type

OECD average



Note: Statistically significant differences between private and public schools are shown in a darker tone (see Annex A3).
Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

Disadvantaged families cannot afford to care only about quality when choosing a school

Parents usually want to have a say in which school their child attends and are prepared to invest time and resources in choosing a school. From talking to family, friends and neighbours, and surfing the Internet for reviews and rankings, to visiting schools and even moving home, many parents are ready to go the extra mile to see their children placed in the best school possible. Schools, too, especially those facing competition, want to know what parents are looking for so they can become more attractive options. Information on parents' preferences is also useful for education systems, in general, as it helps school systems accommodate family expectations, get parents involved in school matters, and ensure that teachers, students and parents are all working towards the same goals. However, not all parents have equal access to information about neighbouring schools, and not all parents can afford, financially, to care only about issues of quality (OECD, 2015[69]; Rich and Jennings, 2015[70]; Waslander, Pater and Van der Weide, 2010[71]).

In PISA 2022, students in 17 countries and economies took home a questionnaire for their parents to complete. One of the questions was related to the criteria parents consider important when choosing a school for their child. They were asked to report how much importance they give ("not important", "somewhat important", "important" or "very important") to 14 criteria, mainly related to school quality, financial constraints, the school's philosophy or mission, and geographic distance between their home and the school.

On average across the eight OECD countries where parents answered this question, parents were more likely to consider important or very important that there is a safe school environment, that the school has an active and pleasant climate, and that the school has a good reputation – even more so than the academic achievement of the students in the school (Table II.B1.6.24). In this regard, the education systems where parents cared the most about the academic achievement of students when choosing their children's school were Brazil, Ireland* and Korea, whereas the school systems where they cared the least were Belgium, Germany and Italy. Furthermore, about six in ten parents considered important or very important the commuting distance to the school, and eight in ten gave the same level of importance to the course offerings in schools. The least important criterion for parents was whether the school adheres to a particular religious philosophy, followed by attendance at the school of other family members.

Among the above criteria, socio-economically disadvantaged families gave more importance than advantaged families to financial considerations, whereas advantaged families cared relatively more about quality-related criteria, such as the reputation, climate and academic achievement in the school (Table II.B1.6.25).

On average across the OECD countries that distributed the parent questionnaire, the children of parents who assigned more importance to school reputation, the school climate and the academic achievement of students scored considerably higher in the mathematics assessment than the students whose parents were less concerned by these criteria, even after accounting for the students' and schools' socio-economic profile (Table II.B1.6.26). By contrast, the children of parents giving greater importance to financial considerations scored about ten points lower than students whose parents considered low expenses or the availability of financial aid to be only somewhat important or not important, after accounting for socio-economic factors.

School admissions and transfers policies

Admitting certain types of students into a school, or transferring them out, are ways of streaming students according to their career goals, education needs, academic achievement and behaviour. In countries with large differences in student performance among schools, admissions and transfer policies may have high stakes for schools and students. The most prestigious schools may attract motivated and highly skilled students, with potential benefits to the school's learning environment. Conversely, the learning environment of the least prestigious schools may be undermined because of their inability to attract or retain high-performing students.

Selective admissions procedures are associated with less socio-economic fairness

In 2022, PISA asked school principals how often ("never", "sometimes" or "always") they considered a range of factors when admitting students to their school. Ten potential and not mutually exclusive criteria for admissions were considered: students' academic performance; recommendations of feeder schools; parental endorsement of the instructional or religious philosophy of the school; students' requirement of or interest in a special programme offered by the school; preference to family members of current or former students; families' residence in a particular area; students' disciplinary record; students' parental status or pregnancy; students' working status; and students' cultural or ethnic background. An index of school selectivity was created depending on how frequently the first two items ("students' academic performance" and "recommendations of feeder schools") were considered for school admissions.

On average across OECD countries, the most common criteria used in school admissions were admitting students based on their area of residence, and admitting students based on students' need or interest in a special programme offered by the school (almost 60% of students attended schools that considered such factors "sometimes" or "always") (Table II.B1.6.27). By contrast, granting admission to school based on students' parental status or pregnancy, working status, or their cultural or ethnic background were the least common (about 90% of students attended schools that never considered these factors). Still, in some education systems, including Albania, Baku (Azerbaijan), Cambodia, Kosovo, Montenegro, the Philippines, Thailand, the United Arab Emirates and Viet Nam, at least 20% of students were enrolled in schools where the ethnic or cultural background of students was always considered when admitting students.

Checking the academic and disciplinary record of students who apply for entry into a school is widespread in some education systems (Table II.B1.6.27). While on average across OECD countries, about 52% of students attended a school that gives at least some consideration to a student's academic record for school admissions, in Bulgaria, Cambodia, Croatia, Hong Kong (China)*, Jamaica*, Japan, Kosovo, Macao (China) and Singapore, more than 95% of students were enrolled in a school that took this criterion into account sometimes or always. By contrast, in Chile and many Northern and Southern European countries, including Finland, Greece, Iceland, Ireland*, Norway, Portugal, Spain and Sweden, more than 80% of students attended a school that never based admission on student performance. Furthermore, on average across OECD countries, about 43% of students attended a school that considered students' disciplinary record in the school admissions process; but in some education systems, such as Cambodia, Hong Kong (China)*, Jamaica* and Macao (China), almost all schools considered this factor.

Between 2018 and 2022, school admissions criteria did not change greatly, on average across OECD countries, but they did in certain education systems (Table II.B1.6.29). The schools in some education systems, such as Baku (Azerbaijan), Chile, Peru and Türkiye, became less selective in the admissions process, which means that they gave less importance to candidates' academic record and to the recommendations of feeder schools. By contrast, schools in the Dominican Republic, Germany, Iceland, Montenegro and Poland became more selective. In addition, in Brazil, Denmark*, France and especially in Poland, the candidate´s area of residence was less often considered as an admissions criterion in 2022 than in 2018, while it was more frequently considered in Latvia*, Macao (China), Norway, Panama* and Türkiye.

Within education systems, not all schools are equally selective when admitting students. On average across OECD countries, socio-economically advantaged, urban and private schools were more academically selective (based on the index of school selectivity) than disadvantaged, rural and public schools, respectively (Table II.B1.6.28). The education systems with the largest socio-economic gaps in school selectivity were Austria, the Czech Republic, the Dominican Republic, Lithuania, Qatar, the Slovak Republic and Switzerland; those with the largest public-private school gaps were Canada*, Estonia, France, Greece and Qatar. Interestingly, there were four countries (Iceland, Korea, Malta and Norway) where socio-economically disadvantaged schools were more academically selective than advantaged schools.

Most admissions criteria were not associated with higher student performance, especially after accounting for socio-economic factors – with the single exception of students' academic record (Table II.B1.6.30). On average across OECD countries, students in schools that considered a student's academic record sometimes or always when admitting students to the school scored about four points higher in mathematics than students in schools that never based admission on this criterion, after accounting for students' and schools' socio-economic profile. At the system level, OECD countries with less selective admissions processes showed greater socio-economic fairness, even after accounting for per capita GDP (Table II.B1.6.71).

Transferring students because of low achievement was most common in East Asian school systems

For the first time, PISA 2022 asked principals how likely ("not likely", "likely" or "very likely") it was that a student in the modal grade for 15-year-olds would be transferred to another school for low academic achievement, high academic achievement, behavioural problems, special learning needs, or in response to parents' request. Transferring students to another school is likely to negatively shape how inclusive a school climate is, but it may be justified if certain students are better supported in other schools.

PISA 2022 results suggest that transferring students to a different school is not a common practice across OECD countries (Table II.B1.6.31). For instance, at least three in four students attended a school whose principal reported that it would be unlikely for a student to be transferred to another school for low or high academic achievement, or for special learning needs. Transferring a student for behavioural problems would be somewhat more likely: about one in three students was enrolled in a school where it would be likely or very likely that a student would be transferred for bad behaviour. Unsurprisingly, schools would be more inclined to transfer a student if parents requested so; only one in three students attended a school where students would not be transferred following a parents' request.

Some education systems were much more inclined to transfer students than others. For instance, in East Asian school systems, such as Hong Kong (China)*, Japan, Macao (China) and Chinese Taipei, and also in Slovenia, more than two in three students attended a school where it would be likely or very likely that a student is transferred to another school for low academic achievement; this would almost never happen in Finland, Iceland, Malta, New Zealand*, Norway, Spain, Sweden or the United Kingdom* (Table II.B1.6.31). Transferring a student for bad behaviour was more likely to happen, according to school principals, in Indonesia, Jordan, Kosovo, Macao (China), North Macedonia, the Palestinian Authority, Chinese Taipei and Thailand, and least likely to happen in Finland, Iceland, Ireland*, Moldova, Norway, Singapore and Sweden.

In some education systems, mainstream schools are reasonably well prepared to serve children with special education needs and may have fewer incentives to transfer these students out to special schools. This appeared to be the case in Finland, Hungary, Iceland, Ireland*, New Zealand* and Singapore where more than 92% of students attended a school whose principal reported that it would not be likely that a student is transferred to another school for special learning needs (Table II.B1.6.31). By contrast, in Jordan, Macao (China), Morocco, the Palestinian Authority, Saudi Arabia and Chinese Taipei more than 70% of students were enrolled in a school where students with special learning needs would probably be transferred to a different school. This does not necessarily imply that these students were not taken care of in these education systems, but rather that students with special learning needs in these education systems may have continued to be educated in special schools.

On average across OECD countries, students with bad performance or behaviour were more likely to be transferred to another school if they attended a private school than if they attended a public school (Tables II.B1.6.32 and II.B1.6.34). Similarly, urban schools were more likely to transfer students with low academic achievement or behavioural problems than rural schools. Students in socio-economically advantaged schools were more likely to be transferred than students in disadvantaged schools, but only for low academic achievement. The socio-economic gap in school transfers was particularly large in Albania, the Dominican Republic, Georgia, Germany and Switzerland. In Switzerland, for instance, 6% of students in disadvantaged schools attended a school whose principal reported that they could be transferred to another school for poor academic performance, compared to 58% of students in advantaged schools.

Government-dependent private schools play a leading role in fair and high-performing education systems

Table II.6.3 provides an overview of the school-choice policies in four groups of education systems, organised according to whether their mathematics performance and their ability to ensure that all students, regardless of their socio-economic background, can achieve at high levels (socio-economic fairness), were below or above the median value of all PISA-participating countries/economies. Based on this classification, the high-performing systems in which all students could flourish were, in many ways, different from the other three groups of education systems, particularly from the groups of low-performing education systems. The group of fair and high-performing education systems had fewer students who attended public schools, and more students who attended government-dependent private schools, than the other three groups. Almost 1 in 4 students attended a government-dependent private school in these education systems, compared to 1 in 10 in the group of high-performing, but not as equitable, education systems, and fewer than 1 in 20 in the group of low-performing education systems.

As regards the criteria that schools consider when admitting and transferring students, the groups of high-performing education systems were less selective overall than the groups of low-performing systems. For instance, whereas in the groups of high-performing countries/economies, about one in three students attended a school where students were likely or very likely to be transferred to another school for behavioural problems, in the groups of low-performing countries/economies about half of students attended such schools. However, in other aspects, particularly the degree to which schools compete for students, the share of students enrolled at private independent schools, and the extent to which students could be transferred for low academic achievement, the four groups looked similar.

Table II.6.3. Summary of school-choice policies, by mathematics performance and socio-economic fairness

System-level analysis

All countries and economies		Low performance - Low fairness N[2] = 14	Low performance - High fairness N = 26	High performance - Low fairness N = 27	High performance - High fairness N = 14
		Groups of countries and economies according to their mathematics performance and socio-economic fairness[1]			
Competition for students among schools	Percentage of students enrolled in schools whose principal reported that at least one other school competes for students in the area	77.67	75.32	79.62	77.07
School type	Percentage of students enrolled in public schools	87.81	82.40	84.52	69.37
	Percentage of students enrolled in government-dependent private schools	2.34	4.31	9.63	23.61
	Percentage of students enrolled in private independent schools	9.85	13.28	5.85	7.02
School selectivity	Index of school selectivity (in student admissions)	2.24	2.33	2.17	2.02
	Percentage of students in schools where students are likely or very likely to be transferred to another school for low academic achievement	23.71	28.76	28.00	24.27
	Percentage of students in schools where students are likely or very likely to be transferred to another school for high academic achievement	22.24	25.61	11.63	11.76
	Percentage of students in schools where students are likely or very likely to be transferred to another school for behavioural problems	45.76	58.64	35.37	35.53

1. Socio-economic fairness is measured by the percentage of variation in student performance that is accounted for by the PISA index of economic, social and cultural status.
2. N = Number of countries/economies in each group. Due to missing data, the number of cases for individual variables may be lower.
Notes: Countries and economies are considered to have low(high) performance/equity if they are below(above) the median value of all PISA-participating countries/economies. Values in grey indicate that the difference with the group "High performance - High fairness" was statistically significant.
Source: OECD, PISA 2022 Database.

Quality-assurance mechanisms

Quality assurance refers to the systematic review of school practices to ensure that certain quality, equity and efficiency standards are met. These reviews almost always include some form of internal or external school evaluation, including visits from the inspectorate, and may also encompass student assessments, the monitoring of teacher practices and the appraisal of the school-management team. The use of such mechanisms often leads to improvements in how schools function, particularly when the information they produce is informative, sets quality standards and is fed back to schools (Cuttance, 1998[72]; Geijsel, Krüger and Sleegers, 2010[73]; Gustafsson et al., 2015[74]; OECD, 2013[6]; Visscher and Coe, 2013[75]).

While the use of performance data to improve teaching and learning has expanded in recent years (OECD, 2013[6]) (Schildkamp, 2019[76]; Al-Samarrai et al., 2018[77]), the practice of school inspections often has a limited impact on school-quality indicators (Gaertner, Wurster and Pant, 2014[78]; Hofer, Holzberger and Reiss, 2020[79]) and may have unintended consequences, including a narrowing of the curriculum and the discouragement of innovation (Ehren et al., 2015[80]; Jones et al., 2017[81]). This section examines quality-assurance mechanisms at three levels: student assessment, teacher appraisal and school evaluation. Quality-assurance mechanisms are mostly related to the fairness component of resilience (Table II.B1.6.71).

Most 15-year-old students are assessed with mandatory standardised tests

Tests serve as powerful incentives for students to put greater effort into learning, particularly if the tests have direct consequences for students (Duflo, Dupas and Kremer, 2011[82]; Holm and Kousholt, 2019[83]). For teachers, standardised assessments provide a way of contrasting instructional objectives against the results achieved, and comparing the performance of their students to the performance of students elsewhere in the school system, so that teachers can tailor their pedagogy accordingly (Anghel et al., 2015[84]; Datnow and Hubbard, 2015[85]; Hamilton et al., 2009[86]).

However, student assessments and examinations have their critics. For example, some argue that standardised tests and examinations may reinforce the advantages of schools that serve students from privileged backgrounds (Downey, von Hippel and Hughes, 2008[87]; Datnow and Hubbard, 2015[85]). In addition, teachers may respond strategically to accountability measures by sorting out or retaining disadvantaged students (Lauen and Gaddis, 2016[88]; Ortagus et al., 2020[89]). Standardised tests and examinations might also have the adverse effect of narrowing education goals to passing or showing proficiency on particular tests, and focusing instruction on those students who are close to average in performance while giving less attention to those who are far below or above the average (Neal and Schanzenbach, 2010[90]). In order to avoid the negative impact of "teaching to the test", most OECD countries are using more diverse methods of evaluation (OECD, 2013[6]).

PISA 2022 asked school principals how often ("never", "1-2 times a year", "3-5 times a year", "monthly" or "more than once a month") students in the national modal grade for 15-year-olds are assessed using the following methods: mandatory standardised tests, non-mandatory standardised tests, teacher-developed tests, and teachers' judgemental ratings.

On average across OECD countries, about one in four students attended a school whose principal reported that mandatory standardised tests are never used to assess students in the modal grade for 15-year-olds, and six in ten students attended schools where these tests are used once or twice a year (Table II.B1.6.38). In Austria, Belgium, Costa Rica, Croatia, Iceland and Slovenia at least one in two students attended a school where mandatory standardised tests are never used, while in Malta, Sweden, Chinese Taipei and Uzbekistan all school principals reported that such tests are used at least once a year.

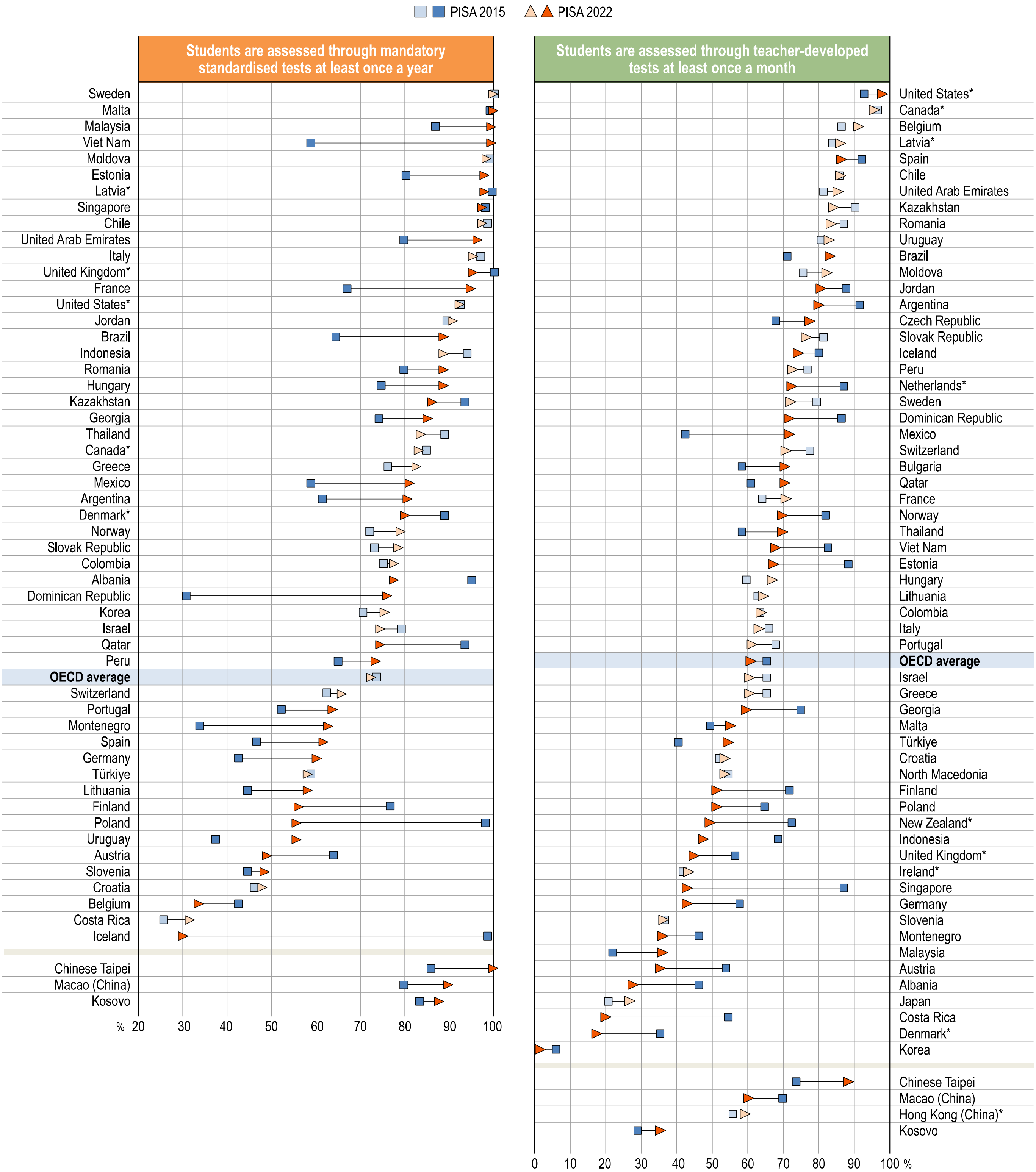
Non-mandatory standardised tests were used somewhat less frequently than mandatory standardised tests, whereas teacher-developed tests and judgemental ratings were used considerably more frequently. For example, on average across OECD countries, about six out of ten students attended a school whose principal reported that teacher-developed tests and teachers' judgemental ratings are used at least once a month.

Education systems where students in the modal grade were more frequently assessed using teacher-developed tests include, among others, Belgium, Canada*, Panama*, Spain, Chinese Taipei and the United States* where at least 60% of students were assessed with these tests more than once a month. By contrast, in Denmark* and Korea less than 2% of students were assessed using teacher-developed tests more than once a month. In Denmark*, 20% of students attended schools where teacher-developed tests are never used to assess students in the modal grade for 15-year-olds, according to school principals.

On average across OECD countries, the use of teacher-developed tests and teachers' judgemental ratings to assess student progress decreased moderately between 2015 and 2022, but the use of standardised tests remained stable (Figure II.6.11 and Table II.B1.6.43). The percentage of students who were assessed through teacher-developed tests at least once a month decreased by more than 20 percentage points in Costa Rica, Estonia, Indonesia, New Zealand* and Singapore. Similarly, the percentage of students assessed once a month through teachers' judgemental ratings decreased by more than 20 percentage points in Brazil, the Czech Republic, Estonia, Indonesia, Latvia*, Moldova, Portugal, the Slovak Republic and the United Kingdom*.

Figure II.6.11 Trends in the frequency of using standardised and teacher-developed tests

Based on principals' reports



Note: Statistically significant changes between PISA 2015 and PISA 2022 are shown in a darker tone (see Annex A3).
For each graph, countries and economies are ranked in descending order of the percentage of students in 2022.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

Analyses of how the use of the four types of assessment varies across different kinds of schools show few large differences (Tables II.B1.6.39, II.B1.6.40, II.B1.6.41 and II.B1.6.42). On average across OECD countries and in 20 education systems, non-mandatory standardised tests were more frequently used in private than in public schools, according to school principals, while in only three countries (Malta, Sweden and the United Arab Emirates) were they more frequently used in public schools. On average across OECD countries, teacher-developed tests were used slightly more frequently in advantaged and private schools than in disadvantaged and public schools, respectively.

In only a few education systems did mathematics performance vary according to the method of assessment employed, at least once the socio-economic profile of students and schools is accounted for (Table II.B1.6.44). On average across OECD countries, students in schools whose principal reported that non-mandatory standardised tests were used at least once a year scored three points lower in the mathematics assessment than students in schools where these tests were never used, after accounting for socio-economic factors.

How systems use achievement data is unrelated to students' performance

PISA 2022 collected data on the nature of accountability systems, and the ways in which the resulting information is used for school improvement and made available to various stakeholders and the general public. School principals were asked to report on whether mathematics achievement data, such as the school's performance on tests or graduation rates, are posted publicly, tracked over time by an administrative authority or provided directly to parents.

On average across OECD countries, achievement data were more frequently shared with parents (80% of students attended schools whose principals so reported) than tracked by an administrative authority (48% of students attended such schools) or posted publicly (13% of students attended such schools) (Table II.B1.6.45). But there was considerable variation across countries and economies. For example, in Cambodia, Thailand, the United States* and Viet Nam at least 50% of students were enrolled in schools that post data publicly, while in 30 countries/economies, less than 10% of students were enrolled in such schools.

Across PISA-participating countries/economies, socio-economically advantaged and urban schools posted data somewhat more frequently than disadvantaged and rural schools did (Table II.B1.6.46). In 17 out of 80 education systems, posting data publicly was more common in advantaged than in disadvantaged schools, and in 16 out of 67 education systems it was more common in urban than in rural schools. On average across OECD countries, there were no differences between advantaged and disadvantaged schools, or between public and private schools, in the degree to which school achievement data were tracked by administrative authorities (Table II.B1.6.47). Sharing achievement data with parents was more frequently observed in disadvantaged than in advantaged schools (Table II.B1.6.48).

On average across OECD countries and in a majority of PISA-participating education systems, students performed similarly in mathematics regardless of whether the achievement data from their schools was tracked by an administrative authority, shared directly with parents, or posted publicly (Table II.B1.6.50).

Teachers are monitored less frequently

Teacher appraisal refers to the formal evaluation of teachers "to make a judgement and/or provide feedback about their competencies and performance" (OECD, 2013[6]). Teacher appraisal can take many forms, ranging from centralised national appraisal systems with strictly regulated procedures to approaches developed autonomously within schools. The actors and methods involved differ widely across education systems, as do the consequences for teachers. Typical examples across education systems include appraisal for the completion of a probationary period, registration as a qualified teacher (e.g. through national exams or peer committees), regular performance appraisal (e.g. by the school principal) and reward schemes based on the identification of high-performing teachers (OECD, 2013[6]; Paletta, Basyte Ferrari and Alimehmeti, 2020[91]).

Teacher appraisal serves several important functions. It can be a tool for quality assurance, when aimed at ensuring that required standards are met or recommended practices followed. Teacher appraisal can also provide an opportunity for teachers to reflect on their teaching practice and on their strengths and weaknesses, and to identify areas for improvement. Teacher appraisal can yield important information to support schools, teachers and external authorities in their decisions on career advancement and professional development (Garrett and Steinberg, 2015[92]).

PISA 2022 asked school principals to report whether the following methods were used to monitor the practice of mathematics teachers in their schools during the previous academic year: tests or assessments of student achievement; teacher peer review of lessons plans, assessment instruments and lessons; principal or senior staff observations of lessons; and observation of classes by inspectors or other persons external to the school.

On average across OECD countries, between 2015 and 2022 there was a decrease in the use of tests or assessments of student achievement and of teacher peer-review to monitor teachers' practice (a drop of nine percentage points in the share of students in schools where such practice was used), and a decrease in the use of observation of classes by inspectors or other persons external to the school (a drop of eight percentage points in the share of students in schools where such practice was used) (Figure II.6.12). Principal or senior staff observations of lessons decreased less than the other practices over this time period (by four percentage points). On average across OECD countries in 2022, and according to principals' reports, 77% of students attended a school where principal or senior staff observations of lessons are used to monitor the practice of teachers; 73% of students attended a school where tests or assessments of student achievement are used to that end; 59% of students attended a school that uses teacher peer reviews of lesson plans, assessment instruments or lessons; and 34% attended a school where classes are observed by inspectors or other persons external to the school with the aim of monitoring teacher practice (Table II.B1.6.51).

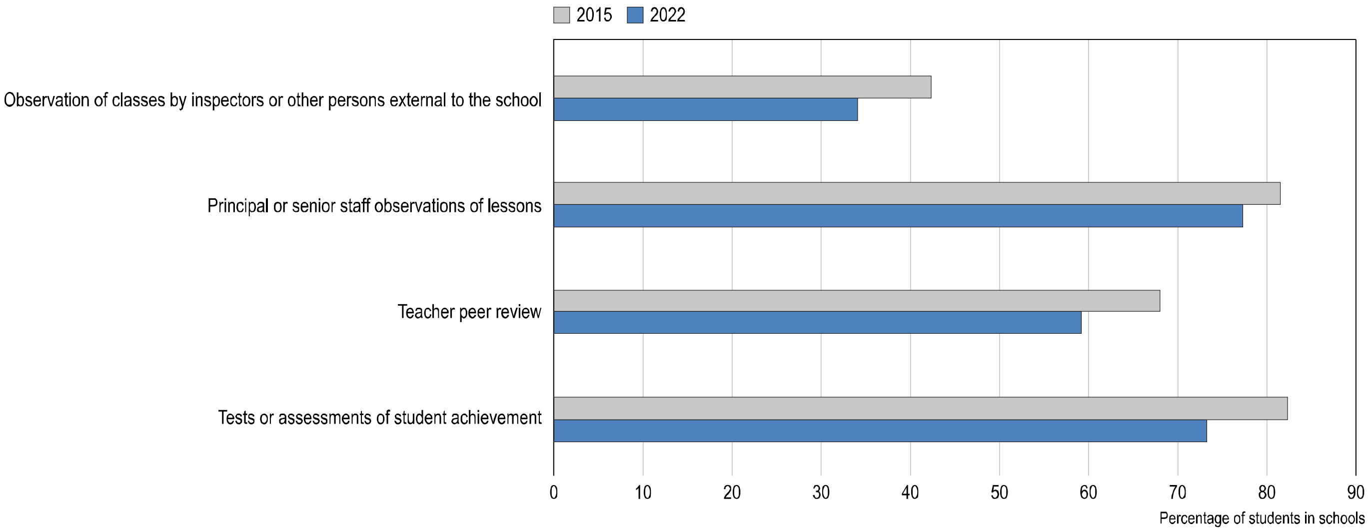
In general, there were wide differences in the extent to which, and how, schools monitor teacher practice. In 54 education systems, at least 90% of students attended a school whose principal or senior staff observe lessons, but in Finland, Greece and Portugal, less than 33% of students attended such a school. In Finland, in addition, only 20% of students attended a school whose principal reported that tests or assessments of student achievement were used to monitor teacher practice during the previous year. Based on principals' reports, in 11 countries/economies, more than 95% of students were in schools where teacher practice is monitored using teacher peer reviews, but in Bulgaria, Finland, France, Germany and Iceland, less than 33% of students attended such a school. In Finland, Italy and Slovenia, less than 10% of students attended a school where inspectors or other persons external to the school observe classes.

On average across OECD countries, there were small differences in how extensively the four methods of monitoring teacher practice are used when considering the socio-economic profile of the school (Tables II.B1.6.52, II.B1.6.53, II.B1.6.54 and II.B1.6.55). However, larger differences were observed when considering other school characteristics. For example, private schools were more likely than public schools to use principal or senior staff observation of classes to monitor teacher practice; and urban schools were more likely than rural schools to monitor teacher practice using tests or assessments of student achievement, teacher peer-reviewing and observation of classes by inspectors or external persons.

On average across OECD countries, students scored similarly in mathematics regardless of whether or not their schools use the four types of monitoring teacher practice (Table II.B1.6.57). Across the four monitoring methods and all education systems, there were only 5 cases where using a particular method was associated with an improvement of more than 20 score points in mathematics performance, after accounting for the socio-economic profile of students and schools.

Figure II.6.12. Trends in monitoring teacher practice

Percentage of students in schools where, during the previous academic year, the following methods were used to monitor the practice of teachers (based on principals' reports); OECD average



Note: All changes between PISA 2015 and PISA 2022 are statistically significant (see Annex A3).
Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

School evaluation and improvement actions are widely mandatory

Certain types of school evaluations and improvement actions are widely mandatory PISA 2022 asked school principals which arrangements aimed at quality assurance and improvement are used in their schools. They could choose from ten suggested arrangements, and for each of them, could specify whether it was a mandatory or school initiative-based arrangement.

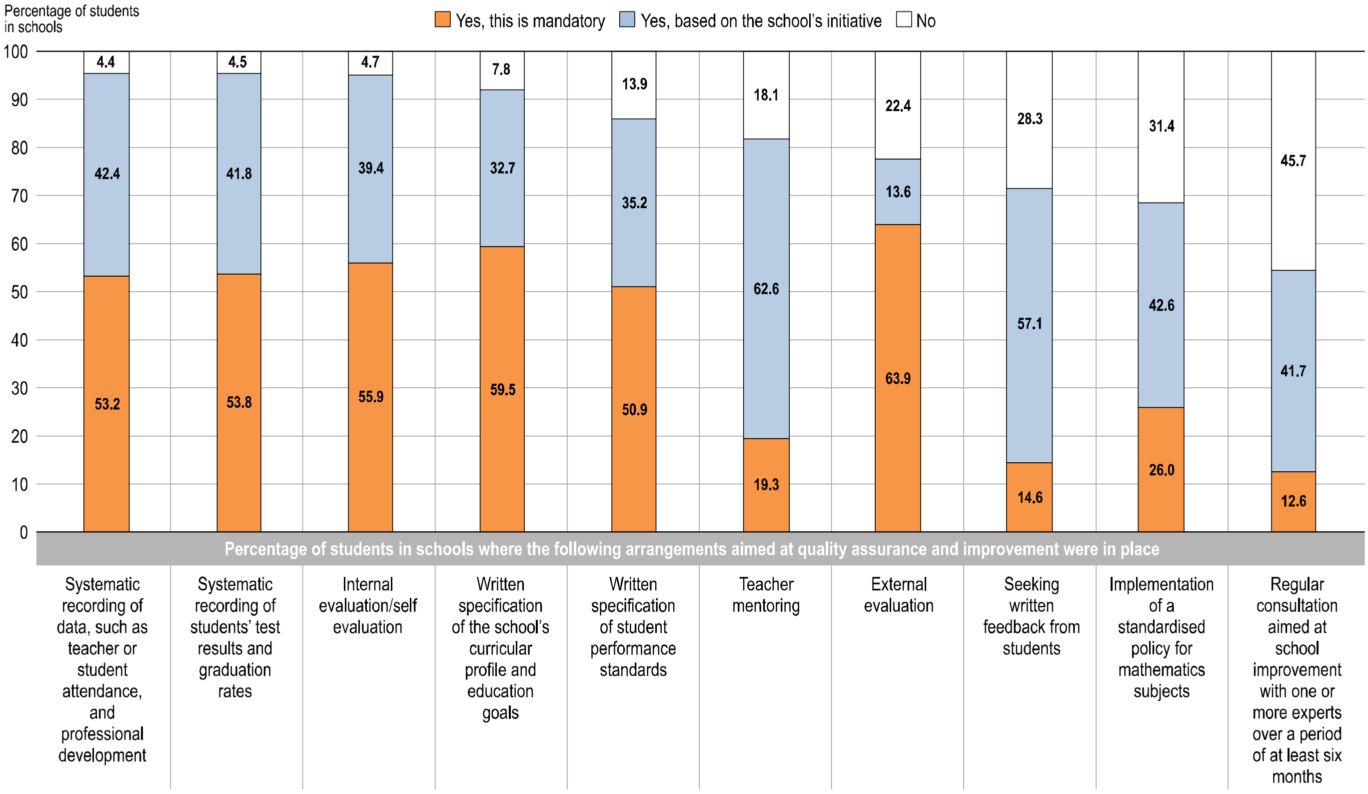
On average across OECD countries in 2022, principals reported that the following quality assurance and improvement actions were in place at their school (in decreasing order of prevalence) (Figure II.6.13):

- 96% of students attended schools with systematic recording of data, such as teacher or student attendance, and professional development; 42% of students attended schools where such recording of data is initiated by the schools themselves.
- 96% of students attended schools with systematic recording of students' test results and graduation rates; 42% of students attended schools where such recording is initiated by the schools themselves.
- 95% of students attended schools with internal evaluation/self-evaluation; 39% attended schools with school-initiated internal evaluation.
- 92% of students attended schools that have a written specification of the school's curricular profile and education goals; 33% of students attended schools where this written specification is formulated on the schools' initiative.
- 86% of students attended schools with a written specification of student performance standards; 35% attended schools where this written specification is initiated by the schools themselves.
- 82% of students attended schools where teacher mentoring is available; 63% of students attended schools where teacher mentoring is conducted on the schools' initiative.
- 78% of students attended schools where external evaluations are in place; 14% were in schools where external evaluation is conducted on the schools' initiative.

- 72% of students attended schools that seek students' written feedback; 57% of students attended schools where students' written feedback is sought on the schools' initiative.
- 69% of students attended school where a standardised policy for mathematics subjects is implemented; 43% of students attended schools where this policy is formulated on the schools' initiative.
- 54% of students attended schools with regular consultations with one or more experts, over a period of at least six months, aimed at school improvement; 42% of students attended schools where this consultation is organised on the schools' own initiative.

Figure II.6.13. Quality assurance and improvement actions at school

Based on principals' reports; OECD average



Items are sorted in descending order of the percentage of students in schools where the arrangements were in place.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

Some quality-assurance and improvement arrangements, such as internal evaluations, systematic recording of data, and written specifications of the school's curricular profile and educational goals, were widely used in all, or almost all, education systems (Table II.6.4). However, there were large differences across education systems in the prevalence of other quality-assurance mechanisms. For instance, seeking written feedback from students, teacher mentoring, and regular consultations with experts were almost universal in some education systems, such as Indonesia, New Zealand*, the Philippines and Uzbekistan; but in Argentina and Italy less than 60% of students were in schools where these arrangements were in place. Education systems where quality-assurance mechanisms were prevalent, according to principals, included Indonesia, Kazakhstan, Malaysia, New Zealand*, the Philippines, Qatar, Saudi Arabia, Singapore, Thailand, the United Arab Emirates and Uzbekistan. By contrast, according to principals, these mechanisms were least likely to be found in many European and Latin American countries, including Argentina, Finland, France, Germany, Italy, Spain, Switzerland and Uruguay.

Table II.6.4. Quality assurance and improvement actions at school, by country/economy

Based on principals' reports

A Internal evaluation/Self-evaluation
B External evaluation
C Written specification of the school's curricular profile and educational goals
D Written specification of student performance standards
E Systematic recording of data such as teacher or student attendance and professional development
F Systematic recording of student test results and graduation rates
G Seeking written feedback from students
H Teacher mentoring
I Regular consultation aimed at school improvement with one or more experts over a period of at least six months
J Implementation of a standardised policy for mathematics subjects

Less than half of students | From 50% to 75% of students | From 75% to 90% of students | More than 90% of students

	Percentage of students in schools where the following arrangements aimed at quality assurance and improvement at school were in place									
	A	B	C	D	E	F	G	H	I	J
Philippines	100	94	99	100	100	100	96	99	98	98
Qatar	100	99	99	100	100	100	98	95	87	99
United Arab Emirates	100	98	99	99	100	100	92	99	87	97
Uzbekistan	99	91	98	98	100	99	95	97	96	94
Malaysia	99	89	99	100	100	98	86	100	94	98
Kazakhstan	99	96	99	99	100	98	96	99	85	89
Thailand	100	100	100	99	100	100	97	84	88	89
New Zealand*	100	100	100	94	100	100	94	98	92	80
Saudi Arabia	99	95	95	97	99	100	98	99	81	93
Singapore	99	99	100	97	100	100	92	100	67	99
Indonesia	99	94	97	91	98	99	93	99	93	87
Brunei Darussalam	100	92	99	96	100	100	77	100	88	96
United Kingdom*	100	97	100	96	100	100	84	97	89	81
Australia*	98	92	98	97	100	99	86	99	87	88
Albania	100	94	98	97	97	99	94	98	78	85
North Macedonia	100	94	99	93	98	99	91	100	83	81
Jordan	99	89	95	94	99	100	89	98	81	92
Mongolia	99	97	94	85	99	99	95	98	74	93
Jamaica*	100	95	99	98	99	100	69	96	79	89
United States*	92	86	97	97	99	99	73	99	87	96
Korea	100	72	100	100	100	100	95	98	65	90
Moldova	99	98	92	92	100	98	86	95	66	93
Viet Nam	100	91	99	93	99	100	90	92	60	93
Georgia	99	86	99	96	96	93	90	82	82	89
Malta	100	99	89	98	100	100	59	94	85	83
Türkiye	99	80	96	95	99	99	93	86	64	92
Israel	98	92	99	90	100	98	68	94	65	94
Serbia	99	99	99	94	99	94	70	98	66	77
Netherlands*	97	91	99	88	92	100	92	94	78	62
Cambodia	97	72	98	94	90	91	91	94	76	88
El Salvador	95	77	90	91	99	98	69	96	77	96
Dominican Republic	94	93	93	97	99	96	98	77	70	70
Ireland*	100	93	93	77	97	98	76	96	78	81
Panama*	99	72	95	90	100	89	90	100	74	80
Colombia	99	95	97	100	97	93	84	84	67	71
Montenegro	100	99	100	86	100	100	66	100	55	75
Romania	100	97	93	88	98	98	94	90	58	62
Brazil	97	93	100	93	95	92	80	91	60	66
Bulgaria	96	95	92	90	99	99	68	81	73	69
Croatia	97	86	95	89	94	90	75	98	62	74
Estonia	100	81	98	78	95	98	78	96	52	76
Latvia*	100	96	98	94	99	99	79	88	40	55

	Percentage of students in schools where the following arrangements aimed at quality assurance and improvement at school were in place									
	A	B	C	D	E	F	G	H	I	J
Slovenia	100	62	99	98	98	98	85	84	35	88
Morocco	98	85	89	85	96	98	64	94	49	82
Peru	90	78	99	98	98	94	73	100	49	61
Costa Rica	95	71	89	96	96	95	73	76	57	88
Portugal	99	96	91	94	92	93	83	79	41	56
Canada*	83	65	94	84	93	97	62	91	72	83
Japan	99	82	97	96	97	98	88	88	20	58
OECD average	95	78	92	86	96	96	72	82	54	69
Norway	97	76	83	91	95	97	68	93	83	33
Chile	94	82	96	84	96	95	82	65	55	56
Austria	93	48	84	80	97	90	92	72	64	83
Iceland	100	100	99	92	98	97	50	52	60	53
Lithuania	100	87	100	87	98	97	65	79	35	53
Sweden	98	73	81	99	97	88	75	88	38	60
Paraguay	95	73	92	90	96	96	77	50	59	67
Czech Republic	97	65	98	92	96	96	63	99	39	48
Poland	90	56	66	77	99	97	72	95	58	82
Hungary	93	81	99	98	99	98	57	86	25	54
Mexico	91	75	93	86	95	95	75	54	55	68
Belgium	90	84	92	65	95	90	56	92	60	59
Guatemala	93	69	89	91	94	94	76	46	57	71
Slovak Republic	96	58	91	90	99	97	58	65	66	58
Greece	99	61	82	69	85	82	47	90	90	74
Denmark*	89	76	74	86	96	96	61	88	42	55
Switzerland	85	75	84	66	87	84	72	83	39	66
Spain	92	70	94	84	97	95	76	39	34	44
Uruguay	89	69	82	79	98	96	60	77	31	40
Germany	85	65	92	79	91	95	64	44	30	76
Finland	95	66	80	75	91	95	74	71	12	56
Italy	97	60	99	76	87	94	33	59	20	69
Argentina	89	61	89	72	92	88	48	57	39	57
France	88	65	82	38	84	94	18	71	13	50
Macao (China)	98	95	98	98	100	100	75	100	66	93
Palestinian Authority	97	87	95	95	100	100	84	98	70	89
Kosovo	98	90	96	95	97	96	84	95	72	69
Ukrainian regions (18 of 27)	99	89	96	97	98	93	61	95	84	75
Hong Kong (China)*	100	98	96	87	99	100	80	89	52	85
Chinese Taipei	98	84	100	93	100	100	81	88	50	66
Baku (Azerbaijan)	97	78	89	91	96	99	78	70	65	74

Countries and economies are ranked in descending order of the average of the 10 actions.
Source: OECD, PISA 2022 Database, Annex B1, Chapter 6.

On average across OECD countries, four out of the ten quality-assurance mechanisms and improvement actions at school varied by whether the school is public or private (Tables II.B1.6.59 to II.B1.6.68). Private schools were more likely than public schools to: have written specifications of the school's curricular profile and education goals; have written specifications of student performance standards; request written feedback from students; and hold regular consultations, with one or more experts over a period of at least six months, aimed at school improvement.

Table II.6.5. Governing education systems figures and tables

Figure II.6.1	Quality-assurance mechanisms, school autonomy and mathematics performance
Figure II.6.2	Governance of education systems as covered in PISA 2022
Table II.6.1	Summary of how responsibilities for school governance are allocated
Figure II.6.3	Index of school responsibility for curriculum, by school type
Figure II.6.4	Index of school responsibility for resources, by school type
Figure II.6.5	Allocation of education responsibilities, by average performance in mathematics
Table II.6.2	Education leadership actions
Figure II.6.6	Attendance at public school, student characteristics and mathematics performance
Figure II.6.7	Mathematics performance and socio-economic status, by type of school
Figure II.6.8	Mathematics performance in public and private schools with a similar socio-economic profile
Figure II.6.9	School funding sources and school composition
Figure II.6.10	Handling school closures due to COVID-19, by school type
Table II.6.3	Summary of school-choice policies, by mathematics performance and socio-economic fairness
Figure II.6.11	Trends in the frequency of using standardised and teacher-developed tests
Figure II.6.12	Trends in monitoring teacher practice
Figure II.6.13	Quality assurance and improvement actions at school
Table II.6.4	Quality assurance and improvement actions at school, by country/economy

StatLink https://stat.link/6nwqli

Notes

[1] Statistically speaking, identifying the quality assurance arrangements that qualify, or moderate in statistical terminology, the relationship between school autonomy and mathematics performance was done by estimating the differences in the correlation coefficient of both indices of school autonomy (resources and curriculum) with mathematics average scores between the groups of education systems where a given quality assurance mechanism was employed more frequently and less frequently than on average across OECD countries. Positive differences are interpreted as strengthening the association between school autonomy and academic performance (positive moderation), whereas negative differences are interpreted as weakening the association (negative moderation). To rank the different quality assurance mechanisms, the differences for the indices of school responsibility for resources and curriculum were added up.

[2] Questions about the type of school were not asked in the Flemish-speaking Community of Belgium. Data for Belgium represent only the French-speaking and German-speaking Communities.

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7 From data to insights

Results from PISA offer a wealth of data points that can highlight aspects of education policy that merit further investigation and development. This chapter suggests a plan for digging deeper into PISA 2022 data to better understand how policies can be improved to meet the needs of every student.

For Australia, Canada, Denmark, Hong Kong (China), Ireland, Jamaica, Latvia, the Netherlands, New Zealand, Panama, the United Kingdom and the United States, caution is required when interpreting estimates as one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

The eighth assessment of PISA was delayed by one year due to the COVID-19 pandemic. Results from that assessment, PISA 2022, show that Singapore scored significantly higher than all other participating countries/economies in mathematics (575 points), reading (543 points) and science (561 points). In mathematics, six East Asian education systems, namely Singapore, Macao (China), Chinese Taipei, Hong Kong (China)*, Japan and Korea (in descending order of average scores) outperformed all other countries/economies. In reading, behind top-performing education system Singapore, Ireland* performed as well as Japan, Korea, Chinese Taipei and Estonia (in descending order of average scores) and better than 75 other countries/economies. In science, the highest-performing countries were the same six East Asian countries/economies, and Estonia and Canada* (Tables I.2.1, I.2.2 and I.2.3).

But PISA 2022 results also show significant deterioration in mathematics and reading performance between 2018 and 2022. During that period mean scores dropped by almost 15 points in mathematics and 10 points in reading, on average across OECD countries. Over half of the countries/economies that can compare PISA 2022 data with PISA 2018 data deteriorated in average mathematics and reading performance (Figure I.5.1).

Beyond score rankings, results from PISA offer policy makers a wealth of data points that can highlight aspects of education that merit further investigation – and that imply that changes to existing policies and practices, or the design and implementation of new ones, may be necessary.

Results from PISA 2022 suggest a plan for digging deeper into the data with the aim of better understanding how education policies can be improved to meet the needs of every student:

Examine why student performance declined so sharply

The steep declines in performance observed between 2018 and 2022 are unprecedented, given that changes in the OECD average over consecutive PISA assessments up to 2018 had never exceeded four score points in mathematics and five score points in reading. These more recent declines are equivalent to around half a year to three-quarters of a year of learning, as 20 score points represents the average annual pace of learning among 15-year-olds in countries/economies that participated in PISA (see Volume I Box I.5.1 for details).

The sharp declines may not be due solely to the pandemic because performance trends vary across subjects...

Between 2018 and 2022, average performance in mathematics and reading deteriorated precipitously while average performance in science did not change significantly, on average across OECD countries. Indeed, in 33 out of 71 countries/economies, science performance remained broadly stable between 2018 and 2022 (Figure I.5.1).

...and across education systems...

During the period, mathematics performance improved in Chinese Taipei, Saudi Arabia, the Dominican Republic, Brunei Darussalam, Cambodia, Paraguay and Guatemala (in descending order) by around 10 to 16 score points. However, in Albania, Jordan, Iceland, Norway and Malaysia (in descending order), mathematics scores dropped by more than 30 points (Figure I.5.1).

Reading performance improved in Brunei Darussalam, Panama*, Chinese Taipei, Qatar, Japan, the Dominican Republic, and Cambodia (in descending order) by around 8 to 21 score points between 2018 and 2022; but in Albania, Iceland and North Macedonia, reading scores declined by more than 30 points during that period.

Science performance improved in 18 countries/economies between 2018 and 2022, including in Kazakhstan, the Dominican Republic, Panama*, Chinese Taipei, Japan, Cambodia and Brunei Darussalam (in descending order), where scores improved by around 15 to 26 points. However, in Albania, North Macedonia, Iceland and Malaysia (in descending order), science scores deteriorated by more than 20 points during the period.

... and performance was already deteriorating before the pandemic...

The deterioration in mathematics performance between 2018 and 2022 followed a decade-and-a-half of stable performance. Trajectories in reading and science performance, however, had already turned negative before 2018, after reaching their highest levels between PISA 2009 and 2012, well before the COVID-19 disruptions (Figure I.6.1).

The following countries/economies were already showing a decline in mean performance prior to 2018. These negative trends were often confirmed and reinforced between 2018 and 2022 (Figure I.5.3):

- Belgium, Canada*, the Czech Republic, Finland, France, Hungary, Iceland, the Netherlands*, New Zealand* and the Slovak Republic in mathematics performance
- Costa Rica, Finland, Iceland, the Netherlands*, the Slovak Republic, Sweden and Thailand in reading performance
- Belgium, Finland, Germany, Greece, Iceland, Kosovo, the Netherlands* and Slovenia in science performance.

...which suggests that there are other structural reasons for the decline.

Provide all students with opportunities to fulfil their potential regardless of their backgrounds, and tailor policies to education systems' particular contexts

In 70% of PISA-participating education systems the gap in mathematics performance related to socio-economic status did not change between 2018 and 2022 – mainly because both advantaged and disadvantaged students' performance deteriorated during the period.

The gap in mathematics performance related to socio-economic status did not change between 2018 and 2022 in 48 out of the 68 countries/economies with available PISA data. This gap widened on average across OECD countries and in 13 countries/economies; it narrowed in 7 countries/economies (Argentina, Brazil, Chile, Moldova, the Philippines, Saudi Arabia and the United Arab Emirates). Of these latter countries, only in Argentina, the Philippines and Saudi Arabia did the gap narrow because of improvements in disadvantaged students' performance. In three other countries, advantaged students' performance deteriorated (Table I.5.3).

Many education systems became more inclusive of marginalised populations over the past decade.

Many countries/economies, including Cambodia, Colombia, Costa Rica, Indonesia, Morocco, Paraguay and Romania, made significant progress towards the goal of universal secondary education over the past decade. While in four of these countries average PISA scores appeared to decline, in fact they improved or remained stable after accounting for the expansion of secondary education to previously marginalised populations (Figure I.6.7).

PISA results show that education systems can both attain higher overall performance and minimise the impact of students' socio-economic status on their performance.

Education systems in Canada*, Denmark*, Finland, Hong Kong (China)*, Ireland*, Japan, Korea, Latvia*, Macao (China) and the United Kingdom* are highly equitable. They have achieved high levels of socio-economic fairness at the same time as a large share of their 15-year-old students have attained at least basic proficiency in mathematics, reading and science (Figure I.4.20).

Results from PISA can indicate which type of policy, universal or targeted, is more likely to have a strong impact on a particular education system.

PISA results can indicate whether policies should be targeted to low-performing or socio-economically disadvantaged students or both. They can also help policy makers determine whether students or schools should be targeted (Box I.4.3).

In Japan, Lithuania, the Netherlands*, Poland, Slovenia and Chinese Taipei, performance-targeted policies aimed at improving the scores of the lowest performers, regardless of their socio-economic status, could be implemented initially at the school level. Conversely, Australia*, Canada*, Korea, New Zealand* and Sweden could implement such policies by focusing first on individual students.

If the aim is to reduce inequalities in education by providing additional resources, support or assistance to disadvantaged students and schools, targeting disadvantaged schools is likely to have a greater impact in Bulgaria, Colombia, Malaysia, Mongolia, Panama*, Peru and Uruguay. The only exception is Portugal, where disadvantaged students, rather than schools, could be targeted first.

In Austria, Belgium, the Czech Republic, France, Hungary, Israel, Romania and the Slovak Republic a mix of targeted policies that provides adapted resources and support to address both low achievement and disadvantage may be more effective when targeting schools. Only in Singapore and Switzerland are students from disadvantaged backgrounds more evenly distributed across schools than the OECD average.

Study resilient systems where learning, equity and well-being were maintained and promoted despite pandemic-related disruptions

Four education systems, namely Japan, Korea, Lithuania and Chinese Taipei, are identified as resilient education systems...

Of the 81 countries/economies that participated in PISA 2022, only Japan, Korea, Lithuania and Chinese Taipei showed overall resilience: they performed well, were equitable, their students reported a sense of belonging at school that was as strong as or stronger than the OECD average in 2022, and they showed no deterioration in any of these aspects between 2018 and 2022 (Figure II.1.1).

...while 21 education systems were resilient in one or two of the three aspects considered: performance, equity and students' well-being.

Singapore was resilient in both mathematics performance and equity, but not in well-being (with a focus here on students' sense of belonging at school). Switzerland was resilient in both mathematics performance and students' well-being, but not in equity. Australia* was resilient in mathematics performance, but not in equity or in well-being. Hong Kong (China), the United Kingdom* and the United States* were considered resilient in equity, but not in mathematics performance or in well-being. Austria, Croatia, Finland, France, Georgia, Germany, Hungary, Iceland, Montenegro, Portugal, Romania, Saudi Arabia, Serbia, Slovenia and Sweden were resilient in well-being but not in mathematics performance or in equity.

Ten actions related to resilience:

1. Keeping schools open longer for more students

PISA 2022 data show that systems that spared more students from longer school closures scored higher while their students enjoyed a greater sense of belonging at school.

PISA 2022 student-reported data show that systems that spared more students from longer closures (longer than three months) tended to score higher in mathematics (Figure II.2.2). These systems also showed stable or improving trends between 2018 and 2022 in their students' sense of belonging at school (Figure II.2.3).

PISA 2022 asked students whether their school building was closed to students for more than a month in total (some schools closed and reopened multiple times during the period) in the previous three years due to COVID-19. In most countries/economies, schools were closed for several months because of the pandemic (Table II.B1.2.1). On average across OECD countries, fewer than one in two students reported that their school was closed for less than three months. In fact, only one in three countries/economies with available data avoided longer school closures for a majority of their students. In Iceland, Japan, Korea, Sweden, Switzerland and Chinese Taipei more than three out of four students indicated that their school was closed for less than three months, while in Brazil, Ireland*, Jamaica* and Latvia* only one out of four students or fewer who responded to the question reported so.

Keeping schools open longer, for more students, seems to be important – but insufficient – for maintaining students' learning during disruptions; how learning is organised during school closures also matters. In situations where schools have to be closed, education systems and schools have to ensure that instruction can continue in remote mode in order to avoid severe learning losses. Remote education forces students to learn more autonomously which, in turn, requires them to draw on their self-directed learning skills. Promoting the acquisition of these skills in school is not only beneficial to individual students, it is also an investment in the resilience of education systems.

2. Preparing students for autonomous learning

When remote learning runs smoothly, students and education systems benefit.

Education systems in which students encountered fewer problems during remote learning tended to score higher in mathematics than other systems, on average (Table II.B1.2.45). In addition, these systems saw improvements in their students' sense of belonging at school between 2018 and 2022, pre- to post-COVID (Table II.B1.2.46).

However, remote learning left many students struggling to motivate themselves. PISA 2022 results show that, on average across OECD countries, almost one in two students indicated that they had problems at least once a week motivating themselves to do schoolwork. In Australia* and the United Kingdom*, six out of ten students reported that they frequently had difficulty motivating themselves to do schoolwork while learning remotely – more than double the share of students in Guatemala, Iceland, Indonesia, Kazakhstan, Korea, Moldova and Chinese Taipei who so reported. Once motivated, however, students seemed to be well-equipped for learning: at least three out of four students reported that they never or only a few times had problems with access to a digital device when they needed one, with Internet access, with finding a quiet place to study, with time to study because of household responsibilities or with finding someone who could help them with schoolwork (Figure II.2.13 and Table II.B1.2.30).

Students were more confident about using digital technology for remote learning than about taking responsibility for their own learning.

PISA 2022 also explored whether education systems prepared students for autonomous learning by asking students to report on their confidence in their capacity for self-directed learning. Overall, students reported feeling more confident about using digital technology for learning remotely during school closures than they felt about taking responsibility for their own learning (Table II.B1.2.5). For instance, on average across OECD countries, about three out of four students reported that they feel confident or very confident about using a learning-management system, a school learning platform or a video communication program, and about finding learning resources on line on their own (Figure II.2.5). Only six out of ten students reported feeling equally confident about motivating themselves to do schoolwork and focusing on it without reminders.

These results suggest that providing students with the skills to use technological tools for learning is not enough; students also need to learn how to assume responsibility for their learning. Some education systems implemented a new programme to enhance students' skills in and attitudes towards self-directed learning. See Box II.7.1 for an example in Singapore.

Teachers could play a key role in enhancing students' confidence in their capacity for self-directed learning.

In education systems where students reported that their teachers were available when they needed help, students tended to be more confident that they could learn independently and remotely if their school has to close again in the future. On average across OECD countries, students who had a more positive experience with remote learning – for example, students who agreed or strongly agreed that their teachers were available when they needed help – scored higher in mathematics and reported feeling more confident about learning independently if their school has to close again in the future (Figure II.2.11 and Table II.B1.2.47).

Box II.7.1. Blended Learning in secondary and pre-university schools in Singapore

As part of Blended Learning, regular Home-Based Learning (HBL) Days have been implemented in all secondary schools and pre-university institutions since the end of 2022. This programme aims to help students become self-directed, independent and passionate learners. Regular HBL Days provide students with more opportunities to learn curricular content in a self-directed manner, using both digital and non-digital methods of learning. HBL Days also include time set aside for student-initiated learning, where students can pursue their own interests and learn outside the curriculum – such as learning a foreign language, or studying financial literacy or programming.

Schools schedule about two HBL days a month as part of the school schedule. This accounts for about 10% of curriculum time in an academic year. HBL Days are less structured than a typical day in a classroom, allowing students to learn curricular content in a self-paced manner. Around four to five hours are allocated to the curriculum and at least one hour is dedicated to student-initiated learning. Schools determine the subjects and topics covered on HBL Days and customise the support for student-initiated learning based on their students' interests and needs. For example, for students who need more guidance on their student-initiated learning, schools can suggest activities or provide resources at the start, before reducing this scaffold over time.

Educational technology platforms and resources, such as those in the Singapore Student Learning Space, the national online learning platform, and personal learning devices that have been rolled out for all secondary school students under the National Digital Literacy Programme, support the implementation of Blended Learning. Students who require additional learning support or who do not have a home environment that is conducive to learning can return to school on HBL Days where they will be supervised by school personnel but will still have the opportunity to learn and organise their schedule independently.

Source: (Ministry of Education, Singapore, 2020[1]; Ministry of Education, Singapore, 2022[2])

3. Building strong foundations for learning and well-being for all students

No system provided all of its students with the solid foundations needed for learning and well-being, such as food security…

On average across OECD countries, 8.2% of students reported that they had not eaten at least once a week in the previous 30 days because there was not enough money to buy food. Some OECD countries have some of the smallest proportions (less than 3%) of these students, notably Portugal (2.6%), Finland (2.7%) and the Netherlands* (2.8%). However, in some OECD countries the proportion of students who suffer from food insecurity exceeds 10%, including Türkiye (19.3%), New Zealand* (14.1%), Colombia (13.3%), Chile (13.1%), the United States* (13%), Lithuania (11%) and the United Kingdom* (10.5%) (Figure I.4.6).

...and feelings of safety.

Overall, students feel safe at school, particularly in their classrooms. However, PISA 2022 results suggest that education systems could consider improving safety on the routes students travel to or from school, or in places outside of the classroom, such as hallways, cafeterias or restrooms (Figure I.3.9 and Table II.B1.3.17). Around 10% of students disagreed or strongly disagreed that they feel safe in these places, on average across OECD countries. In Jamaica*, Moldova and Morocco, 25% of students reported feeling unsafe outside the classroom, and in Baku (Azerbaijan), Jamaica* and Moldova, more than 15% of students reported feeling unsafe even in their classroom. However, in many systems, including Belgium, Croatia, Ireland*, Korea, the Netherlands*, Portugal, Serbia, Singapore, Switzerland and Chinese Taipei, less than 5% of students reported feeling unsafe in their classroom or in other places in the school.

Education systems can address food security and safety through various policies. In Finland, school meals are an integral part of the national core curriculum. National legislation guarantees students, from pre-primary through upper secondary education, the right to free meals on school days (Finnish National Agency for Education, 2023[3]). In Ireland, the School Meals Programme provides funding for the provision of needs-based meals for students and children in schools and organisations (Ireland Department of Social Protection, 2022[4]). In Portugal, the School without Bullying, School without Violence plan (2019) emphasises a whole-community approach to combatting bullying and school violence, with actions aimed at teachers, parents, students and other stakeholders. Schools define an action plan involving strategies and activities that raise awareness about harmful behaviours and promote early identification (OECD, 2021[5]). In the Flemish Community of Belgium, the *Paraat voor de schoolstraat (Ready for the school street)* policy initiative, aimed at reducing air pollution in school neighbourhoods, prohibits vehicles from driving on streets near schools for set periods of time in the morning or afternoon (Burns and Gottschalk (eds.), 2020[6]).

4. Limiting the distractions caused by using digital devices in class

One in three students becomes distracted while using digital devices at school.

PISA 2022 data show that, on average across OECD countries and in around a third of all education systems, the disciplinary climate improved between 2012 and 2022 (Table II.B1.3.12). However, apart from “traditional” disciplinary problems, around 30% of students, on average across OECD countries, reported that, in most or every mathematics lesson, they get distracted using digital devices (Figure II.3.4 and Table II.B1.3.9). Equally important, around 25% of students indicated that, in most or every lesson, they become distracted by other students who are using digital devices, that the teacher has to wait a long time for students to quiet down, that students cannot work well and that students do not start working for a long time after the lesson begins.

Limiting distractions is important for student performance and well-being.

On average across OECD countries, students who reported that they become distracted in every or most mathematics lessons scored 15 points lower in mathematics than students who reported that this never or almost never happens, after accounting for students' and schools' socio-economic profile (Table II.B1.3.13). A similar pattern was observed in over 80% of education systems with available data. In all countries/economies students who perceive the climate in their mathematics lessons to be less disruptive reported feeling less anxious towards mathematics (Table II.B1.3.16).

Students who frequently use smartphones at school reported that they are likely to become distracted while using digital devices in mathematics lessons.

Relying on students' cell phones at school increases the risk that students use their phones in class for non-educational activities or get distracted by notifications. Students appear to be less distracted when they switch off notifications from social networks and apps on their digital devices during class, when they do not have their digital devices open in class to take notes or search for information, and when they do not feel pressured to be on line and answer messages while in class (Table II.B1.5.44).

Policies that target students' skills and behaviours when using digital devices are critical for limiting distractions.

Many schools have introduced guidelines addressing the problem of distraction when students use digital devices in school. The content and design of such rules, as well as the capacity to enforce them, determine their effectiveness. When a school's written statements or rules are too general, imprecise or lenient, they are unlikely to benefit teaching and learning with digital devices. Schools and teachers also need the time and capacity to enforce such rules. Teachers are probably unable to monitor what their students are doing with their digital devices in class, even when the devices are used as part of the lesson. Indeed, teachers' preparedness in integrating digital devices in instruction bears little relationship with the possibility of students becoming distracted while using digital devices during mathematics class (Figure II.5.9).

Students are less likely to report being distracted by using digital devices in mathematics lessons when the use of cell phones on school premises is banned. At first glance, cell phone bans would appear to be a useful policy. However, further research is needed to fully understand the effectiveness and impact of such bans. On average across OECD countries, 30% of students in schools where the use of cell phones is banned reported using a smartphone several times a day, and 21% reported using one every day or almost every day at school (Table II.B1.5.39). These data show that cell phone bans are not always effectively enforced. PISA 2022 results also show that, in some countries/economies, when cell phones are banned at their school, students are less likely to turn off their notifications from social networks and apps on their digital devices when going to sleep at night (Table II.B1.5.45). This finding suggests that students in schools with cell phone bans might not have adequate opportunities to develop self-directed strategies for using cell phones.

Moderate use of digital devices in school is related to higher performance; but the relationship differs greatly according to the purpose of use.

Students who spend up to one hour per day on digital devices for learning activities in school scored 24 points higher in mathematics than students who spend no time on such devices, on average across OECD countries. Even after accounting for students' and schools' socio-economic profile, the former group of students scored 14 points higher. This positive relationship is observed in over half of the education systems with available data. However, the relationship becomes negative when students spend more than one hour per day on digital devices for learning in school (Table II.B1.5.66).

Students who spend up to one hour per day on digital devices for leisure activities scored 20 points higher in mathematics than students who spend no time on such devices. The difference in performance amounts to 10 points even after accounting for students' and schools' socio-economic profile. This positive relationship is observed in around half of the education systems with available data (Table II.B1.5.67). However, students who spend more than an hour per day on digital devices for leisure activities scored lower in mathematics.

These findings suggest that moderate use of digital devices is not intrinsically harmful and can even be positively associated with performance. It is the overuse and/or misuse of digital devices that is negatively associated with performance. Results from PISA 2022 confirm the need for better guidelines on how to use digital devices at school.

5. Strengthening school-family partnerships and keeping parents involved in students' learning

In many education systems parental involvement in students' learning decreased.

PISA trend data collected from school principals show that the percentage of parents who were involved in school activities decreased substantially between 2018 and 2022 in many countries/economies, especially the share of parents involved in learning-related activities (Figure II.3.15 and Table II.B1.3.67). On average across OECD countries, the share of students in schools where most parents discussed their child's progress with a teacher on their own initiative or on the initiative of one of their child's teachers shrank by ten and eight percentage points, respectively. Only in a few countries/economies did parents become more involved during the period: in Macao (China), Mexico and Romania, parents were more involved in parent-initiated discussions with teachers in 2022 than in 2018; in Brunei Darussalam, the Dominican Republic, Georgia, Qatar, Saudi Arabia and the United Arab Emirates, more parents in 2022 than in 2018 were involved in teacher-initiated discussions.

Education systems with more positive trends in parental involvement showed stable or improved performance, especially among disadvantaged students.

The education systems in which the share of parents who discussed their child's progress with a teacher on their own initiative shrank less between 2018 and 2022 showed more stable or improved mathematics performance (Figure II.3.16), especially among disadvantaged students (Table II.B1.3.77).

Students who were supported at home had more positive attitudes towards school and learning.

In all countries/economies, students who enjoy more support from their families reported a greater sense of belonging at school and life satisfaction, and more confidence in their capacity for self-directed learning (Table II.B1.3.75). In most countries/economies, these students also reported feeling less anxious towards mathematics.

Students thrive when their families take an active interest in them and their learning.

Higher-performing students reported that their family regularly ("about once or twice a week" or "every day or almost every day") eats the main meal together, spends time just talking with them, or asks them what they did in school that day. These students scored 16 to 28 points higher in mathematics than students who reported that their family does not do those things regularly, on average across OECD countries and after accounting for students' and schools' socio-economic profile (Table II.B1.3.72).

Students' responses to the question about whether their parents or someone from the family asks what they did in school that day show one of the greatest variations across education systems. In Australia*, Colombia, Croatia, Denmark, Germany, Hungary, Italy, Ireland*, the Netherlands*, New Zealand*, Portugal, Sweden and the United Kingdom*, at least 80% of students reported that their parents or someone in their family asks what they did in school that day about once or twice a week. In Hong Kong (China)*, Macao (China) and Thailand, only around 50% of students reported that this occurs regularly (Figure II.3.18).

While there is no doubt as to the importance of parental and family engagement in education, there is an on-going debate on the appropriate balance and nature of their involvement, especially beyond children's early years. PISA results show that, for adolescents, even seemingly innocuous activities, like sharing a family meal or just talking together, are strongly associated with student performance and well-being.

6. Delaying the age at selection into different education programmes

Early tracking is negatively associated with socio-economic fairness, and is related to the concentration of advantaged/disadvantaged students in schools

PISA 2022 results consistently show that in systems where students are selected into different curricular programmes at an earlier age, there is a stronger association between students' socio-economic profile and their performance (Table II.B1.4.31).

The earlier students are selected into different academic programmes, the greater the isolation of advantaged and disadvantaged students in the education system (Figures II.4.16 and II.4.17). The measures of concentration of advantaged and disadvantaged students in schools gauge the opportunities for social interaction between different groups of students in a school. This is important because classmates and schoolmates can have a strong influence on one another (i.e. peer effects) – for better and for worse. They can motivate each other and help each other overcome learning difficulties; but they can also disrupt instruction, require disproportionate attention from teachers, and be a source of anxiety.

PISA results show that early tracking, the concentration of advantaged and disadvantaged students in schools, and socio-economic fairness in mathematics are related. Although PISA data cannot determine how they are related, they provide insights into some aspects that countries may wish to consider as they aim to provide learning opportunities for all students. It may be worth exploring whether the undesirable consequences of early tracking can be mitigated by: keeping the concentration of advantaged and disadvantaged students in schools at reasonable levels and minimising its impact on student learning; removing the social stigma associated with certain tracks; implementing challenging and rich curricula in all programmes and ensuring they are adequately supported and resourced; introducing flexibility into the system so that students can transfer easily between programmes; and offering pathways to higher education to all students.

7. Providing additional support to struggling students instead of requiring them to repeat a grade

Education systems with more grade repetition tend to show lower average performance in mathematics.

In the group of high-performing and equitable systems, comparatively few students had repeated a grade (Table II.4.2). Across OECD countries, the greater the proportion of grade repeaters in an education system, the lower the average mathematics performance and the stronger the relationship between students' socio-economic profile and their performance in mathematics (Table II.B1.4.31).

Teachers in education systems with automatic grade promotion provide greater support to students.

Students in education systems with automatic grade promotion were more likely than students in education systems without automatic grade promotion to report that their mathematics teachers are supportive, and that they have good relationships with their teachers (when considering the latter, the difference is significant only when comparing OECD countries) (Figure II.4.9).

Greater efforts are needed to ensure that students receive necessary and relevant support from their teachers.

PISA 2022 results suggest that further efforts are needed to ensure that students receive necessary and relevant support from teachers. In half of all countries/economies and on average across OECD countries, teacher support deteriorated between 2012 and 2022 (Table II.B1.3.4). For instance, the share of students who reported that their teacher gives extra help when students need it in most or every lesson decreased by three percentage points over the period. In 2022, around 70% of students reported that their teacher gives extra help when students need it and, in every or most lessons, continues teaching until students understand, on average across OECD countries; 30% of students reported that their teachers do not do these things (Table II.B1.3.1).

Attendance at pre-primary school seems to reduce the likelihood of repeating a grade later on.

While the cross-sectional nature of PISA data cannot establish causality, PISA 2022 results clearly show that, on average across OECD countries and in a majority of education systems, students who had attended pre-primary school for at least one year were considerably less likely to have repeated a grade at any education level than students who had never attended pre-primary school or who had attended for less than a year, even after accounting for socio-economic factors (Figure II.4.5).

The education systems with the strongest negative association between attendance at pre-primary school and grade repetition were Denmark, Greece, Iceland, Israel, Malaysia, Chinese Taipei, Thailand, Singapore and Sweden; the only education system with a positive association was North Macedonia. In Thailand, 15-year-old students who had not attended pre-primary school, or had done so for less than one year, were about 5 times more likely to have repeated a grade than students who had attended for one year or longer.

8. Ensuring adequate, high-quality education staff and material

Principals were more concerned about the shortage of education staff in 2022 than in 2018.

PISA results show that between 2018 and 2022, in more than half of all education systems school principals in 2022 were more likely than their counterparts in 2018 to report that instruction was hindered, to some extent or a lot, by inadequate or poorly qualified teaching staff. This was particularly evident in education systems that saw the proportion of full-time teachers shrink over the period. Yet PISA results also show that between 2018 and 2022, student-teacher ratios and class size decreased slightly, on average across OECD countries, or remained stable in most countries/economies.

It is important for education systems to examine why principals in 2022 perceived a greater shortage of teachers when the number of teachers per student had not necessarily decreased. Other notions or phenomena might be feeding this perception, such as teacher absenteeism, the idea that teachers are not sufficiently qualified, or even changes in the role of teachers, which can, in turn, affect expectations and thus alter the standards against which teacher performance is measured.

By contrast, school principals in 2022 were less likely than their counterparts in 2018 to report a shortage of educational material. However, within education systems the availability of educational material varied across schools.

Education systems need to provide adequate and high-quality educational material and digital devices, and develop guidelines for their use.

PISA 2022 results show that socio-economically disadvantaged schools were more likely than advantaged schools to suffer from shortages of material resources, on average across OECD countries and in 47 education systems (Figure II.5.7). On average across OECD countries and in 41 education systems, advantaged schools were more likely than disadvantaged schools to suffer from a lack of or poor-quality digital resources (Figure II.5.6).

Within each education system, it is important to ensure that all schools, regardless of their socio-economic profile, enjoy adequate and quality educational material and digital resources.

9. Establishing schools as hubs for social interaction

PISA 2022 results show that schools can serve as hubs not only for students' learning but also for their well-being.

In high-performing education systems, schools tend to provide a room where students can do their homework, and school staff offer help with homework (Table II.B1.5.102). This relationship is observed both across OECD countries, and across all countries/economies, even after accounting for per capita GDP. A similar relationship is observed within education systems as well. Students in schools that provide a room to do homework scored 13 points higher in mathematics than students in schools that do not provide such a room, on average across OECD countries. After accounting for students' and schools' socio-economic profile the improvement is smaller (three points), but still significant (Table II.B1.5.87).

Across OECD countries, an increase in the availability of peer-to-peer tutoring is associated with an increase in students' sense of belonging at school. In education systems where more students in 2022 than in 2018 attended schools that offer peer-to-peer tutoring, students' sense of belonging at school strengthened during the period (Table II.B1.5.104).

These results highlight the importance of social interaction for student learning and well-being. Collaboration or co-operation, the key component of teamwork, can be incorporated into curricula to facilitate learning. For example, more than half of the curriculum in Estonia, Kazakhstan and Korea involves collaborative learning (OECD, 2021[7]).

10. Combining school autonomy with quality-assurance mechanisms

Understanding the conditions under which greater school autonomy works in the interests of students is critical for education policy making.

PISA data show that the greater the autonomy granted to schools in an education system, the higher the average mathematics performance; and this is most evident when education authorities and schools had certain quality-assurance mechanisms in place (Figure II.6.1). More specifically, the quality-assurance mechanisms that appear to ensure that greater school autonomy is associated with better academic performance across PISA-participating countries/economies are (in descending order of importance): teacher mentoring arrangements; monitoring teacher practice by having inspectors observe classes; schools' systematic recording of students' test results and graduation rates; internal or self-evaluations; tracking achievement data by an administrative authority; and using mandatory standardised tests at least once a year.

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Annex A1. Construction of indices

Explanation of the indices

This section explains the indices derived from the PISA 2022 student, school, well-being and Information and Communication Technology (ICT) familiarity questionnaires used in this volume. Several PISA measures reflect indices that summarise responses from students or school representatives (typically principals) to a series of related questions. The questions were selected from a larger pool on the basis of theoretical considerations and previous research. The PISA 2022 Assessment and Analytical Framework (OECD, 2023[1]) provides an in-depth description of this conceptual framework. Item response theory (IRT) modelling and classical test theory were used to test the theoretically expected behaviour of the indices and to validate their comparability across countries. For a detailed description of the methods, see the section "Statistical criteria for reporting on scaled indices" in this chapter, and the *PISA 2022 Technical Report* (OECD, forthcoming[2]).

This volume uses four types of indices: simple indices, complex composite indices, new scale indices and trend scale indices. In addition to these indices, several single items of the questionnaires are used in this volume. The volume also uses data collected on students' performance in mathematics, reading and science. These assessments are described in the *PISA 2022 Assessment and Analytical Framework* (OECD, 2023[1]), the *PISA 2022 Technical Report* (OECD, forthcoming[2]) and in Volume I of *PISA 2022 Results* (OECD, forthcoming[3]).

Simple indices are constructed through the arithmetic transformation or recoding of one or more items in the same way across assessments. Here, item responses are used to calculate meaningful indices, such as the recoding of the four-digit ISCO-08 codes into "Highest parents' socio-economic index (HISEI)" or teacher-student ratio based on information from the school questionnaire.

Complex composite indices are based on a combination of two or more indices. The PISA index of economic, social and cultural status (ESCS) is a composite score derived from three indicators related to family background.

Scale indices are constructed by scaling multiple items. Unless otherwise indicated, the two-parameter logistic model (2PLM) (Birnbaum, 1968[4]) was used to scale items with only two response categories (i.e. dichotomous items), while the generalised partial credit model (GPCM) (Muraki, 1992[5]) was used to scale items with more than two response categories (i.e. polytomous items).[1] Values of the index correspond to standardised Warm likelihood estimates (WLE) (Warm, 1989[6]).

For details on how each scale index was constructed, see the *PISA 2022 Technical Report* (OECD, forthcoming[2]). In general, the scaling was done in two stages:

1. The item parameters were estimated based on all students from approximately equally weighted countries and economies;[2] only cases with a minimum number of three valid responses to items that are part of the index were included. For the trend scales, the scaling process began by fixing the item parameters of the trend items to the parameters that had been estimated for each group in the previous assessment, a procedure called fixed parameter linking. To compute trends, a scale needed to have at least three trend items, but some trend scales consisted of both trend items and new items. In this case, the item parameters for the trend items were fixed at the beginning of the scaling process, but the item parameters for the new items were estimated using the PISA 2022 data.
2. For new scale indices, the Warm likelihood estimates were then standardised so that the mean of the index value for the OECD student population was zero and the standard deviation was one (countries were given

approximately equal weight in the standardisation process2). For the trend scales, to ensure the comparability of the scale scores from the current assessment to the scale scores from the previous assessment, the original WLEs of PISA 2022 were transformed using the same transformation constants of the original WLEs from the assessment to which the current assessment was linked.

Sequential codes were assigned to the different response categories of the questions in the sequence in which the latter appeared in the student, school, ICT or well-being questionnaire. For reversed items, these codes were inverted for the purpose of constructing indices or scales.

Negative values for an index do not necessarily imply that respondents answered negatively to the underlying questions (e.g. reporting no support from teachers or no school safety risks). A negative value merely indicates that a respondent answered more negatively than other respondents did on average across OECD countries. Likewise, a positive value on an index indicates that a respondent answered more favourably, or more positively, on average, than other respondents in OECD countries did (e.g. reporting more support from teachers or more school safety risks).

Some terms in the questionnaires were replaced in the national versions of the student, school, ICT or well-being questionnaire by the appropriate national equivalent (marked through brackets < > in the international versions of the questionnaires). For example, the term < qualification at ISCED level 5A > was adapted in the United States* to “Bachelor’s degree, post-graduate certificate program, Master’s degree program or first professional degree program”. All the context questionnaires, including information on nationally adapted terms, and the PISA international database, including all variables, are available through www.oecd.org/pisa.

Statistical criteria for reporting on scaled indices

The internal consistency of scaled indices and the invariance of item parameters are the two approaches that were used to decide on the reporting of indices. All indices reported in this volume met the criteria of both approaches. Indices were omitted for countries and economies where one or more of the criteria were not met. For countries/economies with more than one language version (e.g. Finland offered versions of the student questionnaire in Finnish and Swedish), the criteria were judged independently for each language version.[3] Details about the scaling procedures and the construct validation of all context questionnaire data are provided in the *PISA 2022 Technical Report* (OECD, 2023[1]).

Internal consistency of scaled indices

The internal consistency was used in PISA 2022 to examine the reliability of scaled indices and as a criterion for reporting. Internal consistency refers to the extent to which the items that make up an index are inter-related. Cronbach’s Alpha was used to check the internal consistency of each scale within countries/economies and to compare it across countries/economies. The coefficient of Cronbach’s Alpha ranges from 0 to 1, with higher values indicating higher internal consistency. Similar and high values across countries/economies indicate reliable measures across countries/economies. Commonly accepted cut-off values are 0.9 for excellent, 0.8 for good, and 0.7 for acceptable internal consistency. Indices are not reported for countries and economies with values below 0.6.

Cross-country comparability of scaled indices

The invariance of item parameters was used in PISA 2022 to examine the cross-country comparability of scaled indices and as a criterion for reporting. It determined whether the item parameters of an index could be assumed to be the same or invariant across countries/economies and across language versions (international item parameter).

In a first step, item parameters were estimated using data from all individuals with available data from all countries/economies. In a second step, the fit of the international parameters for each item was evaluated for each country/economy and language version using the root mean square deviance (RMSD). Values close to zero signal a good item fit, indicating that the international model accurately describes student responses within countries/economies and across language versions. In 2022 PISA used an even more conservative approach than in previous assessments: any country/economy and language version that received a value above 0.25 was flagged. In 2018 and 2015, a cut-off of 0.3 was used. For any flagged item specific parameters were calculated. Steps were repeated until all items exhibited RMSD values below 0.25.

For each index, a country/economy needed to have at least three items with international parameters to be considered comparable to the results of other countries/economies and language versions. Indices are not reported for countries/economies in which one or more language version had fewer than three items with international parameters. For the reporting on trends for indices, a country/economy needed to have at least three trend items with international parameters in order to be considered comparable to the results of the previous assessment to which the current assessment was linked. Results for the trends of indices were not reported for countries/economies in which one or more language groups had fewer than three trend items with international parameters for the index.

The different indices used in this volume are described in the following sections. Those countries/economies and language versions that received specific item parameters are highlighted. The *PISA 2022 Technical Report* (OECD, forthcoming[2]) provides more details on the cross-country comparability of indices, including the items concerned and the specific item parameters for each country/economy and language version listed.

Complex composite indices

The PISA index of economic, social and cultural status (ESCS)

The PISA index of economic, social and cultural status (ESCS) is a composite score derived, as in previous assessments, from three indicators related to family background: parents' highest education, in years (PAREDINT), parents' highest occupational status (HISEI) and home possessions (HOMEPOS).

Parents' highest level of education, in years (PAREDINT): The index of the highest education of parents, in years, was based on the median cumulative years of education associated with completion of the highest level of education attained by parents (HISCED). Parents' highest level of education was derived from students' responses to questions about their parents' education (ST005 and ST006 for mother's level of education, and ST007 and ST008 for father's level of education). Responses were classified according to ISCED-11 (UNESCO, 2012[7]) using the following categories: (1) Less than ISCED Level 1, (2) ISCED level 1 (primary education), (3) ISCED level 2 (lower secondary), (4) ISCED level 3.3 (upper secondary education with no direct access to tertiary education), (5) ISCED level 3.4 (upper secondary education with direct access to tertiary education), (6) ISCED level 4 (post-secondary non-tertiary), (7) ISCED level 5 (short-cycle tertiary education [at least two years]), (8) ISCED level 6 (Bachelor's or equivalent first or long first-degree programme [three to more than four years]), (9) ISCED level 7 (Master's or equivalent long first-degree programme [at least five years]) and (10) ISCED level 8 (Doctoral or equivalent level). In the event that students' responses to the two questions about their mothers' and fathers' level of education conflicted (e.g. if a student indicated in ST006 that their mother has a postsecondary qualification but indicated in ST005 that their mother had not completed lower secondary education), the higher education level provided by the student was used. This differs from the PISA 2018 procedure where the lower level was used. Indices with these categories were provided for a student's mother (MISCED) and father (FISCED). In addition, the index of parents' highest level of education (HISCED) corresponded to the higher ISCED level of either parent.

The index of parents' highest level of education was recoded into the estimated number of years of education (PAREDINT). This international conversion was determined by using the PISA 2018 measure of cumulative years of education associated with parents' completion of the highest level of education across countries/economies for each ISCED level. The correspondence is available in the *PISA 2022 Technical Report* (OECD, forthcoming[2]).

Parents' highest occupational status (HISEI): Occupational data for both the student's father and the student's mother were obtained from responses to open-ended questions (ST014 and ST015). The responses were coded to four-digit ISCO codes (ILO, 2007) and then mapped to the international socio-economic index of occupational status

(ISEI) using the 2008 version of both (Ganzeboom and Treiman, 2003[8]). Three indices were calculated based on this information: father's occupational status (BFMJ2); mother's occupational status (BMMJ1); and the highest occupational status of parents (HISEI), which corresponds to the higher ISEI score of either parent or to the only available parent's ISEI score. For all three indices, higher ISEI scores indicate higher levels of occupational status.

Home possessions (HOMEPOS): Home possessions were used as a proxy measure for family wealth. In PISA 2022, students reported the availability of household items at home, including books at home and country-specific household items that were seen as appropriate measures of family wealth in the country's context. HOMEPOS is a summary index of all household and possession items (ST250, ST251, ST253, ST254, ST255, ST256). Some HOMEPOS items used in PISA 2018 were removed in PISA 2022 while new ones were added (e.g. new items developed specifically with low-income countries in mind). Furthermore, some HOMEPOS that were previously dichotomous (yes/no) items were revised to polytomous items (1, 2, 3, etc.) making it possible to capture a greater variation in responses. Note that all countries/economies and language versions received unique item parameters for the country/economy-specific items (i.e. no international parameters were estimated for these items) and that for some items, the response categories were collapsed to align with the response categories used in previous assessments (see Tables 19.15 and 19.16 of the *PISA 2022 Technical Report* (OECD, forthcoming[2]) for details).

For the purpose of computing the PISA index of economic, social and cultural status (ESCS), values for students with missing data on one of the three components (PAREDIND, HISEI or HOMEPOS) were imputed (see (OECD, 2020[9]; Avvisati, 2020[10]; OECD, forthcoming[2]) for details). If students had missing data for more than one component, the ESCS was not computed; a missing value was assigned instead. In PISA 2022, ESCS was computed by attributing equal weight to the three components. The final ESCS variable is standardised, so that 0 is the score of an average OECD student and 1 is the standard deviation across approximately equally weighted OECD countries.[2]

ESCS scores for PISA 2012, PISA 2015 and PISA 2018 were recomputed to be comparable to the respective scores for PISA 2022. More details are provided in the *PISA 2022 Technical Report* (OECD, forthcoming[2]).

Time in regular lessons

Time in regular lessons per week was calculated by combining answers from the student (ST059) and school principal (SC175) questionnaires. Students reported the number of class periods they are required to attend in all subjects per week, and school principals reported the average number of minutes per class period attended by students in the national modal grade for 15-year-olds. Time in regular lessons per week was obtained by multiplying the number of class periods by the average number of minutes per class period. This combination may create some noise induced by the potential misreporting or misunderstanding of the definition of a class period, either by students or school principals.

Simple indices

Availability of computers and tablets

School principals were asked to report the number of computers and tablet devices available at school (SC004). The index of availability of computers (RATCMP1) is the ratio of computers available to 15-year-olds for educational purposes to the total number of students in the modal grade for 15-year-olds (SC004Q01TA). The index of availability of tablet devices (RATTAB) is the ratio of tablet devices available to 15-year-olds for educational purposes to the total number of students in the modal grade for 15-year-olds. School principals answered similar questions about the number of computers available to 15-year-olds at school for educational purposes in 2012, 2015 and 2018.

Class size

Principals were asked about the average size of test language (SC003) and mathematics classes (SC176) in their school. The nine response categories were “15 students or fewer”, “16-20 students”, “21-25 students”, “26-30 students”, “31-35 students”, “36-40 students”, “41-45 students”, “46-50 students”, and “More than 50 students”. The average class size (CLSIZE in test language and MCLSIZE in mathematics) was derived from the midpoint of each response category, resulting in a value of 13 for the lowest category, and a value of 53 for the highest.

Concentration of immigrant students in schools

Schools were divided into having a high or low concentration of immigrant students according to the percentage of students with an immigrant background (IMMIG). A school with a low (high) concentration of immigrant students is a school where less than (at least) 10% of 15-year-old students have an immigrant background.

Duration of time spent in early childhood education and care

Questions ST125 and ST126 measure the starting age in ISCED 1 and ISCED 0. The indicator DURECEC is built as the difference of ST126 and ST125 plus the value of “2” to indicate the number of years a student spent in early childhood education and care.

Education level

PISA collects data on study programmes available to 15-year-old students in each country/economy. This information is obtained through the student tracking form and the Student Questionnaire (ST002). All study programmes were classified using the International Standard Classification of Education (ISCED 1997). From this information, a study programme level and orientation index (ISCEDP) was derived: a three-digit index that describes whether students were at the lower or upper secondary level (ISCED 2 or ISCED 3) and the type of programme in which they were enrolled. This index was used to classify students into those attending upper vs. lower secondary education programmes.

Expectation of a career in health and ICT

Students were asked to report on the kind of job that they expected to have at age 30 and to provide a job title or a description of this job (ST329). The responses were coded to four-digit ISCO-08 codes (OCOD3).

Based on these codes, students’ expectations were classified into health- and ICT-related careers:

- **Health professionals:** All health professionals in sub-major group 22 (e.g. doctors, nurses, veterinarians), with the exception of traditional and complementary medicine professionals (minor group 223).
- **ICT professionals:** All information and communications technology professionals (sub-major group 25).

Grade compared to modal grade

The relative grade index (GRADE) was computed to capture between-country/economy variation. It indicates whether students are in the country/economy’s modal grade (value of 0), or the number of grades below or above the modal grade in the country. The information about students’ grade level was obtained from school records from the student sampling data and validated by comparing students’ responses in the Student Questionnaire (ST001). For the analysis in this volume, all grades different from the modal grade in the country/economy were coded as 1.

Grade repetition

Students’ answers to question ST127 of whether and, if yes, how often they have ever repeated a grade at ISCED levels 1, 2, and 3 were combined into the index REPEAT. Each item included three response options (“No, never”, "Yes, once", "Yes, twice or more"). REPEAT took the value of "0" if the student never repeated a grade (student did not select options 2 or 3 for any of the three items) and the value of "1" if the student repeated a grade at least once (student selected options 2 or 3 for at least one of the three items). The index was assigned a missing value if none of the three response options were selected in any levels.

Immigrant background

Information on the country of birth of the students and their parents was collected from students (ST019). Three binary country-specific indices indicate whether the student (COBN_S), mother (COBN_M) and father (COBN_F) were born in the country of assessment or elsewhere. The index on immigrant background (IMMIG) is calculated from these indices, and has the following categories: (1) native students (those students who had at least one parent born in the country of assessment); (2) second-generation students (those born in the country of assessment but whose parent[s] were born in another country); and (3) first-generation students (those students born outside the country of assessment and whose parents were also born in another country). Students with missing responses for either the student or for both parents were given missing values for this variable.

Long-term student absenteeism from primary to upper secondary school

Question ST260 asked students if they had ever missed primary, lower or upper secondary school (ISCED 1, 2 or 3) for more than three consecutive months ("no, never", "yes, once", "yes, twice or more"). Students' answers were combined into the index of long-term student absenteeism at any education level (MISSSC). The index takes the value of 1 if a student answered "yes, once" or "yes, twice or more" at least once for any of the three education levels, and the value of 0 otherwise.

Quantity of teaching staff at school

Principals were asked to report the number of teachers fully certified by the appropriate authority (SC018Q02) as well as the total number of teachers at their school (TOTAT). The proportion of fully certified teachers (PROATCE) was computed by dividing the number of fully certified teachers by the total number of teachers.

School location

Using principals' answers to the question about the community in which their school is located (SC001), the locations of the schools were classified as either in a rural area or village (fewer than 3 000 inhabitants), in a town (3 000 to 100 000 inhabitants) or city (over 100 000 inhabitants).

School size

The index of school size (SCHSIZE) contains the total enrolment at a school. It is based on the enrolment data provided by the school principal, summing up the number of girls and boys at a school (SC002). This index was calculated in 2022 and in all previous assessments.

School type

For most of the analysis on school type, schools were classified as either public or private, according to principals' answers to question SC013 (whether the school is public or private).

A more detailed analysis was conducted for Chapter 6, which focuses on school governance, based on a classification that also took into account principals' answers to question SC016, which focused on the source of resources. The index SCHLTYPE indicates whether a private entity or a public agency has the ultimate power to make decisions concerning its affairs. Public schools are managed directly or indirectly by a public education authority, government agency or governing board appointed by a government or elected by public franchise. Private schools are managed directly or indirectly by a non-governmental organisation, such as a church, trade union, business or other private institution. Schools were classified into the following three categories:

- **Private independent:** If school principals answered that their school is “a private school” and that less than half of the total funding for a typical school year comes from the government or more than half of it comes from student fees or school charges paid by parents or guardians, benefactors, donations, bequests, sponsorships, parent or guardian fundraising or other sources
- **Private government-dependent:** If school principals answered that their school is “a private school” and that more than half of the total funding for a typical school year comes from the government
- **Public:** If school principals answered that their school is “a public school”.

In some countries and economies, such as Ireland,* the information from SC013 was combined with administrative data to determine whether the school is privately or publicly managed. In the United Kingdom* (excluding Scotland), the school type was derived exclusively from the national adaptation of question SC013, which included three categories: “Your school is maintained via the Local Authority (in England and Wales) or grant-aided (in Northern Ireland*) (for example, community school, voluntary controlled school, foundation school)”; “Your school is maintained by central government (for example, city technology college, academy, free school)”; and “Your school is an independent school”.

Since PISA 2018, sampling information (PRIVATESCH) has been used to improve the public/private indicators. If question SC013 is missing, information from PRIVATESCH is used to create SCHLTYPE. As in 2018, Ireland* had special treatment for this designation, based solely on the stratum.

School responsibility for curriculum

Question SC202 asked principals about who had the main responsibility for various decisions or activities at their school. The six response categories for this question were “Principal”, “Teachers or members of school management team”, “School governing board”, “Local or municipal authority”, “Regional or state authority”, and “National or federal authority”. An index of the relative level of responsibility of school staff in deciding issues related to curriculum and assessment (RESPCUR) was computed from the principals’ reports regarding who had the main responsibility for four items in SC202. The index was calculated on the basis of the ratio of responses for “Principal”, “Teachers or members of school management team”, or “School governing board”, on the one hand, to responses for “Local or municipal authority”, “Regional or state authority”, or “National or federal authority”, on the other hand.

In the first step, a measure for school responsibility was calculated by counting the number of “Principal”, “Teachers or members of school management team”, and “School governing board” responses. In the second step, a measure for non-school responsibility was calculated by counting the number of “Local or municipal authority”, “Regional or state authority”, and “National or federal authority”. In the third step, the school responsibility measure was divided by the non-school responsibility measure. To avoid dividing by ”0”, “1” was added to both the numerator and denominator; when the ratio of school responsibility to non-school responsibility was 4:0, an index value of 4 was assigned. Higher values indicated relatively higher levels of school responsibility in deciding issues related to curriculum and assessment.

School responsibility for resources

Question SC202 asked principals about who had the main responsibility for various decisions or activities at their school. The six response categories for this question were “Principal”, “Teachers or members of school management team”, “School governing board”, “Local or municipal authority”, “Regional or state authority”, and “National or federal authority”. An index of the relative level of responsibility of school staff in deciding issues related to allocating resources (RESPRES) was computed from the principals’ reports regarding who had the main responsibility for six items in SC202. The index was calculated on the basis of the ratio of responses for “Principal”, “Teachers or members of school management team”, or “School governing board”, on the one hand, to responses for “Local or municipal authority”, “Regional or state authority”, or “National or federal authority”, on the other hand.

In the first step, a measure for school responsibility was calculated by counting the number of “Principal”, “Teachers or members of school management team”, and “School governing board” responses. In the second step, a measure for non-school responsibility was calculated by counting the number of “Local or municipal authority”, “Regional or state authority”, and “National or federal authority”. In the third step, the school responsibility measure was divided by the non-school responsibility measure. To avoid dividing by ”0”, “1” was added to both the numerator and denominator; when the ratio of school responsibility to non-school responsibility was 6:0, an index value of 6 was assigned. Higher values on the scale indicated relatively higher levels of school responsibility in this area.

School selectivity

Question SC012 asked principals about admissions policies at their school, including student academic performance and recommendation by feeder schools. The three response categories for this question were “Never”, “Sometimes”, and “Always”. An index of academic school selectivity (SCHSEL) was computed by assigning schools to one of three categories based on how often two factors, namely “Student’s record of academic performance” (SC012Q01TA) and “Recommendation of feeder schools” (SC012Q02TA), were considered when admitting students to the school as follows:

1. The two factors (student’s record of academic performance and recommendation of feeder schools) were never considered (if SC012Q01TA=1 and SC012Q02TA=1)
2. At least one of the factors was considered sometimes but neither was always considered (if SC012Q01TA=2 or SC012Q02TA=2, and if SC012Q01TA3 and SC012Q02TA3)
3. At least one of the factors was always considered (if SC012Q01TA=3 or SC012Q02TA=3).

Socio-economic profile of the school

The average PISA index of economic, social and cultural status (ESCS) of a school was used as an indicator of the socio-economic profile of a school. To define advantaged and disadvantaged schools, all schools in each PISA-participating education system are ranked according to their average PISA index of economic, social and cultural status (ESCS) and then divided into four groups with approximately an equal number of students (quarters). Schools in the bottom quarter are referred to as “socio-economically disadvantaged schools”; and schools in the top quarter are referred to as “socio-economically advantaged schools”.

Student-teacher ratio

The student-teacher ratio (STRATIO) was obtained by dividing the number of enrolled students (SC002) by the total number of teachers (TOTAT) provided by the school principals.

Student truancy and lateness

PISA measured student truancy and lateness by asking students to report the number of times (“never”, “one or two times”, “three or four times”, “five or more times”) they had skipped a whole day of school (ST062Q01TA), had skipped some classes (ST062Q02TA) and had arrived late (ST062Q03TA) for school during the two full weeks of school prior to the assessment.

Two additional indicators of student truancy (SKIPPING) and lateness (TARDYSD) were constructed that take a value of 0 if students reported that they had not skipped any class or whole day of school or had never arrived late for school in the two weeks prior to the PISA assessment. The index of student truancy (SKIPPING) takes a value of 1 if students reported that they had skipped classes or days of school at least once in the same period. The index of student lateness (TARDYSD) takes a value of 1 for occasional late arrivals if students reported that they had arrived late for school one or two times, and 2 for frequent late arrivals if students reported they had arrived late for school three or more times in the same period.

Study programme level and orientation

PISA collects data on study programmes available to 15-year-old students in each country/economy. This information is obtained through the student tracking form and the Student Questionnaire (ST002). In the final database, all national programmes (PROGN) are included where the first six digits represent the National Centre code, and the last two digits are the nationally specific programme code. All study programmes were classified using the International Standard Classification of Education (ISCED 1997).

The study programme level and orientation index (ISCEDP) is a three-digit index that describes whether students were at the lower or upper secondary level and (ISCED 2 or ISCED 3) and whether their programmes were general or vocational and sufficient for level completion with direct access to tertiary or post-secondary non-tertiary education.

Time spent on homework

A measure of time spent on homework in all subjects was derived from students' reports on the time they spend on homework in a typical school week (ST296Q04): "up to 30 minutes a day", "more than 30 minutes and up to 1 hour a day", etc., and "more than 4 hours a day". The average time spent on homework was converted to a continuous variable by taking the midpoint of each time interval and using 4.5 hours if the answer was "more than 4 hours".

Time spent on digital devices for learning or leisure at school

The measure of time spent on digital devices was based on students' reports on the number of hours they usually spend on digital devices per day during the current school year for learning (ST326Q01) or leisure (ST326Q04): "none", "up to 1 hour", "more than 1 hour and up to 2 hours", etc., and "more than 7 hours". The average time spent on digital devices was converted to a continuous variable by taking the midpoint of each time interval and using 7.5 hours if the answer was "more than 7 hours".

Trend scale indices

Disciplinary climate in mathematics lessons

Students were asked how often ("never or hardly ever", "some lessons", "most lessons", "every lesson") certain things happen in their mathematics classes (e.g. "Students do not listen to what the teacher says" and "There is noise and disorder"). The seven statements of question ST273 were combined to create the index of disciplinary climate (DISCLIM) with an average of zero and a standard deviation of one across OECD countries. Positive values on the index mean that the student reported a better disciplinary climate in mathematics lessons than did students on average across OECD countries. In 2012 students responded to similar statements about the disciplinary climate in mathematics lessons. One or more items from the scale received specific item parameters for Brunei Darussalam (English), Cambodia (Khmer), Estonia (Russian), Guatemala (Spanish), Japan (Japanese), Jordan (Arabic), Latvia* (Russian), Macao (China) (Chinese, Portuguese), Malta (English), the Palestinian Authority (Arabic, English), Qatar (Arabic), Slovenia (Slovenian-ISCED2), Türkiye (Turkish) and Viet Nam (Vietnamese).

Exposure to bullying

Students answered a question (ST038) on how often ("never or almost never", "a few times a year", "a few times a month", "once a week or more") during the 12 months prior to the PISA test they had the following experiences in school (the question clarified that "some experiences can also happen in social media"): "Other students left me out of things on purpose" (relational bullying); "Other students made fun of me" (verbal bullying); "I was threatened by other students" (verbal bullying); "Other students took away or destroyed things that belong to me" (extortion bullying); "I got hit or pushed around by other students" (physical bullying); "Other students spread nasty rumours about me" (relational bullying); "I was in a physical fight on school property" (physical bullying); "I stayed home from school because I felt unsafe" (any type of bullying); "I gave money to someone at school because they threatened me" (extortion bullying). The nine statements were combined into a single index of exposure to bulling (BULLIED) with an average value of zero and a standard deviation of one across OECD countries. Positive values in the index indicate that the student is more exposed to bullying at school than are students on average across OECD countries.

The additional indicator, "frequently bullied students", was constructed. All students across all PISA-participating education systems were ranked according to their value in the index of exposure to bullying (BULLIED). Then, the sample of students was divided into ten subsamples with approximately equal numbers of students (deciles). Students in the top 10% student sample of the index of exposure to bullying across all countries/economies were considered as frequently bullied students.

Since students who participated in PISA 2015 and PISA 2018 provided answers to some of the questions concerning exposure to bullying, PISA 2022 can show changes in school bullying using comparable data across countries/economies. Three items were not distributed, their item parameters could not be estimated or the responses for the items were suppressed in Australia* (English).

Mathematics anxiety

The index of mathematics anxiety (ANXMAT) was constructed using the six student responses to question ST345. This question asked students how much they agree ("strongly agreed", "agreed", "disagreed" or "strongly disagreed") with six statements about their feelings when studying mathematics (e.g. "I often worry that it will be difficult for me in mathematics classes"; "I get very tense when I have to do mathematics homework"). Positive values in this index mean that students reported greater anxiety towards mathematics than did students on average across OECD countries.

One or more items from the scale received specific item parameters for Baku (Azerbaijan) (Azeri, Russian), Brazil (Portuguese), Cambodia (Khmer), the Czech Republic (Czech), Georgia (Georgian, Azerbaijani, Russian), Kazakhstan (Kazakh, Russian), Malaysia (Malay), the Republic of Moldova (Russian), Mongolia (Mongolian, Kazakh), the Slovak Republic (Slovak, Hungarian), Ukraine (Ukrainian, Russian) and Uzbekistan (Uzbek, Karakalpak).

School resources

As in PISA 2015 and 2018, PISA 2022 included a question (SC017) about school resources, measuring school principals' perceptions of potential factors hindering instruction at school ("Is your school's capacity to provide instruction hindered by any of the following issues?"). The four response categories were: "not at all", "very little", "to some extent", "a lot". Two new items on digital resources were added in 2022 but were not included in indices. To be comparable to the data collected in PISA 2015 and 2018, the index of staff shortage (STAFFSHORT) was derived from the first four out of ten items: a lack of teaching staff; inadequate or poorly qualified teaching staff; a lack of assisting staff; inadequate or poorly qualified assisting staff. The index of educational material shortage (EDUSHORT) was derived from the second set of four items: a lack of educational material; inadequate or poor-quality educational material; a lack of physical infrastructure; inadequate or poor-quality physical infrastructure. Positive values in this index mean that principals viewed the amount and/or quality of the human or educational resources in their schools as an obstacle to providing instruction to a greater extent than did principals on average across OECD countries. One or more items from the scale STAFFSHORT received specific item parameters for Australia* (English), Austria (German), Cambodia (Khmer), the Dominican Republic (Spanish), Germany (German), Greece (Greek), Hungary (Hungarian), Indonesia (Indonesian), Ireland* (English, Irish), Kazakhstan (Russian), Latvia* (Latvia*n), the Palestinian Authority (Arabic), Paraguay (Spanish), Poland (Polish), Spain (Spanish, Galician, Basque, Valencian), Switzerland (German, French, Italian) and the United States* (English). One or more items from the scale EDUSHORT received specific item parameters for Baku (Azerbaijan) (Azeri), Canada* (English), El Salvador (Spanish), Guatemala (Spanish), Latvia* (Latvia*n), Macao (China) (English), Montenegro (Montenegrin), Chinese Taipei (Chinese) and Viet Nam (Vietnamese).

Sense of belonging at school

The index of sense of belonging at school (BELONG) was constructed using students' responses to the trend question ST034. Students were asked whether they agree ("strongly disagree", "disagree", "agree", "strongly agree") with six school-related statements (e.g. "I make friends easily at school", "Other students seem to like me", "I feel lonely at school"). These statements were combined into an overall index of sense of belonging at school whose averages are zero and standard deviations are one across OECD countries. Positive values on this scale mean that a student reported a stronger sense of belonging at school than did students on average across OECD countries.

Students' sense of belonging at school has been assessed since 2012, but as the scale was revised for PISA 2015, only data collected in 2015 and 2018 are comparable to the data collected in 2022. One or more items from the scale received specific item parameters for Belgium (French), France (French), Georgia (Georgian, Azerbaijani, Russian), Guatemala (Spanish), Paraguay (Spanish), Romania (Romanian, Hungarian), Switzerland (French), Uruguay (Spanish) and Viet Nam (Vietnamese).

Teacher support in mathematics

Students were asked how often ("never or hardly ever", "some lessons", "most lessons", "every lesson") certain things happen in their mathematics classes (e.g. "The teacher shows an interest in every student's learning"; "The teacher gives extra help when students need it"). The four statements of question ST270 were combined to create an index of teacher support (TEACHSUP) with an average of zero and a standard deviation of one across OECD countries. Positive values on the indices mean that the student reported more frequent teacher support in mathematics lessons than did students on average across OECD countries.

In 2012 students answered similar statements about teacher support and disciplinary climate in mathematics lessons. One item from the scale received specific item parameters for Hong Kong* (China) (Chinese).

New scale indices

Confidence in the capacity for self-directed learning

Students were asked how confident ("not at all confident", "not very confident", "confident", "very confident") they are about different aspects related to self-directed learning (e.g. "Finding learning resources on line on my own"; "Planning when to do schoolwork on my own") if their school building closed again in the future. Students' responses to the eight statements (ST355) were combined into an index (SDLEFF) whose average is zero and standard deviation is one across OECD countries.[4] Positive values in the index indicate that the student felt more confident than did students on average across OECD countries.

One or more items from the scale received specific item parameters for Cambodia (Khmer), Indonesia (Indonesian), Kazakhstan (Kazakh), Mongolia (Mongolian, Kazakh), Montenegro (Montenegrin, Albanian), the Philippines (English) and Thailand (Thai).

Educational leadership

Question SC201 asked principals about how often they or other members of their school management team engaged in activities or behaviours related to educational leadership during the previous 12 months (e.g. "Collaborating with teachers to solve classroom discipline problems", "Providing parents or guardians with information on the school and student performance"). The five response categories for the seven items in the scale on educational leadership (EDULEAD) were "never or almost never", "about once or twice a year", "about once or twice a month", "about once or twice a week", and "every day or almost every day". Positive values indicate more frequent engagement by the principal and school management team in educational leadership activities than on average across OECD countries, while negative scale values indicate less frequent than the OECD average engagement by the principal and school management team in educational leadership activities.

One or more items from the scale received specific item parameters for Australia* (English), Belgium (Dutch, French, German), Brazil (Portuguese), Bulgaria (Bulgarian), Cambodia (Khmer), Colombia (Spanish), Croatia (Croatian), the Czech Republic (Czech), Denmark* (Danish), the Dominican Republic (Spanish), Estonia (Estonian), France (French), Georgia (Georgian, Azerbaijani, Russian), Germany (German), Greece (Greek), Guatemala (Spanish), Hungary (Hungarian), Indonesia (Indonesian), Ireland* (English, Irish), Israel (Hebrew), Italy (Italian, German), Jordan (Arabic), Kazakhstan (Kazakh, Russian), Latvia* (Latvian), Malaysia (Malay, English), Mexico (Spanish), the Republic of Moldova (Romanian, Russian), Mongolia (Mongolian), Morocco (Arabic), New Zealand* (English), Norway (Bokmål), the Palestinian Authority (Arabic), Panama* (Spanish, English), the Philippines (English), Poland (Polish), Portugal (Portuguese), Qatar (Arabic, English), Romania (Romanian), Saudi Arabia (Arabic, English), Singapore (English), the Slovak Republic (Slovak), Spain (Spanish, Catalan, Galician, Basque, Valencian), Sweden (Swedish), Chinese Taipei (Chinese), Thailand (Thai), United Arab Emirates (Arabic, English), the United Kingdom* (English, Welsh), the United States* (English), Uruguay (Spanish), Uzbekistan (Uzbek, Russian) and Viet Nam (Vietnamese).

Experience with learning at home

In question ST354 students rated their agreement ("strongly disagree", "disagree", "agree", "strongly agree") with positive statements (e.g. "I enjoyed learning by myself") and negative statements (e.g. "I felt lonely") related to their experience with learning at home (FEELLAH) while the school building was closed due to COVID-19. The six statements were combined into an index of experience with learning at home (FEELLAH) whose average is zero and standard deviations is one across OECD countries. Positive values on these indices mean that the student reported a more positive experience than did students on average across OECD countries.

Family support

Family support (FAMSUP) was measured by asking students, in question ST300, how often ("never or almost never", "about once or twice a year", "about once or twice a month", "about once or twice a week", "every day or almost every day") their parents or someone in their family do different things with them indicative of family support (e.g. "Discuss how well you are doing at school"; "Eat the main meal with you"; or "Spend time just talking with you"). An index of family support with an average of zero and a standard deviation one across OECD countries is formed by combining students' responses to ten scenarios. Students with positive values on this index perceived their family as more supportive than did students on average across OECD countries.

One or more items from the scale received specific item parameters for Albania (Albanian), Denmark* (Danish), Estonia (Russian), Guatemala (Spanish), Hong Kong* (China) (Chinese), Japan (Japanese), Macao (China) (Chinese, Portuguese), the Netherlands* (Dutch), North Macedonia (Albanian), Poland (Polish), Qatar (Arabic), the Slovak Republic (Slovak, Hungarian) and Thailand (Thai).

Feeling safe at school

Question ST265 asked students if they agree ("strongly disagree", "disagree", "agree", "strongly agree") that they feel safe on their way to school, on their way home from school, in classrooms and at other places at school (e.g. in hallways and in the cafeteria). Answers to the four statements were used to build the index of feeling safe at school (FEELSAFE) with an average value of zero and a standard deviation of one across OECD countries. Positive values in the index indicate that the student reported feeling safer at and around school than did students on average across OECD countries.

Instructional leadership

Question SC201 asked principals about how often they or other members of their school management team engaged in activities or behaviours related to teaching or instructional leadership during the previous 12 months (e.g. “Providing feedback to teachers based on observations of instruction in the classroom”, “Taking actions to ensure that teachers feel responsible for their students' learning outcomes”). The five response categories for the five items in the scale on instructional leadership (INSTLEAD) were “never or almost never”, “about once or twice a year”, “about once or twice a month”, “about once or twice a week”, and “every day or almost every day”. Positive values on the scale indicate more frequent engagement by the principal and school management team in instructional leadership activities than on average across OECD countries, while negative values indicate less frequent engagement than on average by the principal and school management team in instructional leadership activities.

One or more items from the scale received specific item parameters for Bulgaria (Bulgarian), Cambodia (Khmer), the Dominican Republic (Spanish), Estonia (Estonian), France (French), Georgia (Georgian, Azerbaijani, Russian), Germany (German), Greece (Greek), Indonesia (Indonesian), Ireland* (English, Irish), Israel (Hebrew), Jordan (Arabic), Kazakhstan (Kazakh, Russian), Malaysia (Malay, English), Mexico (Spanish), the Republic of Moldova (Romanian, Russian), Mongolia (Mongolian), Morocco (Arabic), the Palestinian Authority (Arabic), Panama* (Spanish, English), Poland (Polish), Portugal (Portuguese), Qatar (Arabic, English), Singapore (English), Spain (Spanish, Catalan, Galician, Basque, Valencian), Chinese Taipei (Chinese), Thailand (Thai), the United Arab Emirates (Arabic), the United Kingdom* (English, Welsh), the United States* (English), Uruguay (Spanish) and Uzbekistan (Uzbek, Russian).

Problems with self-directed learning

Students were asked to report on how often (“never”, “a few times”, “about once or twice a week”, “every day or almost every day”) they had different problems when completing their schoolwork (e.g. “Problems with Internet access”; “Problems with finding a quiet place to study”; “Problems with motivating myself to do schoolwork”) while their school building was closed due to COVID-19 (ST35). The eight statements were combined into an index of problems with self-directed learning (PROBSELF) whose average is zero and standard deviations is one across OECD countries. Positive values on the index mean that the student reported more problems than did students on average across OECD countries.

One or more items from the scale received specific item parameters for Albania (Albanian), Baku (Azerbaijan) (Azeri), Belgium (French), the Dominican Republic (Spanish), El Salvador (Spanish), Indonesia (Indonesian), Japan (Japanese), Jordan (Arabic), Kosovo (Albanian, Serbian), Macao (China) (Chinese, Portuguese), the Republic of Moldova (Romanian), Mongolia (Mongolian, Kazakh), North Macedonia (Macedonian and Albanian), the Palestinian Authority (Arabic, English), Peru (Spanish), the Philippines (English), Qatar (Arabic), Saudi Arabia (Arabic, English), Thailand (Thai) and Uzbekistan (Uzbek, Karakalpak).

Quality of student-teacher relationships

Students’ ratings of their agreement with the eight statements (e.g. “The teachers at my school are respectful towards me”, “When my teachers ask how I am doing, they are really interested in my answer”) in question ST267 were scaled into the index of quality of student-teacher relationships (RELATST). Note that this scale used a within-construct matrix sampling design. Each of the eight items included in this scale had four response options (“strongly disagree”, “disagree”, “agree”, “strongly agree”). Students with positive values on this index perceived the student-teacher relationships at school as more positive than did students on average across OECD countries.

One or more items from the scale received specific item parameters for Albania (Albanian), Denmark* (Danish), Finland (Finnish, Swedish), Georgia (Georgian, Azerbaijani, Russian), Japan (Japanese), Qatar (Arabic, English), Singapore (English), Sweden (Swedish, English), Thailand (Thai), the United Arab Emirates (English) and Viet Nam (Vietnamese). One item was not distributed, the item parameters could not be estimated or the responses for the item were suppressed for Hong Kong* (China) (Chinese).

School actions to maintain learning and well-being

In 2022, PISA collected information on students' perception of school actions/activities to maintain learning and well-being (ST348) by asking them how often ("never", "a few times", "about once or twice a week", and "every day or almost every day") someone from their school did different actions or activities while their school building was closed due to COVID-19 (e.g. "Sent you learning materials to study on your own"; "Asked you to submit completed school assignments"; "Checked in with you to ask how you were feeling"). From these eight statements, an index of school actions/activities to maintain learning and well-being (SCHSUST) was created that has an average of zero and standard deviation of one across OECD countries. A student with positive values in the index reported more actions/activities than did students on average across OECD countries.

One or more items from the scale received specific item parameters for Albania (Albanian), Baku (Azerbaijan) (Azeri), Cambodia (Khmer), the Dominican Republic (Spanish), Indonesia (Indonesian), Israel (Hebrew), Japan (Japanese), Kosovo (Albanian, Serbian), the Netherlands* (Dutch), North Macedonia (Albanian), the Philippines (English), Qatar (Arabic), Thailand (Thai) and Uzbekistan (Uzbek, Karakalpak).

School autonomy

Question SC202 asked principals about who had the main responsibility for various decisions or activities at their school (e.g. "Appointing or hiring teachers", "Determining teachers' salary increases"). The six response categories for the 12 items in the scale were "Principal", "Teachers or members of school management team", "School governing board", "Local or municipal authority", "Regional or state authority", and "National or federal authority". Positive values for the index of school autonomy (SCHAUTO) indicate that the principal perceived the level of autonomy in decision-making activities at their school by the principal, teachers or members of the school management team, and the school governing board as higher than was reported on average across OECD countries.

One or more items from the scale received specific item parameters for Albania (Albanian), Argentina (Spanish), Australia* (English), Austria (German), Chile (Spanish), Colombia (Spanish), Costa Rica (Spanish), Denmark* (Danish), El Salvador (Spanish), Georgia (Georgian, Azerbaijani, Russian), Greece (Greek), Hungary (Hungarian), Ireland* (English, Irish), Italy (Italian, German), Japan (Japanese), Jordan (Arabic), Kazakhstan (Kazakh, Russian), Korea (Korean), Lithuania (Lithuanian), Malaysia (Malay, English), the Republic of Moldova (Romanian, Russian), Mongolia (Mongolian), Morocco (Arabic), Norway (Bokmål), the Palestinian Authority (Arabic), Poland (Polish), Portugal (Portuguese), Qatar (Arabic, English), Romania (Romanian), Saudi Arabia (Arabic, English), Singapore (English), the Slovak Republic (Slovak), Slovenia (Slovenian, Slovenian-ISCED2), Spain (Spanish, Catalan, Galician, Basque, Valencian), Sweden (Swedish), Switzerland (German, French, Italian), Chinese Taipei (Chinese), Thailand (Thai), Türkiye (Turkish), the United Arab Emirates (Arabic), the United Kingdom* (English, Welsh) and Viet Nam (Vietnamese). Two items were not distributed, the item parameters could not be estimated or the responses for the items were suppressed for Ireland* (English, Irish).

School safety risks

The measure of school safety risk asked students if ("yes", "no") the following events occurred during the previous four weeks: "Our school was vandalised"; "I witnessed a fight on school property in which someone got hurt"; "I saw gangs in school"; "I heard a student threaten to hurt another student"; "I saw a student carrying a gun or knife at school". Answers to the five statements of question ST266 were combined into a single index (SCHRISK) with an average value of zero and a standard deviation of one across OECD countries. Positive values in the index indicate that the student perceived greater risks at their school than did students on average across OECD countries.

One item from the scale received specific item parameters for New Zealand* (English), Norway (Bokmål, Nynorsk) and Sweden (Swedish, English). Two items were not distributed, the item parameters could not be estimated or the responses for the item were suppressed in Italy (Italian, German).

Teacher participation

Question SC202 asked principals about who had the main responsibility for various decisions or activities at their school (e.g. “Formulating the school budget”, “Choosing which learning materials are used”). The six response categories for the 12 items in the scale were “Principal”, “Teachers or members of school management team”, “School governing board”, “Local or municipal authority”, “Regional or state authority”, and “National or federal authority”. Positive values for the index of teacher participation (TCHPART) indicate that the teachers or members of the school management team participated to a greater extent in decision-making activities at their school than on average across OECD countries.

One or more items from the scale received specific item parameters for Argentina (Spanish), Brazil (Portuguese), Bulgaria (Bulgarian), Colombia (Spanish), the Dominican Republic (Spanish), El Salvador (Spanish), Estonia (Estonian), Guatemala (Spanish), Japan (Japanese), Korea (Korean), Malaysia (Malay, English), Mongolia (Mongolian), New Zealand* (English), Paraguay (Spanish), Spain (Spanish, Catalan, Galician, Basque, Valencian) and the United Arab Emirates (Arabic).

Views of regulated ICT use in school

The measure on views of regulated ICT use in school is derived from the ICT questionnaire that was distributed in 54 out of the 81 countries/economies that participated in PISA 2022. Students were asked to respond to six statements (IC179): “Students should not be allowed to bring mobile phones to class”, “Students should not be allowed to bring their own laptop (or tablet device) to class”, “Students should collaborate with teachers to decide on the rules regarding the use of digital devices during lessons”, “The school should set up filters to prevent students from going on social media”, “The school should set up filters to prevent students from playing games online” and “Teachers should monitor what students do on their laptops”. Each of the six items had four response options (“strongly disagree”, “disagree”, “agree”, “strongly agree”). Answers to these six statements were scaled into a single index (ICTREG). Positive values in the index indicate that the student was more supportive of stricter regulations on the use of ICT at their school than were students on average across OECD countries. One or more items from the scale received specific item parameters for Albania (Albanian), Bulgaria (Bulgarian), Israel (Arabic), Jordan (Arabic), Kazakhstan (Kazakh), Saudi Arabia (Arabic, English) and Thailand (Thai).

Single items

In addition to the indices listed above, the following single items were used in this report:

- Ability grouping between and within classes (SC042)
- Assessment practices at school (SC034)
- Criteria for choosing a school (PA006)
- Duration of school closures because of COVID-19 (ST347Q01JA)
- Learning resources during COVID-19 school closures (ST351)
- Life satisfaction across domains (WB155)
- Monitoring teacher practice (SC032)
- Parental involvement (SC064Q)
- Quality assurance and improvement actions at school (SC037)
- Overall life satisfaction (ST016)
- Reasons for long-term absenteeism (ST261)
- Reasons for transferring students to another school (SC185)
- School competition for students (SC011)
- School preparedness for remote instruction (SC224)
- Schools providing study help (SC212)

- Sources of school funding (SC016)
- Student gender (ST004)
- Students' enrolment at their school (ST226)
- Student composition of schools (SC211)
- Student behaviour when using digital devices (ST322)
- Using achievement data for accountability purposes (SC198)

Notes

[1] To keep the 2022 trend scales linked to PISA 2012 comparable, the Rasch model (Rasch, 1960[11]) was used to scale the dichotomous items, while the partial credit model (PCM) was used to scale the polytomous items, in line with the models used in PISA 2012.

[2] Due to missing data from the countries/economies, countries/economies were only approximately equally weighted.

3 Different language versions were only analysed independently, if the version was distributed to a sample of over 150 and the sum of the weights was over 300. The sum of weights for all cases within a country/economy add up to a constant of 5 000 but varied on a scale-by-scale basis because missing responses varied across scales.

4 Denmark*, Norway and Singapore did not collect data for any of the questions related to students' responses and experiences during COVID-19 school closures.

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Annex A2. The PISA target population, the PISA samples, and the definition of schools

This annex to the PISA 2022 results provides further technical details on how the assessment covered its target population of 15-year-olds, how its national samples represent this population across participating countries and economies, and how the sampling procedure was adapted to accurately represent diverse education systems worldwide.

What is the PISA target population?

PISA 2022 assessed the cumulative outcomes of education and learning at a point at which most young people are still enrolled in formal education: when they are 15 years old.

International surveys of education outcomes must guarantee the comparability of their target population across participating countries and economies. One way to do this is to assess students at the same grade level. However, differences between countries in the nature and extent of early childhood education and care, age at entry into primary education, and the overall institutional structure of education systems do not allow for a definition of internationally comparable grade levels.

Other international assessments have defined their target population by the grade level that provides maximum coverage of a particular age cohort. However, this definition leads to a population particularly sensitive to the distribution of students across age and grade levels, where small changes – of assessment dates, or month of entry into primary education – can lead to the selection of different target grades. There also may be differences across or within countries in whether students who are older or younger than the desired age cohort are represented in the modal grade, further rendering such grade level-based samples difficult to compare.

To overcome these problems, PISA uses an age-based definition of its target population, one that is not tied to the institutional structures of national education systems.[1] PISA assesses students who are aged between 15 years and 3 (complete) months and 16 years and 2 (complete) months[2] at the beginning of the assessment period, plus or minus an allowed 1-month variation, and who are enrolled in an educational institution[3] at grade 7 or higher. All students who met these criteria were eligible to sit the PISA test in 2022, regardless of the type of educational institution in which they were enrolled and whether they were enrolled in full- or part-time education. This also allows PISA to evaluate students shortly before they are faced with major life choices, such as whether to continue with education or enter the workforce.

Hence, PISA makes statements about the knowledge and skills of a group of individuals who were born within a comparable reference period, but who may have been exposed to different educational experiences inside and outside of school. These students may be distributed over different ranges of grades (both in terms of the specific grade levels and the spread in grade levels) in different countries/economies, or over different tracks or streams within their respective education systems. It is important to consider these differences when comparing PISA results across countries/economies. In addition, differences in performance observed when students are 15 may diminish or disappear entirely later in life.

If a country's mean scores in mathematics, reading or science are significantly higher than those of another, it cannot automatically be inferred that schools or particular parts of the education system in the first country are more effective than those in the second. However, one can legitimately conclude that it is the cumulative impact of learning experiences in the first country, starting in early childhood and up to the age of 15, and including all experiences, whether they be at school, home or elsewhere, that have resulted in the better outcomes of the first country in the subjects that PISA assesses.[4]

How were students chosen?

The accuracy of the results from any survey depends on the quality of the information drawn from those surveyed as well as on the sampling procedures. Quality standards, procedures, instruments and verification mechanisms were developed for PISA that ensured that national samples yielded comparable data and that results could be compared across countries and economies with confidence. Experts from the PISA Consortium selected the samples for most participating countries/economies and monitored the sample-selection process closely in those countries that opted to select their own samples.

All samples in PISA 2022 were designed as two-stage stratified samples. The first stage sampled schools in which 15-year-old students may be enrolled. Schools were sampled systematically with selection probabilities proportional to the estimated size of their (eligible) 15-year-old population. At least 150 schools[5] were selected in each country, although the requirements for national analyses often demanded a larger sample. Replacement schools for each sampled school were simultaneously identified, in case an originally sampled school chose not to participate in PISA.

The second stage of the selection process sampled students within sampled schools. Once schools were selected, a list of each sampled school's 15-year-old students was prepared. From this list, 42 students were then selected with equal probability (all 15-year-old students were selected when less than 42 eligible students were enrolled). The target number of students in a school who were to be sampled could deviate from 42 when agreed by PISA's sampling contractor but could not fall below 20 students.

Data-quality standards in PISA require minimum participation rates for schools and for students. These standards were established to minimise potential bias arising from non-response. Indeed, it was likely that any bias resulting from non-response would be negligible – typically smaller than the sampling error – in countries that met these standards.[6]

At least 85 % of the schools initially selected to take part in the PISA assessment were required to agree to conduct the test when accounting for the number of enrolled 15-year-olds. Where the initial response rate of schools was between 65% and 85%, however, an acceptable school-response rate could still be achieved using replacement schools.

Whenever a school is selected for PISA, two other schools – the most similar according to the statistical criteria used for sampling – are selected as replacement schools in case of non-response or other contingencies. However, statistical similarities notwithstanding, sampling bias is still possible if the replacement schools differ from sampled schools in ways that might not be considered for sampling. Therefore, countries/economies were encouraged to persuade as many of the schools in the original sample as possible to participate.

Schools that were included but where student participation rates of 25-50% were observed were not considered to be participating schools when determining participation rates; but data collected from these schools (from both the cognitive assessment and background questionnaires) were included in the database and contributed to the estimation of the various quantities derived from the assessment. Data from schools with a student participation rate of less than 25% were excluded from the database.

In PISA 2022, 14 countries/economies – the United States (51%), Hong Kong (China) (60%), New Zealand (61%), the Netherlands (66%), the United Kingdom (67%), the Flemish community (Belgium) (72%), Ukrainian regions (18 of 27) (80%), Belgium (80%), Brazil (81%), Canada (81%), Chinese Taipei (83%), Latvia (84%), Panama (84%) and Chile (84%) – did not meet the standard of 85% weighted school participation rate; three of them did not meet the 65% threshold for schools initially selected for PISA. Even after replacement schools were included, seven countries – the United States (63%), New Zealand (72%), Hong Kong (China) (80%), the United Kingdom (82%), Chinese Taipei (84%), Canada (86%) and the Netherlands (90%) still failed to reach target participation rates;[7] all other participating countries/economies reached the threshold for an acceptable participation rate after including replacement schools.

PISA 2022 also required that at least 80% of the students chosen in participating schools sat the PISA test. This threshold was calculated at the national level and did not have to be met in each participating school. Follow-up sessions were required in schools where too few students had participated in the planned assessment sessions. Student-participation rates were calculated over all originally selected schools and over all participating schools, including replacement schools. Students who participated in either the planned or follow-up sessions were counted in these rates; those who attended only the questionnaire session were included in the international database and contributed to the statistics presented in this publication if they provided at least a description of either parent's occupation.

The standard of 80% student participation rate was not met by nine countries/economies: Jamaica (68%), New Zealand (72%), the United Kingdom (75%), Hong Kong (China) (75%), Australia (76%), Ireland (77%), Panama (77%), Canada (77%) and Malta (79%).

Table I.A2.6 shows the response rate for students and schools, before and after including replacement schools.

- **Column 1** shows the weighted participation rate of schools before replacement; it is equivalent to Column 2 divided by Column 3 (multiplied by 100 to give a percentage).
- **Column 2** shows the number of responding schools before school replacement, weighted by student enrolment.
- **Column 3** shows the number of sampled schools before school replacement, weighted by student enrolment. This includes both responding and non-responding schools.
- **Column 4** shows the unweighted number of responding schools before school replacement.
- **Column 5** shows the unweighted number of sampled schools before school replacement, including both responding and non-responding schools.
- **Columns 6 to 10** repeat Columns 1 to 5 for schools after school replacement, i.e. after non-responding schools were substituted by the replacement schools identified during the initial sampling procedure.
- **Columns 11 to 15** repeat Columns 6 to 10 but for students in schools after school replacement. Note that the weighted and unweighted numbers of students sampled (Columns 13 and 15) include students who were assessed and those who should have been assessed but who were absent on the day of assessment. As mentioned above, any students in schools where the student response rate was less than 50% were not considered to be attending participating schools and were thus excluded from Columns 14 and 15 (and, similarly, from Columns 4, 5, 9 and 10).

What proportion of 15-year-olds does PISA represent?

All countries/economies attempted to maximise the coverage of 15-year-olds enrolled in education in their national samples, including students enrolled in special education institutions. As such, the technical standards used in PISA only allowed countries/economies to exclude up to 5% of the desired target population (i.e. 15-year-old students enrolled in educational institutions at grade 7 or higher) either by excluding schools or students within schools.

Sixteen countries and economies did not meet this standard in PISA 2022: Ukrainian regions (18 of 27) (14.9%), Denmark (11.6%), the Netherlands (8.4%), Latvia (7.9%), Sweden (7.4%), Norway (7.3%), Australia (6.9%), Scotland (United Kingdom) (6.6%), Lithuania (6.5%), the United States (6.1%), Estonia (5.9%), Canada (5.8%), Switzerland (5.8%), New Zealand (5.8%), Türkiye (5.6%) and Croatia (5.4%). In 31 countries/economies, the overall exclusion rate was less than 2% (Table I.A2.1). When language exclusions[8] were accounted for (i.e. removed from the overall exclusion rate), Switzerland, Türkiye and the United States no longer had exclusion rates greater than 5%. In Ukraine, almost all excluded students were so considered due to the war. More details can be found in the PISA 2022 Technical Report (OECD, 2023[1]).

Exclusions that should remain within the above limits include:

- At the school level:
  - schools that were geographically inaccessible or where the implementation of the PISA assessment was not considered feasible
  - schools that provided teaching only for students in the categories defined under “within-school exclusions”, such as schools for students with special education needs.

The percentage of 15-year-olds enrolled in such schools had to be less than 2.5% of the nationally desired target population (0.5% maximum for the former group and 2% maximum for the latter group). The magnitude, nature and justification for school-level exclusions are documented in the PISA 2022 Technical Report (OECD, 2023[1]). In addition, due to differences in when schools re-opened and returned to full, in-person instruction after the COVID-19 pandemic, an additional code for student exclusions (Code 6) was used in PISA 2022 to account for those who were enrolled but received instruction virtually.

- At the student level:
  - students with an intellectual disability, i.e. a mental or emotional disability resulting in the student being so cognitively delayed that he/she could not perform in the PISA testing environment
  - students with a functional disability, i.e. a moderate to severe permanent physical disability resulting in the student being unable to perform in the PISA testing environment
  - students with limited assessment-language proficiency (these students were unable to read or speak any of the languages of assessment in the country at a sufficient level and were unable to overcome such a language barrier in the PISA testing environment; they were typically students who had received less than one year of instruction in the language of assessment)
  - students who were not attending in-person classes or going to school for tests/assessments during the PISA testing period but, rather, were receiving all of their instruction on line
  - other exclusions, a category defined by the PISA national centres in individual participating countries and approved by the PISA international consortium
  - students taught in a language of instruction for the major domain for which no materials were available.

Students could not be excluded solely because of low proficiency or common disciplinary problems. The percentage of 15-year-olds excluded within schools had to be less than 2.5% of the national desired target population.

Table I.A2.1 describes the target population of the countries/economies that participated in PISA 2022. Further information on the target population and the implementation of PISA sampling standards can be found in the PISA 2022 Technical Report (OECD, 2023[1]).

- **Column 1** shows the total number of 15-year-olds according to the most recent available information, which in most countries and economies means from 2021, the year before the assessment.
- **Column 2** shows the number of 15-year-olds enrolled in school in grade 7 or above, which is referred to as the "eligible population".
- **Column 3** shows the national desired target population. Countries/economies were allowed to exclude up to 0.5% of students *a priori* from the eligible population, essentially for practical reasons if agreed upon with the PISA consortium.
- **Column 4** shows the number of students enrolled in schools that were excluded from the national desired target population, either from the sampling frame or later in the field during data collection. In other words, these are school-level exclusions.
- **Column 5** shows the size of the national desired target population after subtracting the students enrolled in excluded schools. This column is obtained by subtracting Column 4 from Column 3.
- **Column 6** shows the percentage of students enrolled in excluded schools. This is obtained by dividing Column 4 by Column 3 and multiplying by 100.
- **Column 7** shows the number of students who participated in PISA 2022. Note that in some cases, this number does not account for 15-year-olds assessed as part of additional national options.
- **Column 8** shows the weighted number of participating students, i.e. the number of students in the nationally defined target population that the PISA sample represents.
- **Column 9** shows the total number of students excluded within schools. In each sampled school, all eligible students – namely, those 15 years of age, regardless of grade – were listed, and a reason for the exclusion was provided for each student who was to be excluded from the sample. These reasons are further described and classified into specific categories in Table I.A2.4.
- **Column 10** shows the weighted number of students excluded within schools, i.e. the overall number of students in the national defined target population represented by the number of students from the sample excluded within schools. This weighted number is also described and classified by exclusion categories in Table I.A2.4.

- **Column 11** shows the percentage of students excluded within schools. This is equivalent to the weighted number of excluded students (Column 10) divided by the weighted number of excluded and participating students (the sum of Columns 8 and 10), multiplied by 100.
- **Column 12** shows the overall exclusion rate, which represents the weighted percentage of the national desired target population excluded from PISA either through school-level exclusions or through the exclusion of students within schools. It is equivalent to the school-level exclusion rate (Column 6) plus the product of the within-school exclusion rate and 1 minus the school-level exclusion rate expressed as a decimal (Column 6 divided by 100).[9]
- **Column 13** shows an index of the extent to which the national desired target population was covered by the PISA sample. As mentioned above, 15 countries/economies fell below the coverage of 95%. This is also known as Coverage Index 1.
- **Column 14** shows an index of the extent to which 15-year-olds *enrolled in school* were covered by the PISA sample. The index, also known as Coverage Index 2, measures the overall proportion of the national enrolled population that is covered by the non-excluded portion of the student sample, and takes into account both school- and student-level exclusions. Values close to 100 indicate that the PISA sample represents the entire (grade 7 and higher) education system as defined in PISA 2022. This is calculated in a similar manner to Column 13; however, the total enrolled population of 15-year-olds in grade 7 or above (Column 2) is used as a base instead of the national desired target population (Column 3).
- **Column 15** shows an index of the coverage of the 15-year-old population. The index is the weighted number of participating students (Column 8) divided by the total population of 15-year-old students (Column 1). This is also known as Coverage Index 3.

A high level of coverage contributes to the comparability of the assessment results. For example, even assuming that the excluded students would have systematically scored worse than those who participated, and that this relationship is moderately strong, an exclusion rate of 5% would likely lead to an overestimation of national mean scores of less than 5 score points on the PISA scale (where the standard deviation is 100 score points).[10]

Given the significant disruption caused by COVID-19 global pandemic to education systems in general, and to the administration of the PISA 2022 Main Survey in particular, coverage is of particular concern in the 2022 cycle, as it is feasibly affected both by changes in student behaviour (e.g., not returning to school when those were reopened) and by operational factors of administering PISA itself (e.g. less participating students due to interference between PISA dates and a country/economy's school reopening plan).

Table I.A2.2 provides an across-cycle perspective on:

- the estimated size of the 15-year-old cohort in a given country/economy (**Column 1** for PISA 2022),
- the estimated population size of 15-year-olds enrolled at school in grade 7 or above (**Column 2** for PISA 2022),
- the number of students that sat PISA 2022 weighted by how much they represent the population (**Column 3** for PISA 2022), and
- the coverage of the 15-year-old population (Coverage Index 3, **Column 4** for PISA 2022).

The same information is provided for previous PISA cycles until 2003. A decrease in the Coverage Index 3 between PISA 2018 and PISA 2022 was observed for 23 countries/economies. However, in only five of them this decrease was larger than 5%: the Dominican Republic, Germany, Hong Kong (China)*, the Netherlands* and Ukrainian regions (18 of 27). Nonetheless, these elevated drops in coverage are to be interpreted with due caution: sampling outcomes for Hong Kong (China) and the Netherlands struggled to meet PISA sampling standards. In Ukrainian, schools in several regions were not accessible in 2022; Coverage Index 3 decreased from 86.7% in PISA 2018 to 63.9% in PISA 2022.

Conversely, all other participating countries/economies either kept or increased their coverage of the population between PISA 2018 and PISA 2022. Small increases, up to 5%, were observed in 31 countries/economies, with others showing quite elevated increase in coverage in the 2022 cycle compared to PISA 2018.

The PISA Adjudication Group, comprising the Technical Advisory Group and the Sampling Referee, reviewed the PISA 2022 data. Overall, the review found that national implementations of PISA generally adhered to PISA's technical standards despite the challenging circumstances that affected not only PISA operations but schooling more generally during the COVID-19 pandemic. Nevertheless, a number of deviations from the standards were noted and their consequences for data quality were reviewed in depth. The following overall patterns of deviations from sampling standards were identified:

- About one in five adjudicated entities had exclusion rates exceeding the limits set by the technical standards (Standard 1.7).
- Seven entities failed to meet the required school-response rates, with three of them failing to meet the stricter level of 65% before replacement (Standard 1.11). This is not inconsistent with earlier cycles of PISA, however.
- A significantly larger number of entities failed to meet the required student-response rates (Standard 1.12): ten entities did not meet this standard in PISA 2022, while only one entity did not meet the standard in PISA 2018.

Countries/economies that failed to meet the response-rate standards were requested to submit a non-response bias analysis (NRBA) report. These reports, evaluated by the PISA Adjudication Group, contained additional analyses using the national context and data sources to assess potential bias arising from school and student non-participation.

Details on the PISA Adjudication Group's assessments of the deviations from PISA standards are described in the Reader's Guide and Annex A4.

Definition of schools

In some countries, subunits within schools were sampled instead of schools, which may affect the estimate of the between-school variance. In Austria, the Czech Republic, El Salvador, Germany, Hungary, Japan and Romania, schools with more than one programme of study were split into the units delivering these programmes. In the Netherlands, locations were listed as sampling units. In the Flemish community (Belgium), each campus of a multi-campus school was sampled independently, whereas the larger administrative unit of a multi-campus school was sampled as a whole in the French community (Belgium).

In Australia and Colombia each campus of a multi-campus school was sampled independently. In Argentina each campus of a multi-campus school was sampled independently and campuses with more than one programme of study were split into the units delivering these programmes. Schools in the Basque Country (Spain) that were divided into sections by language of instruction were split into sections for sampling based on those languages.

Some schools in the United Arab Emirates were sampled as a whole unit, while others were divided by curriculum and sometimes by gender. Due to reorganisation, some schools in Sweden were split into two parts, each part with its own principal. Some schools in Portugal were organised into clusters where all units in a cluster shared the same teachers and principal; each of these clusters constituted a single sampling unit. Some schools in Singapore were sampled as a whole unit while others were split by campus or language of instruction. Some schools in Türkiye were sampled as a whole unit while others were split by programme of study. Schools in Uruguay were sampled as a whole unit, except for schools offering classes at night; night-shift sections were sampled independently from the school.

The distribution of PISA students across grades

Students assessed in PISA 2022 were enrolled in various grade levels. The percentage of students at each grade level is presented, by country, in Tables I.A2.8 and I.A2.9, and by gender within each country/economy in Tables I.A2.12 and I.A2.13.

Table II.A2.1. PISA target populations and samples, 2022 [1/4]

		Population and sample information							
		Total population of 15-year-olds	Total enrolled population of 15-year-olds at grade 7 or above	Total in national desired target population	Total school-level exclusions	Total in national desired target population after all school exclusions and before within-school exclusions	School-level exclusion rate (%)	Number of participating students	Weighted number of participating students
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OECD	Australia	296 220	290 738	290 738	5 302	285 436	1.82	13 437	265 196
	Austria	85 760	82 619	82 619	1 595	81 024	1.93	6 151	76 153
	Belgium	129 814	127 559	127 537	2 438	125 100	1.91	8 286	128 642
	Canada	388 205	385 342	380 510	5 757	374 753	1.51	23 073	357 911
	Chile	247 550	230 294	230 175	5 831	224 344	2.53	6 488	214 108
	Colombia	805 258	685 807	685 807	632	685 175	0.09	7 804	586 683
	Costa Rica	73 787	64 582	64 582	0	64 582	0.00	6 113	57 250
	Czech Republic	109 596	102 464	102 464	1 014	101 450	0.99	8 460	100 266
	Denmark	68 110	66 650	66 650	1 160	65 490	1.74	6 200	56 909
	Estonia	14 210	14 097	14 097	457	13 640	3.25	6 392	13 345
	Finland	61 957	62 104	62 104	1 191	60 913	1.92	10 239	58 955
	France	836 624	808 703	808 703	13 612	795 091	1.68	6 770	781 286
	Germany	741 506	741 494	741 494	12 164	729 330	1.64	6 116	681 399
	Greece	107 294	102 085	102 085	529	101 556	0.52	6 403	98 087
	Hungary	102 077	93 826	93 826	2 725	91 101	2.90	6 198	87 990
	Iceland	4 623	4 602	4 602	25	4 577	0.54	3 360	4 352
	Ireland	64 051	63 256	63 256	52	63 204	0.08	5 569	65 497
	Israel	147 380	140 599	140 599	2 876	137 723	2.05	6 251	132 475
	Italy	572 210	527 539	527 539	232	527 307	0.04	10 552	496 263
	Japan	1 109 590	1 070 375	1 070 375	26 926	1 043 449	2.52	5 760	1 021 370
	Korea	418 028	417 968	417 968	3 418	414 550	0.82	6 454	428 012
	Latvia	19 801	19 501	19 501	994	18 507	5.10	5 373	16 833
	Lithuania	26 228	26 027	26 027	802	25 225	3.08	7 257	24 251
	Mexico	2 193 794	1 592 537	1 592 537	9 720	1 582 817	0.61	6 288	1 393 727
	Netherlands	198 577	193 138	193 138	12 948	180 190	6.70	5 046	155 987
	New Zealand	62 470	59 286	59 286	1 410	57 876	2.38	4 682	56 382
	Norway	64 792	64 478	64 478	974	63 504	1.51	6 611	58 970
	Poland	382 777	359 547	359 547	13 321	346 226	3.70	6 011	341 562
	Portugal	104 433	102 916	102 916	1 038	101 878	1.01	6 793	96 607
	Slovak Republic	49 662	48 584	48 584	476	48 108	0.98	5 824	47 453
	Slovenia	18 932	19 728	19 728	434	19 294	2.20	6 721	18 850
	Spain	507 740	487 620	487 620	2 432	485 188	0.50	30 800	459 029
	Sweden	121 723	121 197	121 197	1 450	119 747	1.20	6 072	108 499
	Switzerland	83 388	81 012	81 012	2 904	78 108	3.58	6 829	75 696
	Türkiye	1 266 433	1 153 239	1 153 239	43 932	1 109 307	3.81	7 250	933 402
	United Kingdom	754 547	744 428	744 428	17 491	726 937	2.35	12 972	731 225
	United States	4 235 296	4 141 007	4 141 007	20 265	4 120 742	0.49	4 552	3 661 328

Table II.A2.1. PISA target populations and samples, 2022 [2/4]

		Population and sample information							
		Total population of 15-year-olds	Total enrolled population of 15-year-olds at grade 7 or above	Total in national desired target population	Total school-level exclusions	Total in national desired target population after all school exclusions and before within-school exclusions	School-level exclusion rate (%)	Number of participating students	Weighted number of participating students
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Partners	Albania	35 891	29 095	29 095	56	29 039	0.19	6 129	28 426
	Argentina	712 733	693 636	693 636	5 376	688 260	0.78	12 111	596 301
	Baku (Azerbaijan)	41 633	29 636	29 636	1 161	28 475	3.92	7 720	30 529
	Brazil	2 973 643	2 757 493	2 757 493	64 960	2 692 533	2.36	10 798	2 262 972
	Brunei Darussalam	6 100	6 633	6 633	0	6 633	0.00	5 576	5 980
	Bulgaria	66 769	56 791	56 791	730	56 061	1.29	6 107	53 421
	Cambodia	348 485	203 291	203 291	1 329	201 962	0.65	5 279	126 409
	Croatia	39 271	39 114	39 114	1 562	37 552	3.99	6 135	35 033
	Cyprus	9 324	9 324	9 323	210	9 113	2.25	6 515	8 795
	Dominican Republic	189 635	138 535	138 535	1 705	136 830	1.23	6 868	121 876
	El Salvador	111 637	75 686	75 686	686	75 000	0.91	6 705	68 170
	Georgia	46 845	45 174	45 174	1 437	43 737	3.18	6 583	40 416
	Guatemala	353 214	168 154	168 154	0	168 154	0.00	5 190	168 484
	Hong Kong (China)	59 241	55 505	55 505	1 076	54 429	1.94	5 907	48 245
	Indonesia	4 462 518	4 069 960	4 069 960	61 569	4 008 391	1.51	13 439	3 790 846
	Jamaica	43 643	51 024	51 024	264	50 760	0.52	3 873	25 495
	Jordan	153 442	142 601	142 601	1 158	141 443	0.81	7 799	144 269
	Kazakhstan	291 678	291 490	291 490	5 246	286 244	1.80	19 769	272 446
	Kosovo	24 400	24 238	24 238	102	24 136	0.42	6 027	21 045
	Macao (China)	4 500	4 469	4 469	16	4 453	0.36	4 384	4 423
	Malaysia	521 400	424 736	424 736	3 184	421 552	0.75	7 069	390 447
	Malta	4 273	4 177	4 177	52	4 125	1.24	3 127	3 955
	Moldova	29 660	29 638	29 638	5	29 633	0.02	6 235	28 879
	Mongolia	46 889	43 616	43 616	350	43 266	0.80	6 999	40 828
	Montenegro	6 825	6 808	6 808	73	6 735	1.07	5 793	6 340
	Morocco	597 425	482 740	482 740	1 917	480 823	0.40	6 867	454 986
	North Macedonia	18 249	18 249	18 249	330	17 919	1.81	6 610	16 548
	Palestinian Authority	113 056	95 013	95 013	284	94 729	0.30	7 905	88 383
	Panama	73 004	65 523	65 523	711	64 812	1.09	4 544	42 090
	Paraguay	112 659	92 326	92 326	1 183	91 143	1.28	5 084	81 004
	Peru	578 489	536 459	536 459	16 350	520 109	3.05	6 968	499 075
	Philippines	2 140 435	1 767 303	1 727 028	17 533	1 709 495	1.02	7 193	1 782 896
	Qatar	19 574	19 427	19 427	301	19 126	1.55	7 676	18 348
	Romania	212 530	173 572	173 572	4 400	169 172	2.53	7 364	162 019
	Saudi Arabia	389 709	367 963	347 934	11 217	336 717	3.22	6 928	317 452
	Serbia	68 172	65 603	65 603	655	64 948	1,00	6 413	59 250
	Singapore	44 037	43 215	43 215	589	42 626	1.36	6 606	41 958
	Chinese Taipei	205 632	201 379	201 379	1 760	199 619	0.87	5 857	190 787
	Thailand	810 264	708 606	708 606	9 065	699 541	1.28	8 495	604 573
	Ukrainian regions (18 of 27)	258 974	234 139	232 639	5 119	227 520	2.20	3 876	165 592
	Ukraine	398 426	335 307	333 807	88 853	244 954	26.62	3 876	165 592
	United Arab Emirates	64 967	64 914	64 867	838	64 029	1.29	24 600	60 765
	Uruguay	48 233	43 849	43 849	75	43 774	0.17	6 618	40 778
	Uzbekistan	547 432	529 571	529 571	19 623	509 948	3.71	7 293	482 059
	Viet Nam	1 374 000	1 164 190	1 164 190	7 455	1 156 735	0.64	6 068	939 459

Table II.A2.1. PISA target populations and samples, 2022 [3/4]

		Population and sample information				Coverage indices		
		Number of excluded students	Weighted number of excluded students	Within-school exclusion rate (%)	Overall exclusion rate (%)	Coverage Index 1: Coverage of national desired population	Coverage Index 2: Coverage of national enrolled population	Coverage Index 3: Coverage of 15-year-old population
		(9)	(10)	(11)	(12)	(13)	(14)	(15)
OECD	Australia	1 045	14 375	5.14	6.87	0.931	0.931	0.895
	Austria	97	1 253	1.62	3.52	0.965	0.965	0.888
	Belgium	53	663	0.51	2.41	0.976	0.976	0.991
	Canada	1 120	16 390	4.38	5.83	0.942	0.930	0.922
	Chile	21	738	0.34	2.87	0.971	0.971	0.865
	Colombia	40	2 882	0.49	0.58	0.994	0.994	0.729
	Costa Rica	5	35	0.06	0.06	0.999	0.999	0.776
	Czech Republic	73	1 005	0.99	1.97	0.980	0.980	0.915
	Denmark	902	6 311	9.98	11.55	0.884	0.884	0.836
	Estonia	190	373	2.72	5.88	0.941	0.941	0.939
	Finland	200	832	1.39	3.28	0.967	0.967	0.952
	France	170	16 501	2.07	3.72	0.963	0.963	0.934
	Germany	59	5 935	0.86	2.49	0.975	0.975	0.919
	Greece	40	932	0.94	1.45	0.985	0.985	0.914
	Hungary	103	1 639	1.83	4.68	0.953	0.953	0.862
	Iceland	188	195	4.30	4.82	0.952	0.952	0.941
	Ireland	266	2 409	3.55	3.63	0.964	0.964	1.023
	Israel	129	2 354	1.75	3.76	0.962	0.962	0.899
	Italy	399	15 467	3.02	3.07	0.969	0.969	0.867
	Japan	0	0	0.00	2.52	0.975	0.975	0.920
	Korea	37	2 835	0.66	1.47	0.985	0.985	1.024
	Latvia	178	514	2.96	7.91	0.921	0.921	0.850
	Lithuania	288	887	3.53	6.50	0.935	0.935	0.925
	Mexico	50	11 244	0.80	1.41	0.986	0.986	0.635
	Netherlands	118	2 939	1.85	8.43	0.916	0.916	0.786
	New Zealand	239	2 031	3.48	5.77	0.942	0.942	0.903
	Norway	464	3 659	5.84	7.27	0.927	0.927	0.910
	Poland	80	3 872	1.12	4.78	0.952	0.952	0.892
	Portugal	248	3 028	3.04	4.02	0.960	0.960	0.925
	Slovak Republic	81	729	1.51	2.48	0.975	0.975	0.956
	Slovenia	59	125	0.66	2.84	0.972	0.972	0.996
	Spain	1 266	16 836	3.54	4.02	0.960	0.960	0.904
	Sweden	473	7 251	6.26	7.39	0.926	0.926	0.891
	Switzerland	167	1 760	2.27	5.77	0.942	0.942	0.908
	Türkiye	130	17 393	1.83	5.57	0.944	0.944	0.737
	United Kingdom	512	19 772	2.63	4.92	0.951	0.951	0.969
	United States	330	220 753	5.69	6.15	0.939	0.939	0.864

Table II.A2.1. PISA target populations and samples, 2022 [4/4]

		Population and sample information				Coverage indices		
		Number of excluded students	Weighted number of excluded students	Within-school exclusion rate (%)	Overall exclusion rate (%)	Coverage Index 1: Coverage of national desired population	Coverage Index 2: Coverage of national enrolled population	Coverage Index 3: Coverage of 15-year-old population
		(9)	(10)	(11)	(12)	(13)	(14)	(15)
Partners	Albania	22	135	0.47	0.66	0.993	0.993	0.792
	Argentina	204	5228	0.87	1.64	0.984	0.984	0.837
	Baku (Azerbaijan)	20	76	0.25	4.16	0.958	0.958	0.733
	Brazil	115	18927	0.83	3.17	0.968	0.968	0.761
	Brunei Darussalam	53	53	0.88	0.88	0.991	0.991	0.980
	Bulgaria	87	777	1.43	2.70	0.973	0.973	0.800
	Cambodia	2	35	0.03	0.68	0.993	0.993	0.363
	Croatia	104	533	1.50	5.43	0.946	0.946	0.892
	Cyprus	137	205	2.28	4.48	0.955	0.955	0.943
	Dominican Republic	12	204	0.17	1.40	0.986	0.986	0.643
	El Salvador	18	165	0.24	1.15	0.989	0.989	0.611
	Georgia	126	717	1.74	4.87	0.951	0.951	0.863
	Guatemala	8	232	0.14	0.14	0.999	0.999	0.477
	Hong Kong (China)	184	1204	2.43	4.33	0.957	0.957	0.814
	Indonesia	0	0	0.00	1.51	0.985	0.985	0.849
	Jamaica	33	86	0.34	0.85	0.991	0.991	0.584
	Jordan	28	597	0.41	1.22	0.988	0.988	0.940
	Kazakhstan	358	6879	2.46	4.22	0.958	0.958	0.934
	Kosovo	13	38	0.18	0.60	0.994	0.994	0.863
	Macao (China)	0	0	0.00	0.36	0.996	0.996	0.983
	Malaysia	56	2807	0.71	1.46	0.985	0.985	0.749
	Malta	108	108	2.66	3.87	0.961	0.961	0.926
	Moldova	110	508	1.73	1.75	0.983	0.983	0.974
	Mongolia	1	8	0.02	0.82	0.992	0.992	0.871
	Montenegro	65	191	2.92	3.96	0.960	0.960	0.929
	Morocco	5	324	0.07	0.47	0.995	0.995	0.762
	North Macedonia	162	330	1.96	3.73	0.963	0.963	0.907
	Palestinian Authority	3	16	0.02	0.32	0.997	0.997	0.782
	Panama	2	20	0.05	1.13	0.989	0.989	0.577
	Paraguay	10	153	0.19	1.47	0.985	0.985	0.719
	Peru	19	1275	0.25	3.29	0.967	0.967	0.863
	Philippines	23	5144	0.29	1.30	0.987	0.965	0.833
	Qatar	132	217	1.17	2.70	0.973	0.973	0.937
	Romania	20	672	0.41	2.94	0.971	0.971	0.762
	Saudi Arabia	0	0	0.00	3.22	0.968	0.915	0.815
	Serbia	516	1753	2.87	3.84	0.962	0.962	0.869
	Singapore	43	239	0.57	1.92	0.981	0.981	0.953
	Chinese Taipei	44	1136	0.59	1.46	0.985	0.985	0.928
	Thailand	21	1121	0.18	1.46	0.985	0.985	0.746
	Ukrainian regions (18 of 27)	708	24674	12.97	14.92	0.851	0.846	0.639
	Ukraine	708	24674	12.97	36.13	0.639	0.636	0.416
	United Arab Emirates	351	798	1.30	2.57	0.974	0.974	0.935
	Uruguay	13	61	0.15	0.32	0.997	0.997	0.845
	Uzbekistan	36	2437	0.50	4.19	0.958	0.958	0.881
	Viet Nam	2	686	0.07	0.71	0.993	0.993	0.684

Table II.A2.2. Change in the enrolment of 15-year-olds in grade 7 and above (PISA 2003 through PISA 2022) [1/6]

		PISA 2022				PISA 2018				
		Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Revised data
OECD	Australia	296 220	290 738	265 196	0.90	288 195	284 687	257 779	0.89	
	Austria	85 760	82 619	76 153	0.89	84 473	80 108	75 077	0.89	
	Belgium	129 814	127 559	128 642	0.99	126 031	122 808	118 025	0.94	
	Canada	388 205	385 342	357 911	0.92	388 205	400 139	335 197	0.86	
	Chile	247 550	230 294	214 108	0.86	246 398	215 580	213 832	0.87	Yes
	Colombia	805 258	685 807	586 683	0.73	856 081	645 339	529 976	0.62	
	Costa Rica	73 787	64 582	57 250	0.78	72 444	58 789	45 475	0.63	
	Czech Republic	109 596	102 464	100 266	0.91	92 013	90 835	87 808	0.95	
	Denmark	68 110	66 650	56 909	0.84	68 313	67 414	59 967	0.88	
	Estonia	14 210	14 097	13 345	0.94	12 257	12 120	11 414	0.93	
	Finland	61 957	62 104	58 955	0.95	58 325	57 552	56 172	0.96	
	France	836 624	808 703	781 286	0.93	828 196	798 480	756 477	0.91	
	Germany	741 506	741 494	681 399	0.92	739 792	739 792	734 915	0.99	
	Greece	107 294	102 085	98 087	0.91	102 868	100 203	95 370	0.93	
	Hungary	102 077	93 826	87 990	0.86	96 838	91 297	86 754	0.90	
	Iceland	4 623	4 602	4 352	0.94	4 206	4 177	3 875	0.92	Yes
	Ireland	64 051	63 256	65 497	1.02	65 640	61 188	59 639	0.91	Yes
	Israel	147 380	140 599	132 475	0.90	136 848	128 419	110 645	0.81	
	Italy	572 210	527 539	496 263	0.87	616 185	544 279	521 223	0.85	
	Japan	1 109 590	1 070 375	1 021 370	0.92	1 186 849	1 159 226	1 078 921	0.91	
	Korea	418 028	417 968	428 012	1.02	517 040	517 040	455 544	0.88	
	Latvia	19 801	19 501	16 833	0.85	17 977	17 677	15 932	0.89	
	Lithuania	26 228	26 027	24 251	0.92	27 075	25 998	24 453	0.90	
	Mexico	2 193 794	1 592 537	1 393 727	0.64	2 228 222	1 697 100	1 480 904	0.66	Yes
	Netherlands	198 577	193 138	155 987	0.79	208 704	204 753	190 281	0.91	
	New Zealand	62 470	59 286	56 382	0.90	59 700	58 131	53 000	0.89	
	Norway	64 792	64 478	58 970	0.91	60 968	60 794	55 566	0.91	
	Poland	382 777	359 547	341 562	0.89	354 020	331 850	318 724	0.90	
	Portugal	104 433	102 916	96 607	0.93	112 977	110 732	98 628	0.87	
	Slovak Republic	49 662	48 584	47 453	0.96	51 526	50 100	44 418	0.86	
	Slovenia	18 932	19 728	18 850	1.00	17 501	18 236	17 138	0.98	
	Spain	507 740	487 620	459 029	0.90	454 168	436 560	416 703	0.92	
	Sweden	121 723	121 197	108 499	0.89	108 622	107 824	93 129	0.86	
	Switzerland	83 388	81 012	75 696	0.91	80 590	78 059	71 683	0.89	
	Türkiye	1 266 433	1 153 239	933 402	0.74	1 218 693	1 038 993	884 971	0.73	
	United Kingdom	754 547	744 428	731 225	0.97	703 991	697 603	597 240	0.85	
	United States	4 235 296	4 141 007	3 661 328	0.86	4 133 719	4 058 637	3 559 045	0.86	

Notes: Costa Rica, Georgia, Malaysia, Malta, Moldova and United Arab Emirates conducted the PISA 2009 assessment in 2010 as part of PISA 2009+.
For Albania, Brazil, Chile, Jordan, Netherlands, Romania and Uruguay, estimates of the Total population of 15-year-olds across years have been updated to align data sources with those used in 2018. Therefore, the estimates reported in this table do not match those that appear in previous PISA reports.
For Mexico, in 2015, the Total population of 15-year-olds enrolled in grade 7 or above is an estimate of the target population size of the sample frame from which the 15-year-old students were selected for the PISA test. At the time Mexico provided the information to PISA, the official figure for this population was 1 573 952.

Table II.A2.2. Change in the enrolment of 15-year-olds in grade 7 and above (PISA 2003 through PISA 2022) [2/6]

		PISA 2022				PISA 2018				
		Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Revised data
Partners	Albania	35 891	29 095	28 426	0.79	36 955	30 160	27 963	0.76	
	Argentina	712 733	693 636	596 301	0.84	702 788	678 151	566 486	0.81	
	Baku (Azerbaijan)	41 633	29 636	30 529	0.73	43 798	22 672	20 271	0.46	
	Brazil	2 973 643	2 757 493	2 262 972	0.76	3 132 463	2 980 084	2 036 861	0.65	
	Brunei Darussalam	6 100	6 633	5 980	0.98	7 081	7 384	6 899	0.97	
	Bulgaria	66 769	56 791	53 421	0.80	66 499	51 674	47 851	0.72	
	Cambodia	348 485	203 291	126 409	0.36	m	m	m	m	
	Croatia	39 271	39 114	35 033	0.89	39 812	30 534	35 462	0.89	
	Cyprus	9 324	9 324	8 795	0.94	8 285	8 285	7 639	0.92	
	Dominican Republic	189 635	138 535	121 876	0.64	192 198	148 033	140 330	0.73	
	El Salvador	111 637	75 686	68 170	0.61	m	m	m	m	
	Georgia	46 845	45 174	40 416	0.86	46 605	41 750	38 489	0.83	
	Guatemala	353 214	168 154	168 484	0.48	m	m	m	m	
	Hong Kong (China)	59 241	55 505	48 245	0.81	51 935	51 328	51 101	0.98	
	Indonesia	4 462 518	4 069 960	3 790 846	0.85	4 439 086	3 684 980	3 768 508	0.85	
	Jamaica	43 643	51 024	25 495	0.58	m	m	m	m	
	Jordan	149 213	142 601	144 269	0.94	131 210	132 291	114 901	0.88	Yes
	Kazakhstan	291 678	291 490	272 446	0.93	230 646	230 018	212 229	0.92	
	Kosovo	24 400	24 238	21 045	0.86	30 494	27 288	25 739	0.84	
	Macao (China)	4 500	4 469	4 423	0.98	4 300	3 845	3 799	0.88	
	Malaysia	521 400	424 736	390 447	0.75	537 800	455 358	388 638	0.72	
	Malta	4 273	4 177	3 955	0.93	4 039	4 056	3 925	0.97	
	Moldova	29 660	29 638	28 879	0.97	29 716	29 467	28 252	0.95	
	Mongolia	46 889	43 616	40 828	0.87	m	m	m	m	
	Montenegro	6 825	6 808	6 340	0.93	7 484	7 432	7 087	0.95	
	Morocco	597 425	482 740	454 986	0.76	601 250	415 806	386 408	0.64	
	North Macedonia	18 249	18 249	16 548	0.91	18 812	18 812	17 820	0.95	
	Palestinian Authority	113 056	95 013	88 383	0.78	m	m	m	m	
	Panama	73 004	65 523	42 090	0.58	72 084	60 057	38 540	0.53	
	Paraguay	112 659	92 326	81 004	0.72	m	m	m	m	
	Peru	578 489	536 459	499 075	0.86	580 690	484 352	424 586	0.73	
	Philippines	2 140 435	1 767 303	1 782 896	0.83	2 063 564	1 734 997	1 400 584	0.68	
	Qatar	19 574	19 427	18 348	0.94	16 492	16 408	15 228	0.92	
	Romania	212 530	173 572	162 019	0.76	204 009	171 685	148 098	0.73	Yes
	Saudi Arabia	389 709	367 963	317 452	0.81	418 788	406 768	354 013	0.85	
	Serbia	68 172	65 603	59 250	0.87	69 972	66 729	61 895	0.88	
	Singapore	44 037	43 215	41 958	0.95	46 229	45 178	44 058	0.95	
	Chinese Taipei	205 632	201 379	190 787	0.93	246 260	240 241	226 698	0.92	
	Thailand	810 264	708 606	604 573	0.75	795 130	696 833	575 713	0.72	
	Ukrainian regions (18 of 27)	258 974	234 139	165 592	0.64	m	m	m	m	
	Ukraine	398 426	335 307	165 592	0.42	351 424	321 833	304 855	0.87	
	United Arab Emirates	64 967	64 914	60 765	0.94	59 275	59 203	54 403	0.92	
	Uruguay	48 233	43 849	40 778	0.85	50 965	46 768	39 746	0.78	
	Uzbekistan	547 432	529 571	482 059	0.88	m	m	m	m	
	Viet Nam	1 374 000	1 164 190	939 459	0.68	1 332 000	1 251 842	926 260	0.70	

Notes: Costa Rica, Georgia, Malaysia, Malta, Moldova and United Arab Emirates conducted the PISA 2009 assessment in 2010 as part of PISA 2009+.
For Albania, Brazil, Chile, Jordan, Netherlands, Romania and Uruguay, estimates of the Total population of 15-year-olds across years have been updated to align data sources with those used in 2018. Therefore, the estimates reported in this table do not match those that appear in previous PISA reports.
For Mexico, in 2015, the Total population of 15-year-olds enrolled in grade 7 or above is an estimate of the target population size of the sample frame from which the 15-year-old students were selected for the PISA test. At the time Mexico provided the information to PISA, the official figure for this population was 1 573 952.

Table II.A2.2. Change in the enrolment of 15-year-olds in grade 7 and above (PISA 2003 through PISA 2022) [3/6]

		PISA 2015					PISA 2012				
		Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Revised data	Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Revised data
OECD	Australia	282 888	282 547	256 329	0.91		291 967	288 159	250 779	0.86	
	Austria	88 013	82 683	73 379	0.83		93 537	89 073	82 242	0.88	
	Belgium	123 630	121 954	114 902	0.93		123 469	121 493	117 912	0.95	
	Canada	396 966	381 660	331 546	0.84		417 873	409 453	348 070	0.83	
	Chile	256 772	245 947	203 782	0.79	Yes	270 812	252 733	229 199	0.85	Yes
	Colombia	760 919	674 079	567 848	0.75		889 729	620 422	560 805	0.63	
	Costa Rica	81 773	66 524	51 897	0.63		81 489	64 326	40 384	0.50	
	Czech Republic	90 391	90 076	84 519	0.94		96 946	93 214	82 101	0.85	
	Denmark	68 174	67 466	60 655	0.89		72 310	70 854	65 642	0.91	
	Estonia	11 676	11 491	10 834	0.93		12 649	12 438	11 634	0.92	
	Finland	58 526	58 955	56 934	0.97		62 523	62 195	60 047	0.96	
	France	807 867	778 679	734 944	0.91		792 983	755 447	701 399	0.88	
	Germany	774 149	774 149	743 969	0.96		798 136	798 136	756 907	0.95	
	Greece	105 530	105 253	96 157	0.91		110 521	105 096	96 640	0.87	
	Hungary	94 515	90 065	84 644	0.90		111 761	108 816	91 179	0.82	
	Iceland	4 254	4 195	3 966	0.93	Yes	4 500	4 491	4 169	0.93	Yes
	Ireland	62 066	59 811	59 082	0.95	Yes	58 668	57 979	54 010	0.92	Yes
	Israel	124 852	118 997	117 031	0.94		118 953	113 278	107 745	0.91	
	Italy	616 761	567 268	495 093	0.80		605 490	566 973	521 288	0.86	
	Japan	1 201 615	1 175 907	1 138 349	0.95		1 241 786	1 214 756	1 128 179	0.91	
	Korea	620 687	619 950	569 106	0.92		687 104	672 101	603 632	0.88	
	Latvia	17 255	16 955	15 320	0.89		18 789	18 389	16 054	0.85	
	Lithuania	33 163	32 097	29 915	0.90		38 524	35 567	33 042	0.86	
	Mexico	2 220 004	1 401 247	1 392 995	0.63	Yes	2 226 585	1 472 875	1 326 025	0.60	Yes
	Netherlands	203 234	200 976	191 817	0.94		194 000	193 190	196 262	1.01	
	New Zealand	60 162	57 448	54 274	0.90		60 940	59 118	53 414	0.88	
	Norway	63 642	63 491	58 083	0.91		64 917	64 777	59 432	0.92	
	Poland	380 366	361 600	345 709	0.91		425 597	410 700	379 275	0.89	
	Portugal	110 939	101 107	97 214	0.88		108 728	127 537	96 034	0.88	
	Slovak Republic	55 674	55 203	49 654	0.89		59 723	59 367	54 486	0.91	
	Slovenia	18 078	17 689	16 773	0.93		19 471	18 935	18 303	0.94	
	Spain	440 337	414 276	399 935	0.91	Yes	422 658	404 374	374 266	0.89	Yes
	Sweden	97 749	97 210	91 491	0.94		102 087	102 027	94 988	0.93	
	Switzerland	85 495	83 655	82 223	0.96		87 200	85 239	79 679	0.91	
	Türkiye	1 324 089	1 100 074	925 366	0.70		1 266 638	965 736	866 681	0.68	
	United Kingdom	747 593	746 328	627 703	0.84		738 066	745 581	688 236	0.93	
	United States	4 220 325	3 992 053	3 524 497	0.84		3 985 714	4 074 457	3 536 153	0.89	

Notes: Costa Rica, Georgia, Malaysia, Malta, Moldova and United Arab Emirates conducted the PISA 2009 assessment in 2010 as part of PISA 2009+.
For Albania, Brazil, Chile, Jordan, Netherlands, Romania and Uruguay, estimates of the Total population of 15-year-olds across years have been updated to align data sources with those used in 2018. Therefore, the estimates reported in this table do not match those that appear in previous PISA reports.
For Mexico, in 2015, the Total population of 15-year-olds enrolled in grade 7 or above is an estimate of the target population size of the sample frame from which the 15-year-old students were selected for the PISA test. At the time Mexico provided the information to PISA, the official figure for this population was 1 573 952.

Table II.A2.2. Change in the enrolment of 15-year-olds in grade 7 and above (PISA 2003 through PISA 2022) [4/6]

		PISA 2015					PISA 2012				
		Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Revised data	Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Revised data
Partners	Albania	45 667	45 163	40 896	0.90		55 099	50 157	42 466	0.77	
	Argentina	718 635	578 308	394 917	0.55		684 879	637 603	545 942	0.80	
	Baku (Azerbaijan)	m	m	m	m		m	m	m	m	
	Brazil	3 379 467	2 853 388	2 425 961	0.72		3 520 371	2 786 064	2 470 804	0.70	
	Brunei Darussalam	m	m	m	m		m	m	m	m	
	Bulgaria	66 601	59 397	53 685	0.81		70 188	59 684	54 255	0.77	
	Cambodia	m	m	m	m		m	m	m	m	
	Croatia	45 031	35 920	40 899	0.91		48 155	46 550	45 502	0.94	
	Cyprus	9 255	9 255	8 785	0.95		9 956	9 956	9 650	0.97	
	Dominican Republic	193 153	139 555	132 300	0.68		m	m	m	m	
	El Salvador	m	m	m	m		m	m	m	m	
	Georgia	48 695	43 197	38 334	0.79		m	m	m	m	
	Guatemala	m	m	m	m		m	m	m	m	
	Hong Kong (China)	65 100	61 630	57 662	0.89		84 200	77 864	70 636	0.84	
	Indonesia	4 534 216	3 182 816	3 092 773	0.68		4 174 217	3 599 844	2 645 155	0.63	
	Jamaica	m	m	m	m		m	m	m	m	
	Jordan	147 487	121 729	108 669	0.74	Yes	153 293	125 333	111 098	0.72	Yes
	Kazakhstan	211 407	209 555	192 909	0.91		258 716	247 048	208 411	0.81	
	Kosovo	31 546	28 229	22 333	0.71		m	m	m	m	
	Macao (China)	5 100	4 417	4 507	0.88		6 600	5 416	5 366	0.81	
	Malaysia	540 000	448 838	412 524	0.76		544 302	457 999	432 080	0.79	
	Malta	4 397	4 406	4 296	0.98		m	m	m	m	
	Moldova	31 576	30 601	29 341	0.93		m	m	m	m	
	Mongolia	m	m	m	m		m	m	m	m	
	Montenegro	7 524	7 506	6 777	0.90		8 600	8 600	7 714	0.90	
	Morocco	m	m	m	m		m	m	m	m	
	North Macedonia	16 719	16 717	15 847	0.95		m	m	m	m	
	Palestinian Authority	m	m	m	m		m	m	m	m	
	Panama	m	m	m	m		m	m	m	m	
	Paraguay	m	m	m	m		m	m	m	m	
	Peru	580 371	478 229	431 738	0.74		584 294	508 969	419 945	0.72	
	Philippines	m	m	m	m		m	m	m	m	
	Qatar	13 871	13 850	12 951	0.93		11 667	11 532	11 003	0.94	
	Romania	218 846	176 334	164 216	0.75		212 694	146 243	140 915	0.66	
	Saudi Arabia	m	m	m	m		m	m	m	m	
	Serbia	m	m	m	m		85 121	75 870	67 934	0.80	
	Singapore	48 218	47 050	46 224	0.96		53 637	52 163	51 088	0.95	
	Chinese Taipei	m	m	m	m		m	m	m	m	
	Thailand	895 513	756 917	634 795	0.71		982 080	784 897	703 012	0.72	
	Ukrainian regions (18 of 27)	m	m	m	m		m	m	m	m	
	Ukraine	m	m	m	m		m	m	m	m	
	United Arab Emirates	51 687	51 518	46 950	0.91		48 824	48 446	40 612	0.83	
	Uruguay	52 541	43 865	38 287	0.73	Yes	55 128	46 442	39 771	0.72	Yes
	Uzbekistan	m	m	m	m		m	m	m	m	
	Viet Nam	1 340 000	1 032 599	874 859	0.65		1 393 000	1 091 462	956 517	0.69	

Notes: Costa Rica, Georgia, Malaysia, Malta, Moldova and United Arab Emirates conducted the PISA 2009 assessment in 2010 as part of PISA 2009+. For Albania, Brazil, Chile, Jordan, Netherlands, Romania and Uruguay, estimates of the Total population of 15-year-olds across years have been updated to align data sources with those used in 2018. Therefore, the estimates reported in this table do not match those that appear in previous PISA reports. For Mexico, in 2015, the Total population of 15-year-olds enrolled in grade 7 or above is an estimate of the target population size of the sample frame from which the 15-year-old students were selected for the PISA test. At the time Mexico provided the information to PISA, the official figure for this population was 1 573 952.

Table II.A2.2. Change in the enrolment of 15-year-olds in grade 7 and above (PISA 2003 through PISA 2022) [5/6]

		PISA 2009				PISA 2006				PISA 2003			
		Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population
OECD	Australia	286 334	269 669	240 851	0.84	270 115	256 754	234 940	0.87	268 164	250 635	235 591	0.88
	Austria	99 818	94 192	87 326	0.87	97 337	92 149	89 925	0.92	94 515	89 049	85 931	0.91
	Belgium	126 377	126 335	119 140	0.94	124 943	124 557	123 161	0.99	120 802	118 185	111 831	0.93
	Canada	430 791	426 590	360 286	0.84	426 967	428 876	370 879	0.87	398 865	399 265	330 436	0.83
	Chile	290 056	265 542	247 270	0.85	297 085	255 459	233 526	0.79	m	m	m	m
	Colombia	893 057	582 640	522 388	0.58	897 477	543 630	537 262	0.60	m	m	m	m
	Costa Rica	80 523	63 603	42 954	0.53	m	m	m	m	m	m	m	m
	Czech Republic	122 027	116 153	113 951	0.93	127 748	124 764	128 827	1.01	130 679	126 348	121 183	0.93
	Denmark	70 522	68 897	60 855	0.86	66 989	65 984	57 013	0.85	59 156	58 188	51 741	0.87
	Estonia	14 248	14 106	12 978	0.91	19 871	19 623	18 662	0.94	m	m	m	m
	Finland	66 198	66 198	61 463	0.93	66 232	66 232	61 387	0.93	61 107	61 107	57 883	0.95
	France	749 808	732 825	677 620	0.90	809 375	809 375	739 428	0.91	809 053	808 276	734 579	0.91
	Germany	852 044	852 044	766 993	0.90	951 535	1 062 920	903 512	0.95	951 800	916 869	884 358	0.93
	Greece	102 229	105 664	93 088	0.91	107 505	110 663	96 412	0.90	111 286	108 314	105 131	0.94
	Hungary	121 155	118 387	105 611	0.87	124 444	120 061	106 010	0.85	129 138	123 762	107 044	0.83
	Iceland	4 738	4 738	4 410	0.93	4 820	4 777	4 624	0.96	4 168	4 112	3 928	0.94
	Ireland	56 635	55 464	52 794	0.93	58 667	57 648	55 114	0.94	61 535	58 997	54 850	0.89
	Israel	122 701	112 254	103 184	0.84	122 626	109 370	93 347	0.76	m	m	m	m
	Italy	586 904	573 542	506 733	0.86	578 131	639 971	520 055	0.90	561 304	574 611	481 521	0.86
	Japan	1 211 642	1 189 263	1 113 403	0.92	1 246 207	1 222 171	1 113 701	0.89	1 365 471	1 328 498	1 240 054	0.91
	Korea	717 164	700 226	630 030	0.88	660 812	627 868	576 669	0.87	606 722	606 370	533 504	0.88
	Latvia	28 749	28 149	23 362	0.81	34 277	33 659	29 232	0.85	37 544	37 138	33 643	0.90
	Lithuania	51 822	43 967	40 530	0.78	53 931	51 808	50 329	0.93	m	m	m	m
	Mexico	2 151 771	1 425 397	1 305 461	0.61	2 200 916	1 383 364	1 190 420	0.54	2 192 452	1 273 163	1 071 650	0.49
	Netherlands	199 000	198 334	183 546	0.92	197 046	193 769	189 576	0.96	194 216	194 216	184 943	0.95
	New Zealand	63 460	60 083	55 129	0.87	63 800	59 341	53 398	0.84	55 440	53 293	48 638	0.88
	Norway	63 352	62 948	57 367	0.91	61 708	61 449	59 884	0.97	56 060	55 648	52 816	0.94
	Poland	482 500	473 700	448 866	0.93	549 000	546 000	515 993	0.94	589 506	569 294	534 900	0.91
	Portugal	115 669	107 583	96 820	0.84	115 426	100 816	90 079	0.78	109 149	99 216	96 857	0.89
	Slovak Republic	72 826	72 454	69 274	0.95	79 989	78 427	76 201	0.95	84 242	81 945	77 067	0.91
	Slovenia	20 314	19 571	18 773	0.92	23 431	23 018	20 595	0.88	m	m	m	m
	Spain	433 224	425 336	387 054	0.89	439 415	436 885	381 686	0.87	454 064	418 005	344 372	0.76
	Sweden	121 486	121 216	113 054	0.93	129 734	127 036	126 393	0.97	109 482	112 258	107 104	0.98
	Switzerland	90 623	89 423	80 839	0.89	87 766	86 108	89 651	1.02	83 247	81 020	86 491	1.04
	Türkiye	1 336 842	859 172	757 298	0.57	1 423 514	800 968	665 477	0.47	1 351 492	725 030	481 279	0.36
	United Kingdom	786 626	786 825	683 380	0.87	779 076	767 248	732 004	0.94	768 180	736 785	698 579	0.91
	United States	4 103 738	4 210 475	3 373 264	0.82	4 192 939	4 192 939	3 578 040	0.85	3 979 116	3 979 116	3 147 089	0.79

Notes: Costa Rica, Georgia, Malaysia, Malta, Moldova and United Arab Emirates conducted the PISA 2009 assessment in 2010 as part of PISA 2009+.
For Albania, Brazil, Chile, Jordan, Netherlands, Romania and Uruguay, estimates of the Total population of 15-year-olds across years have been updated to align data sources with those used in 2018. Therefore, the estimates reported in this table do not match those that appear in previous PISA reports.
For Mexico, in 2015, the Total population of 15-year-olds enrolled in grade 7 or above is an estimate of the target population size of the sample frame from which the 15-year-old students were selected for the PISA test. At the time Mexico provided the information to PISA, the official figure for this population was 1 573 952.

Table II.A2.2. Change in the enrolment of 15-year-olds in grade 7 and above (PISA 2003 through PISA 2022) [6/6]

		PISA 2009				PISA 2006				PISA 2003			
		Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population	Total population of 15-year-olds	Total population of 15-year-olds enrolled in grade 7 or above	Weighted number of participating students	Coverage index 3. Coverage of the national 15-year-old population
Partners	Albania	55 587	42 767	34 134	0.61	m	m	m	m	m	m	m	m
	Argentina	688 434	636 713	472 106	0.69	662 686	579 222	523 048	0.79	m	m	m	m
	Baku (Azerbaijan)	m	m	m	m	m	m	m	m	m	m	m	m
	Brazil	3 434 101	2 654 489	2 080 159	0.61	3 439 795	2 374 044	1 875 461	0.55	3 560 650	2 359 854	1 952 253	0.55
	Brunei Darussalam	m	m	m	m	m	m	m	m	m	m	m	m
	Bulgaria	80 226	70 688	57 833	0.72	89 751	88 071	74 326	0.83	m	m	m	m
	Cambodia	m	m	m	m	m	m	m	m	m	m	m	m
	Croatia	48 491	46 256	43 065	0.89	54 500	51 318	46 523	0.85	m	m	m	m
	Cyprus	m	m	m	m	m	m	m	m	m	m	m	m
	Dominican Republic	m	m	m	m	m	m	m	m	m	m	m	m
	El Salvador	m	m	m	m	m	m	m	m	m	m	m	m
	Georgia	56 070	51 351	42 641	0.76	m	m	m	m	m	m	m	m
	Guatemala	m	m	m	m	m	m	m	m	m	m	m	m
	Hong Kong (China)	85 000	78 224	75 548	0.89	77 398	75 542	75 145	0.97	75 000	72 631	72 484	0.97
	Indonesia	4 267 801	3 158 173	2 259 118	0.53	4 238 600	3 119 393	2 248 313	0.53	4 281 895	3 113 548	1 971 476	0.46
	Jamaica	m	m	m	m	m	m	m	m	m	m	m	m
	Jordan	133 953	107 254	104 056	0.78	122 354	126 708	90 267	0.74	m	m	m	m
	Kazakhstan	281 659	263 206	250 657	0.89	m	m	m	m	m	m	m	m
	Kosovo	m	m	m	m	m	m	m	m	m	m	m	m
	Macao (China)	7 500	5 969	5 978	0.80	m	m	m	m	8 318	6 939	6 546	0.79
	Malaysia	539 295	492 758	421 448	0.78	m	m	m	m	m	m	m	m
	Malta	5 152	4 930	4 807	0.93	m	m	m	m	m	m	m	m
	Moldova	47 873	44 069	43 195	0.90	m	m	m	m	m	m	m	m
	Mongolia	m	m	m	m	m	m	m	m	m	m	m	m
	Montenegro	8 500	8 493	7 728	0.91	9 190	8 973	7 734	0.84	m	m	m	m
	Morocco	m	m	m	m	m	m	m	m	m	m	m	m
	North Macedonia	m	m	m	m	m	m	m	m	m	m	m	m
	Palestinian Authority	m	m	m	m	m	m	m	m	m	m	m	m
	Panama	57 919	43 623	30 510	0.53	m	m	m	m	m	m	m	m
	Paraguay	m	m	m	m	m	m	m	m	m	m	m	m
	Peru	585 567	491 514	427 607	0.73	m	m	m	m	m	m	m	m
	Philippines	m	m	m	m	m	m	m	m	m	m	m	m
	Qatar	10 974	10 665	9 806	0.89	8 053	7 865	7 271	0.90	m	m	m	m
	Romania	220 264	152 084	151 130	0.69	312 483	241 890	223 887	0.72	m	m	m	m
	Saudi Arabia	m	m	m	m	m	m	m	m	m	m	m	m
	Serbia	85 121	75 128	70 796	0.83	88 584	80 692	73 907	0.83	m	m	m	m
	Singapore	54 982	54 212	51 874	0.94	m	m	m	m	m	m	m	m
	Chinese Taipei	m	m	m	m	m	m	m	m	m	m	m	m
	Thailand	949 891	763 679	691 916	0.73	895 924	727 860	644 125	0.72	927 070	778 267	637 076	0.69
	Ukrainian regions (18 of 27)	m	m	m	m	m	m	m	m	m	m	m	m
	Ukraine	m	m	m	m	m	m	m	m	m	m	m	m
	United Arab Emirates	41 564	40 447	38 707	0.93	m	m	m	m	m	m	m	m
	Uruguay	53 801	43 281	33 971	0.63	52 119	40 815	36 011	0.69	53 948	40 023	33 775	0.63
	Uzbekistan	m	m	m	m	m	m	m	m	m	m	m	m
	Viet Nam	m	m	m	m	m	m	m	m	m	m	m	m

Notes: Costa Rica, Georgia, Malaysia, Malta, Moldova and United Arab Emirates conducted the PISA 2009 assessment in 2010 as part of PISA 2009+. For Albania, Brazil, Chile, Jordan, Netherlands, Romania and Uruguay, estimates of the Total population of 15-year-olds across years have been updated to align data sources with those used in 2018. Therefore, the estimates reported in this table do not match those that appear in previous PISA reports. For Mexico, in 2015, the Total population of 15-year-olds enrolled in grade 7 or above is an estimate of the target population size of the sample frame from which the 15-year-old students were selected for the PISA test. At the time Mexico provided the information to PISA, the official figure for this population was 1 573 952.

Table II.A2.4. Exclusions, PISA 2022 [1/4]

		Student exclusions (unweighted)						
		Number of excluded students with functional disability (Code 1)	Number of excluded students with intellectual disability (Code 2)	Number of excluded students because of language (Code 3)	Number of excluded students because of no materials available in the language of instruction (Code 4)	Number of excluded students for other reasons (Code 5)	Number of excluded students because online/ virtual (Code 6)	Total number of excluded students
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD	Australia	72	808	164	0	1	0	1 045
	Austria	6	54	32	0	0	5	97
	Belgium	7	29	17	0	0	0	53
	Canada	58	464	103	0	0	495	1 120
	Chile	0	19	2	0	0	0	21
	Colombia	1	36	1	0	0	2	40
	Costa Rica	0	1	0	0	3	1	5
	Czech Republic	4	41	23	0	0	5	73
	Denmark	14	330	102	0	456	0	902
	Estonia	3	131	13	0	0	43	190
	Finland	6	129	46	4	9	6	200
	France	29	107	33	1	0	0	170
	Germany	3	30	26	0	0	0	59
	Greece	9	18	10	0	0	3	40
	Hungary	4	33	14	0	52	0	103
	Iceland	11	87	58	13	19	0	188
	Ireland	22	152	53	0	39	0	266
	Israel	14	81	27	0	0	7	129
	Italy	0	0	0	0	399	0	399
	Japan	0	0	0	0	0	0	0
	Korea	3	23	11	0	0	0	37
	Latvia	3	4	12	0	0	159	178
	Lithuania	14	225	25	0	0	24	288
	Mexico	4	18	1	0	0	27	50
	Netherlands	17	88	12	0	0	1	118
	New Zealand	20	185	34	0	0	0	239
	Norway	17	355	88	0	0	4	464
	Poland	10	42	28	0	0	0	80
	Portugal	8	195	38	0	0	7	248
	Slovak Republic	6	69	1	0	0	5	81
	Slovenia	9	19	16	0	0	15	59
	Spain	55	860	293	18	0	40	1 266
	Sweden	0	0	0	0	473	0	473
	Switzerland	6	100	61	0	0	0	167
	Türkiye	4	54	72	0	0	0	130
	United Kingdom	47	359	57	0	0	49	512
	United States	49	167	77	0	2	35	330

* For this entity, the use of code 6 exclusions was expanded beyond the scope of exclusion just for Covid and used for students who met the definition but due to the war in addition to Covid.

Table II.A2.4. Exclusions, PISA 2022 [2/4]

		Student exclusions (unweighted)						
		Number of excluded students with functional disability (Code 1)	Number of excluded students with intellectual disability (Code 2)	Number of excluded students because of language (Code 3)	Number of excluded students because of no materials available in the language of instruction (Code 4)	Number of excluded students for other reasons (Code 5)	Number of excluded students because online/virtual (Code 6)	Total number of excluded students
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Partners	Albania	3	12	2	5	0	0	22
	Argentina	12	168	3	2	0	19	204
	Baku (Azerbaijan)	17	3	0	0	0	0	20
	Brazil	3	25	0	6	0	81	115
	Brunei Darussalam	7	44	2	0	0	0	53
	Bulgaria	1	53	2	0	0	31	87
	Cambodia	1	0	1	0	0	0	2
	Croatia	12	87	5	0	0	0	104
	Cyprus	9	73	49	0	0	6	137
	Dominican Republic	2	9	1	0	0	0	12
	El Salvador	1	4	0	0	0	13	18
	Georgia	3	11	1	0	0	111	126
	Guatemala	1	0	0	0	0	7	8
	Hong Kong (China)	0	0	0	0	0	184	184
	Indonesia	0	0	0	0	0	0	0
	Jamaica	5	27	0	0	0	0	33
	Jordan	8	8	3	0	0	9	28
	Kazakhstan	82	126	24	123	0	2	358
	Kosovo	0	0	2	11	0	0	13
	Macao (China)	0	0	0	0	0	0	0
	Malaysia	1	55	0	0	0	0	56
	Malta	8	83	13	2	0	2	108
	Moldova	32	73	3	0	0	2	110
	Mongolia	0	1	0	0	0	0	1
	Montenegro	25	13	26	0	0	1	65
	Morocco	4	1	0	0	0	0	5
	North Macedonia	6	9	19	120	0	8	162
	Palestinian Authority	2	1	0	0	0	0	3
	Panama	0	2	0	0	0	0	2
	Paraguay	0	2	1	0	0	7	10
	Peru	5	14	0	0	0	0	19
	Philippines	2	2	0	0	0	19	23
	Qatar	27	102	0	0	0	3	132
	Romania	5	8	0	7	0	0	20
	Saudi Arabia	0	0	0	0	0	0	0
	Serbia	2	14	2	495	0	3	516
	Singapore	2	35	6	0	0	0	43
	Chinese Taipei	9	35	0	0	0	0	44
	Thailand	3	16	0	0	0	2	21
	Ukrainian regions (18 of 27)	3	1	0	0	0	704*	708
	United Arab Emirates	16	107	8	0	0	220	351
	Uruguay	2	8	0	0	3	0	13
	Uzbekistan	10	9	17	0	0	0	36
	Viet Nam	0	2	0	0	0	0	2

* For this entity, the use of code 6 exclusions was expanded beyond the scope of exclusion just for Covid and used for students who met the definition but due to the war in addition to Covid.

* For this entity, the use of code 6 exclusions was expanded beyond the scope of exclusion just for Covid and used for students who met the definition but due to the war in addition to Covid.

Table II.A2.4. Exclusions, PISA 2022 [3/4]

		Student exclusions (weighted)						
		Weighted number of excluded students with functional disability (Code 1)	Weighted number of excluded students with intellectual disability (Code 2)	Weighted number of excluded students because of language (Code 3)	Weighted number of excluded students because of no materials available in the language of instruction (Code 4)	Weighted number of excluded students for other reasons (Code 5)	Weighted number of excluded students because online/virtual (Code 6)	Total weighted number of excluded students
		(8)	(9)	(10)	(11)	(12)	(13)	(14)
OECD	Australia	1 032	11 246	2 079	0	17	0	14 375
	Austria	89	758	346	0	0	60	1 253
	Belgium	107	379	177	0	0	0	663
	Canada	759	5 982	1 757	0	0	7 891	16 390
	Chile	0	676	62	0	0	0	738
	Colombia	93	2 481	78	0	0	231	2 882
	Costa Rica	0	7	0	0	20	8	35
	Czech Republic	46	599	307	0	0	54	1 005
	Denmark	91	2 399	449	0	3 371	0	6 311
	Estonia	4	251	27	0	0	91	373
	Finland	29	608	103	11	50	32	832
	France	2 446	10 836	3 088	132	0	0	16 501
	Germany	248	3 131	2 556	0	0	0	5 935
	Greece	192	456	242	0	0	41	932
	Hungary	75	632	193	0	738	0	1 639
	Iceland	11	90	61	14	19	0	195
	Ireland	193	1 371	488	0	357	0	2 409
	Israel	233	1 466	452	0	0	203	2 354
	Italy	0	0	0	0	15 467	0	15 467
	Japan	0	0	0	0	0	0	0
	Korea	214	1 692	928	0	0	0	2 835
	Latvia	8	10	33	0	0	463	514
	Lithuania	44	699	64	0	0	80	887
	Mexico	579	2 634	100	0	0	7 931	11 244
	Netherlands	381	2 213	278	0	0	67	2 939
	New Zealand	178	1 543	310	0	0	0	2 031
	Norway	134	2 789	692	0	0	45	3 659
	Poland	516	2 110	1 245	0	0	0	3 872
	Portugal	87	2 405	440	0	0	95	3 028
	Slovak Republic	67	616	10	0	0	36	729
	Slovenia	25	52	20	0	0	27	125
	Spain	476	11 697	4 047	203	0	413	16 836
	Sweden	0	0	0	0	7 251	0	7 251
	Switzerland	57	1 038	665	0	0	0	1 760
	Türkiye	392	6 679	10 322	0	0	0	17 393
	United Kingdom	2 163	12 290	2 799	0	0	2 520	19 772
	United States	33 347	113 102	52 436	0	1 370	20 498	220 753

* For this entity, the use of code 6 exclusions was expanded beyond the scope of exclusion just for Covid and used for students who met the definition but due to the war in addition to Covid.

* For this entity, the use of code 6 exclusions was expanded beyond the scope of exclusion just for Covid and used for students who met the definition but due to the war in addition to Covid.

Table II.A2.4. Exclusions, PISA 2022 [4/4]

		Student exclusions (weighted)						
		Weighted number of excluded students with functional disability (Code 1)	Weighted number of excluded students with intellectual disability (Code 2)	Weighted number of excluded students because of language (Code 3)	Weighted number of excluded students because of no materials available in the language of instruction (Code 4)	Weighted number of excluded students for other reasons (Code 5)	Weighted number of excluded students because online/virtual (Code 6)	Total weighted number of excluded students
		(8)	(9)	(10)	(11)	(12)	(13)	(14)
Partners	Albania	15	74	9	37	0	0	135
	Argentina	381	4 524	47	27	0	249	5 228
	Baku (Azerbaijan)	64	12	0	0	0	0	76
	Brazil	766	3 991	0	1 225	0	12 945	18 927
	Brunei Darussalam	7	44	2	0	0	0	53
	Bulgaria	8	489	22	0	0	259	777
	Cambodia	16	0	19	0	0	0	35
	Croatia	55	452	26	0	0	0	533
	Cyprus	13	118	67	0	0	7	205
	Dominican Republic	51	136	17	0	0	0	204
	El Salvador	16	44	0	0	0	106	165
	Georgia	16	68	12	0	0	621	717
	Guatemala	46	0	0	0	0	186	232
	Hong Kong (China)	0	0	0	0	0	1 204	1 204
	Indonesia	0	0	0	0	0	0	0
	Jamaica	8	76	0	0	0	0	86
	Jordan	145	225	68	0	0	158	597
	Kazakhstan	1 109	1 749	786	3 206	0	13	6 879
	Kosovo	0	0	8	30	0	0	38
	Macao (China)	0	0	0	0	0	0	0
	Malaysia	59	2 748	0	0	0	0	2 807
	Malta	8	83	13	2	0	2	108
	Moldova	144	342	14	0	0	8	508
	Mongolia	0	8	0	0	0	0	8
	Montenegro	70	28	90	0	0	2	191
	Morocco	261	62	0	0	0	0	324
	North Macedonia	12	16	39	250	0	14	330
	Palestinian Authority	15	2	0	0	0	0	16
	Panama	0	20	0	0	0	0	20
	Paraguay	0	32	14	0	0	106	153
	Peru	393	882	0	0	0	0	1 275
	Philippines	426	428	0	0	0	4 291	5 144
	Qatar	56	156	0	0	0	5	217
	Romania	180	281	0	211	0	0	672
	Saudi Arabia	0	0	0	0	0	0	0
	Serbia	16	114	29	1 569	0	24	1 753
	Singapore	11	193	34	0	0	0	239
	Chinese Taipei	281	854	0	0	0	0	1 136
	Thailand	268	845	0	0	0	7	1 121
	Ukrainian regions (18 of 27)	127	27	0	0	0	24 520	24 674
	United Arab Emirates	29	209	16	0	0	544	798
	Uruguay	10	38	0	0	13	0	61
	Uzbekistan	617	622	1 198	0	0	0	2 437
	Viet Nam	0	686	0	0	0	0	686

* For this entity, the use of code 6 exclusions was expanded beyond the scope of exclusion just for Covid and used for students who met the definition but due to the war in addition to Covid.

Table II.A2.6. Response rates, PISA 2022 [1/4]

		Initial sample - before school replacement					Final sample - after school replacement				
		Weighted school participation rate before replacement (%)	Weighted number of responding schools (weighted also by enrolment)	Weighted number of schools sampled (responding and non-responding) (weighted also by enrolment)	Number of responding schools (unweighted)	Number of responding and non-responding schools (unweighted)	Weighted school participation rate after replacement (%)	Weighted number of responding schools (weighted also by enrolment)	Weighted number of schools sampled (responding and non-responding) (weighted also by enrolment)	Number of responding schools (unweighted)	Number of responding and non-responding schools (unweighted)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
OECD	Australia	92	260 643	281 781	722	794	96	269 918	282 241	743	794
	Austria	96	77 289	80 733	300	318	96	77 799	80 750	302	318
	Belgium	80	101 303	126 138	243	318	91	115 591	126 446	285	318
	Canada	81	305 746	375 877	828	1 049	86	321 877	376 040	867	1 049
	Chile	84	187 116	222 091	205	250	94	208 702	221 439	230	250
	Colombia	97	658 016	681 141	249	264	99	683 439	688 995	262	264
	Costa Rica	99	64 480	65 122	198	200	99	64 480	65 122	198	200
	Czech Republic	100	98 609	98 609	430	430	100	98 609	98 609	430	430
	Denmark	90	53 540	59 431	325	371	96	57 254	59 517	347	371
	Estonia	99	13 659	13 745	196	199	99	13 659	13 745	196	199
	Finland	99	60 180	60 501	241	245	99	60 180	60 501	241	245
	France	100	790 568	794 003	282	283	100	790 568	794 003	282	283
	Germany	93	674 828	726 200	241	264	98	712 724	725 905	257	264
	Greece	90	90 812	100 785	217	242	96	96 821	100 772	230	242
	Hungary	89	82 009	92 393	249	279	99	90 673	91 964	270	279
	Iceland	96	4 435	4 601	134	149	96	4 435	4 601	134	149
	Ireland	99	68 814	69 234	169	170	100	69 234	69 234	170	170
	Israel	91	124 237	137 007	188	210	93	127 287	137 007	193	210
	Italy	96	493 350	513 656	334	350	99	510 819	513 842	345	350
	Japan	92	949 447	1 033 001	182	199	92	949 447	1 033 001	182	199
	Korea	89	369 002	415 104	166	187	100	413 724	415 104	186	187
	Latvia	84	15 494	18 464	208	259	89	16 424	18 516	225	259
	Lithuania	100	25 311	25 418	288	293	100	25 408	25 414	292	293
	Mexico	96	1 473 466	1 535 688	272	289	99	1 519 261	1 535 688	280	289
	Netherlands	66	116 517	177 833	114	175	90	159 228	177 613	154	175
	New Zealand	61	35 524	57 847	140	227	72	41 871	57 865	169	227
	Norway	99	62 129	62 943	266	271	99	62 393	62 943	267	271
	Poland	89	309 061	348 856	223	252	96	335 389	348 856	240	252
	Portugal	95	95 312	100 641	213	227	99	99 768	100 578	224	227
	Slovak Republic	91	44 081	48 692	271	301	96	46 387	48 549	288	301
	Slovenia	97	18 729	19 264	344	375	97	18 747	19 264	345	375
	Spain	98	473 996	485 037	959	985	99	480 541	485 037	966	985
	Sweden	98	113 994	116 574	259	268	99	115 248	116 574	262	268
	Switzerland	95	73 464	77 247	249	267	98	76 060	77 488	259	267
	Türkiye	99	1 079 992	1 086 638	195	196	100	1 086 638	1 086 638	196	196
	United Kingdom	67	490 313	728 369	388	580	82	593 600	725 986	451	580
	United States	51	2 019 439	3 927 302	125	253	63	2 485 876	3 926 991	154	253

Table II.A2.6. Response rates, PISA 2022 [2/4]

		Initial sample - before school replacement					Final sample - after school replacement				
		Weighted school participation rate before replacement (%)	Weighted number of responding schools (weighted also by enrolment)	Weighted number of schools sampled (responding and non-responding) (weighted also by enrolment)	Number of responding schools (unweighted)	Number of responding and non-responding schools (unweighted)	Weighted school participation rate after replacement (%)	Weighted number of responding schools (weighted also by enrolment)	Weighted number of schools sampled (responding and non-responding) (weighted also by enrolment)	Number of responding schools (unweighted)	Number of responding and non-responding schools (unweighted)
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Partners	Albania	95	27 530	29 067	274	294	95	27 530	29 067	274	294
	Argentina	98	661 503	673 069	454	461	99	668 001	673 236	457	461
	Baku (Azerbaijan)	100	31 925	31 925	178	178	100	31 925	31 925	178	178
	Brazil	81	2 153 176	2 660 537	505	636	96	2 541 343	2 659 664	599	636
	Brunei Darussalam	100	6 675	6 675	54	54	100	6 675	6 675	54	54
	Bulgaria	85	47 378	56 052	177	207	98	54 795	56 079	202	207
	Cambodia	100	205 960	206 763	182	183	100	207 046	207 046	183	183
	Croatia	100	37 398	37 475	180	182	100	37 398	37 475	180	182
	Cyprus	98	8 875	9 100	101	105	98	8 875	9 100	101	105
	Dominican Republic	98	131 827	133 900	249	257	99	133 159	133 900	253	257
	El Salvador	100	73 847	74 135	288	291	100	74 136	74 212	290	291
	Georgia	94	40 653	43 421	250	268	100	43 539	43 611	267	268
	Guatemala	85	143 290	168 547	265	361	93	155 960	168 475	290	361
	Hong Kong (China)	60	32 428	54 402	122	204	80	43 491	54 402	163	204
	Indonesia	99	3 985 101	4 011 189	408	411	100	4 002 841	4 011 189	410	411
	Jamaica	90	41 020	45 680	145	163	91	41 545	45 680	147	163
	Jordan	100	146 365	146 365	260	260	100	146 365	146 365	260	260
	Kazakhstan	99	279 305	283 489	565	571	100	283 481	283 481	571	571
	Kosovo	96	23 183	24 127	229	251	96	23 183	24 127	229	251
	Macao (China)	100	4 453	4 453	46	46	100	4 453	4 453	46	46
	Malaysia	100	406 803	407 861	199	200	100	406 803	407 861	199	200
	Malta	100	4 114	4 114	46	46	100	4 114	4 114	46	46
	Moldova	100	29 607	29 687	265	268	100	29 607	29 687	265	268
	Mongolia	100	43 631	43 631	195	195	100	43 631	43 631	195	195
	Montenegro	99	6 581	6 659	63	64	99	6 581	6 659	63	64
	Morocco	100	479 666	480 608	177	178	100	479 939	479 939	178	178
	North Macedonia	100	17 919	17 919	111	111	100	17 919	17 919	111	111
	Palestinian Authority	99	94 105	95 053	271	274	100	94 988	95 027	273	274
	Panama	84	54 532	64 834	190	243	91	59 341	64 996	215	243
	Paraguay	99	87 772	88 922	278	284	100	88 602	88 922	281	284
	Peru	94	489 130	520 113	308	338	100	521 500	522 136	337	338
	Philippines	100	1 719 012	1 719 012	188	188	100	1 719 012	1 719 012	188	188
	Qatar	100	18 927	18 927	229	229	100	18 927	18 927	229	229
	Romania	100	167 589	167 589	262	262	100	167 589	167 589	262	262
	Saudi Arabia	92	300 026	326 333	178	195	100	325 174	326 372	193	195
	Serbia	99	63 599	64 435	183	189	99	63 599	64 435	183	189
	Singapore	98	41 915	42 567	164	167	98	41 915	42 567	164	167
	Chinese Taipei	83	161 354	195 232	180	216	84	163 590	195 232	182	216
	Thailand	99	685 471	693 755	276	280	100	690 286	693 755	279	280
	Ukrainian regions (18 of 27)	80	178 606	223 859	141	189	91	204 043	224 119	164	189
	United Arab Emirates	100	63 395	63 507	840	843	100	63 395	63 507	840	843
	Uruguay	99	43 188	43 447	221	223	100	43 395	43 447	222	223
	Uzbekistan	100	510 406	510 406	202	202	100	510 406	510 406	202	202
	Viet Nam	100	1 020 528	1 020 528	178	178	100	1 020 528	1 020 528	178	178

Table II.A2.6. Response rates, PISA 2022 [3/4]

		Final sample - students within schools after school replacement				
		Weighted student participation rate after replacement (%)	Number of students assessed (weighted)	Number of students sampled (assessed and absent) (weighted)	Number of students assessed (unweighted)	Number of students sampled (assessed and absent) (unweighted)
		(11)	(12)	(13)	(14)	(15)
OECD	Australia	76	193 102	253 899	13 437	17 771
	Austria	89	65 057	73 230	6 151	7 092
	Belgium	87	101 344	117 082	8 286	9 533
	Canada	77	233 773	303 622	23 073	29 234
	Chile	84	168 773	201 037	6 488	7 627
	Colombia	92	532 284	580 114	7 804	8 469
	Costa Rica	92	52 220	56 750	6 113	6 656
	Czech Republic	91	91 518	100 330	8 460	9 282
	Denmark	84	46 126	54 775	6 200	7 455
	Estonia	88	11 693	13 262	6 392	7 236
	Finland	89	52 007	58 641	10 239	11 811
	France	91	705 197	777 730	6 770	7 509
	Germany	88	588 741	669 277	6 116	6 964
	Greece	92	87 038	94 215	6 403	6 921
	Hungary	92	80 160	86 877	6 198	6 705
	Iceland	80	3 360	4 195	3 360	4 195
	Ireland	77	50 274	65 497	5 569	7 258
	Israel	84	103 556	123 165	6 251	7 437
	Italy	92	452 653	492 440	10 552	11 429
	Japan	92	858 514	934 656	5 760	6 290
	Korea	94	383 999	406 986	6 454	6 840
	Latvia	88	13 215	14 935	5 373	6 067
	Lithuania	93	22 470	24 245	7 257	7 826
	Mexico	95	1 313 477	1 383 827	6 288	6 675
	Netherlands	81	113 351	140 125	5 046	6 221
	New Zealand	72	29 219	40 758	4 682	6 567
	Norway	87	50 577	58 362	6 611	7 635
	Poland	81	266 114	328 452	6 011	7 422
	Portugal	86	82 496	95 838	6 793	7 888
	Slovak Republic	91	41 319	45 438	5 824	6 375
	Slovenia	82	15 142	18 355	6 721	8 134
	Spain	86	392 413	454 692	30 800	35 472
	Sweden	85	91 230	107 261	6 072	7 133
	Switzerland	91	67 555	74 335	6 829	7 471
	Türkiye	98	914 714	933 402	7 250	7 387
	United Kingdom	75	448 396	596 519	12 972	17 023
	United States	80	1 866 014	2 336 430	4 552	5 719

Table II.A2.6. Response rates, PISA 2022 [4/4]

		Final sample - students within schools after school replacement				
		Weighted student participation rate after replacement (%)	Number of students assessed (weighted)	Number of students sampled (assessed and absent) (weighted)	Number of students assessed (unweighted)	Number of students sampled (assessed and absent) (unweighted)
		(11)	(12)	(13)	(14)	(15)
Partners	Albania	86	23 274	26 915	6 129	7 089
	Argentina	86	508 035	592 257	12 111	14 014
	Baku (Azerbaijan)	88	26 799	30 529	7 720	8 793
	Brazil	84	1 832 626	2 177 600	10 798	12 879
	Brunei Darussalam	93	5 576	5 980	5 576	5 980
	Bulgaria	89	46 335	52 192	6 107	6 878
	Cambodia	99	125 643	126 409	5 279	5 308
	Croatia	85	29 804	34 963	6 135	7 194
	Cyprus	84	7 190	8 578	6 515	7 765
	Dominican Republic	93	112 417	121 281	6 868	7 417
	El Salvador	94	63 767	68 101	6 705	7 158
	Georgia	98	39 587	40 348	6 583	6 712
	Guatemala	91	143 084	156 600	5 190	5 709
	Hong Kong (China)	75	29 278	38 858	5 907	7 819
	Indonesia	95	3 602 554	3 782 864	13 439	14 040
	Jamaica	68	15 622	23 123	3 873	5 791
	Jordan	97	140 640	144 269	7 799	8 014
	Kazakhstan	98	267 773	272 446	19 769	20 128
	Kosovo	91	18 427	20 220	6 027	6 616
	Macao (China)	99	4 384	4 423	4 384	4 423
	Malaysia	94	362 809	387 928	7 069	7 554
	Malta	79	3 127	3 955	3 127	3 955
	Moldova	94	27 114	28 799	6 235	6 623
	Mongolia	98	39 969	40 828	6 999	7 155
	Montenegro	95	5 954	6 291	5 793	6 117
	Morocco	98	446 431	454 986	6 867	7 000
	North Macedonia	90	14 832	16 548	6 610	7 380
	Palestinian Authority	96	85 017	88 348	7 905	8 239
	Panama	77	29 491	38 418	4 544	6 017
	Paraguay	92	74 217	80 700	5 084	5 522
	Peru	97	486 292	498 888	6 968	7 136
	Philippines	95	1 698 135	1 782 896	7 193	7 550
	Qatar	89	16 346	18 361	7 676	8 649
	Romania	97	157 838	162 019	7 364	7 543
	Saudi Arabia	97	307 363	316 501	6 928	7 144
	Serbia	91	53 150	58 297	6 413	7 033
	Singapore	91	37 797	41 358	6 606	7 235
	Chinese Taipei	82	131 517	159 821	5 857	7 038
	Thailand	96	580 014	601 524	8 495	8 816
	Ukrainian regions (18 of 27)	87	131 271	151 104	3 876	4 508
	United Arab Emirates	93	56 369	60 658	24 600	26 592
	Uruguay	87	35 308	40 728	6 618	7 637
	Uzbekistan	98	472 726	482 059	7 293	7 445
	Viet Nam	99	933 854	939 459	6 068	6 105

Table II.A2.7. The PISA target population, the PISA samples, and the definition of schools tables

	Table II.A2.1	PISA target populations and samples, 2022
	Table II.A2.2	Change in the enrolment of 15-year-olds in grade 7 and above (PISA 2003 through PISA 2022)
	Table II.A2.3	PISA target populations and samples in adjudicated regions, 2022
	Table II.A2.4	Exclusions, PISA 2022
WEB	Table II.A2.5	Exclusions in adjudicated regions, PISA 2022
	Table II.A2.6	Response rates, PISA 2022
WEB	Table II.A2.7	Response rates in adjudicated regions, PISA 2022

StatLink https://stat.link/hpg9nd

Notes

[1] To accommodate countries that requested grade-based results for the purpose of national analyses, PISA 2022 provided a sampling option to supplement the age-based sampling from the target population with an additional grade-based sample.

[2] More precisely, PISA assessed students who were at least 15 years and 3 complete months old and who were at most 16 years and 3 complete months old (i.e., younger than 16 years, 2 months and roughly 30 days old), with a tolerance of one month on each side of this age window. If the PISA assessment was conducted in April 2022, as was the case in many countries and economies, all students born in 2006 would have been eligible.

[3] Educational institutions are generally referred to as schools in this publication, although some educational institutions (in particular, some types of vocational education establishments) may not be referred to as schools in certain countries.

[4] Such a comparison is complicated by first-generation immigrant students, who received part of their education in a country other than the one in which they were assessed. Mean scores in any country or economy should be interpreted in the context of local student demographics. In addition, the PISA target population does not include residents of a country who attend school in another country. It does, however, include foreign nationals who attend school in the country of assessment.

[5] In education systems inherently too small (due to demographics for instance), all schools and all eligible students were included in the sample. In PISA 2022, all eligible schools were selected in North Macedonia and Qatar. All students in all schools were selected in Brunei Darussalam, Iceland, Macao (China), and Malta.

[6] Non-response and other standards enforced to achieve consistent, precise, generalisable, and timely data collection in PISA 2022 are available on its Technical Standards (OECD, 2023).

[7] The threshold for an acceptable participation rate after replacement varies between 85 % and 100 %, depending on the participation rate before replacement.

[8] These exclusions refer only to those students with limited proficiency in the language of instruction/assessment. Exclusions related to the unavailability of test material in the language of instruction are not considered in this analysis.

[9] The overall exclusion rate includes those students who were excluded at the school level (Column 6) and those students who were excluded within schools (Column 11); however, only students enrolled in non-excluded schools were affected by within-school exclusions, hence the presence of the term equivalent to 1 minus Column 6 (expressed as a decimal).

[10] If the correlation between the propensity of exclusions and student performance were 0.3, then resulting mean scores would likely have been overestimated by 1 score point if the exclusion rate were 1 %; by 3 score points if the exclusion rate were 5 %; and by 6 score points if the exclusion rate were 10 %. If the correlation between the propensity of exclusions and student performance were 0.5, then resulting mean scores would likely have been overestimated by 1 score point if the exclusion rate were 1 %; by 5 score points if the exclusion rate were 5 %; and by 10 score points if the exclusion rate were 10 %. For this calculation, a model was used that assumed a bivariate normal distribution for performance and the propensity to participate.

References

OECD (2023), *PISA 2022 Technical Report*, OECD Publishing. [1]

Annex A3. Technical notes on analyses in this volume

Standard errors, confidence intervals, significance test and p-values

The statistics in this report represent estimates based on samples of students, rather than values that could be calculated if every student in every country had answered every question. Consequently, it is important to measure the degree of uncertainty in the estimates. In PISA, each estimate has an associated degree of uncertainty, which is expressed through a standard error. The use of confidence intervals provides a way of making inferences about the population parameters (e.g. means and proportions) in a manner that reflects the uncertainty associated with the sample estimates. If numerous different samples were drawn from the same population, according to the same procedures as the original sample, then in 95 out of 100 samples the calculated confidence interval would encompass the true population parameter. For many parameters, sample estimators follow a normal distribution, and the 95% confidence interval can be constructed as the estimated parameter, plus or minus 1.96 times the associated standard error.

In many cases, readers are primarily interested in whether a given value in a particular country is different from a second value in the same or another country, e.g. whether students in public schools perform better than students in private schools in the same country. In the tables and figures used in this report, differences are labelled as statistically significant when a difference of that size or larger, in either direction, would be observed less than 5% of the time in samples, if there were no difference in corresponding population values. In other words, the risk of reporting a difference as significant when such difference, in fact, does not exist, is contained at 5%.

Statistical significance of differences related to type of school and differences between subgroup means

Differences in student performance by type of school or other indices were tested for statistical significance. Positive differences indicate higher scores for students in private schools while negative differences indicate higher scores for students in public schools. Generally, differences marked in bold in the tables in this volume are statistically significant at the 95% confidence level.

Similarly, differences between other groups of students (e.g. students in urban schools and students in rural schools, or socio-economically advantaged and disadvantaged students) were tested for statistical significance. The definitions of the subgroups can, in general, be found in the tables and the text accompanying the analysis. All differences marked in bold in the tables presented in Annex B of this report are statistically significant at the 95% level, unless otherwise indicated.

Statistical significance of differences between subgroup means, after accounting for other variables

For many tables, subgroup comparisons were performed both on the observed difference ("before accounting for other variables") and after accounting for other variables, such as the PISA index of economic, social and cultural status of students. The adjusted differences were estimated using linear regression and tested for significance at the 95% confidence level. Significant differences are marked in bold.

Statistical significance of performance differences between the top and bottom quartiles of PISA indices and scales

Differences in average performance between the top and bottom quarters of the PISA indices and scales were tested for statistical significance. Figures marked in bold indicate that performance between the top and bottom quarters of students on the respective index is statistically significantly different at the 95% confidence level.

Statistical significance of relationships between PISA items, indices and scales at the system level

Relationships between two variables at the system level (e.g. the relationship between disciplinary climate and mathematics performance across education systems) were also tested for statistical significance. Figures marked in bold indicate that a positive or negative relationship between two variables is statistically significant at the 95% confidence level. Figures marked in italics indicate relationships between two variables that are marginally significant (90% confidence level).

Change in the performance per unit of an index

The difference in student performance per unit of an index was calculated in many tables. Figures in bold indicate that the differences are statistically and significantly different from zero at the 95% confidence level.

Odds ratios

The odds ratio is a measure of the relative likelihood of a particular outcome across two groups. The odds ratio for observing the outcome when an antecedent is present is simply

$$\mathrm{OR} = {}^{(p_{11}/p_{12})}\!\big/_{(p_{21}/p_{22})}$$

where p_{11}/p_{12}represents the “odds” of observing the outcome when the antecedent is present, and p_{21}/p_{22} represents the “odds” of observing the outcome when the antecedent is not present.

Logistic regression can be used to estimate the log ratio: the exponentiated logit coefficient for a binary variable is equivalent to the odds ratio. A “generalised” odds ratio, after accounting for other differences across groups, can be estimated by introducing control variables in the logistic regression.

Statistical significance of odds ratios

Figures in bold in the data tables presented in Annex B1 of this report indicate that the odds ratio is statistically significantly different from 1 at the 95% confidence level. To construct a 95% confidence interval for the odds ratio, the estimator is assumed to follow a log-normal distribution, rather than a normal distribution.

In some tables, odds ratios after accounting for other variables are also presented. These odds ratios were estimated using logistic regression and tested for significance against the null hypothesis of an odds ratio equal to one (i.e. equal likelihoods, after accounting for other variables).

Use of student weights

The target population in PISA is 15-year-old students, but a two-stage sampling procedure was used. After the population was defined, school samples were selected with a probability proportional to the expected number of eligible students in each school. Only in a second sampling stage were students drawn from among the eligible students in each selected school.

Although the student samples were drawn from within a sample of schools, the school sample was designed to optimise the resulting sample of students, rather than to give an optimal sample of schools. It is therefore preferable to analyse the school-level variables as attributes of students (e.g. in terms of the share of 15-year-old students affected), rather than as elements in their own right.

Most analyses of student and school characteristics are therefore weighted by student final weights (or their sum, in the case of school characteristics), and use student replicate weights for estimating standard errors.

Calculation of the coverage for items and indices about COVID-19 school closures

In the student questionnaire, the question about the duration of school closures because of COVID-19 (ST347Q01JA) filters access to all questions regarding students' experiences during this period. This concerns most of the questions covered in Chapter 2 of this volume as well as the indices derived from students' answers to those questions (items belonging to questions ST348, ST352, ST354 and ST355, and the indices SCHSUST, PROBSELF, FAMUPSL, FEELLAH and SDLEFF).

When students had answered "No" to question about COVID-19 school closures, their missing responses to any of the other questions about school closures were considered as "valid skips" or "not applicable" in the PISA 2022 database. In the case of students who had answered that their school was closed for some time because of the pandemic but did not respond to the other questions about school closures, their missing responses were treated as "invalid", "no response" or "system". All of these responses are considered as "missing" in the PISA 2022 database.

To calculate the correct coverage for the questions requires reducing the sample to students who had one of the three missing values "invalid", "no response" or "system". For indices, the sample is restricted to students who answered "yes" to the question about the duration of school closures because of COVID-19 (ST347Q01JA), as indices can be built even if not all items were answered. The restriction of the sample does not modify the value of a result, but only its coverage (i.e. the information regarding the proportion of the sample covered shown next to the standard errors in tables).

The PISA 2022 Technical Report explains the different types of missing data (OECD, forthcoming[1]).

Calculation of the isolation index

The isolation index used in the report corresponds to the normalised exposure indicator (Frankel and Volij, 2011[2]),

$$I = 1 - \frac{\sum_{j=1}^{J} \frac{n_j^a}{N^a} \frac{(1 - n_j^a)}{n_j}}{1 - p^a}$$

where n_j^a and N^a stand for the number of students of type *a* (for instance, those with an immigrant background) in school *j* and in the education system; n_j is the total number of students in school *j;* and $p^a = \frac{n^a}{N}$ is the proportion of type *a* students in the education system. The index ranges from 0 (full exposure) to 1 (full isolation), meaning that the index increases with the concentration of type *a* students in a limited number of schools. In the report, the index is used for measuring the isolation in schools of the following groups of students:

- Socio-economically advantaged and disadvantaged students (defined as those in the first and the fourth quarters, respectively, of the national distribution of the ESCS index)
- Low and high achievers in mathematics (defined as those in the first and the fourth quarters, respectively, of the national distribution of mathematics performance)
- Students with an immigrant background
- Boys and girls

School-level results and modal grade schools

The interpretation of school-level results (e.g. comparisons between upper secondary education/ISCED level 3 and lower secondary education/ISCED level 2) depends on how schools are defined and organised within countries and by the units that were chosen for sampling purposes. For example, in some countries, some of the schools in the PISA sample were defined as managerial units (even if they spanned several geographically separate institutions, as in the Netherlands); in others, they were defined as those parts of larger educational institutions that serve 15-year-olds; in still others they were defined as physical school buildings; and in others they were defined from a management perspective (e.g. entities having a principal). The PISA 2022 Technical Report (OECD, forthcoming[1]) and Annex A2 provide an overview of how schools are defined. In Slovenia, for example, the primary sampling unit for students attending upper secondary/ISCED level 3 is defined as a group of students who follow the same study programme within a school (an education track within a school).

Some indicators in Chapter 5 (namely full-time, part-time teachers, certified teachers, student-teacher ratio), were calculated specifically for schools with the "modal ISCED level" for 15-year-old students. The "modal ISCED level" is defined here as the level attended by at least one-third of the PISA sample. As PISA students are sampled to represent all 15-year-old students, whatever type of schools they are enrolled in, they may not be representative of their schools. Restricting the sampling to schools with the modal ISCED level for 15-year-old students ensures that the characteristics of students sampled for PISA represent the profile of the typical student attending the school. Modal grade may be lower secondary, upper secondary or both (lower and upper secondary education can be provided in the same school). As the restriction is made at the school level, some students from a grade other than the modal grade in the country may also be used in the analysis. The PISA 2022 Technical Report (OECD, forthcoming[1]) and Annex A2 provide an overview of how schools are defined.

Overall ratios and average ratios

In this report, the comparisons of ratios related to teachers, such as student-teacher ratio or the proportion of fully certified teachers, are made using overall and modal-grade restricted ratios. This means that ratios are obtained by dividing the total number of students in the target population (either from all schools attended by 15-year-olds or restricted to schools with the modal ISCED level for 15-year-old students) by the total number of teachers in the target population. The ratios are computed by first computing the numerator and denominator as the (weighted) sum of school-level totals, then dividing the numerator by the denominator. Similar estimations are made for the proportion of teachers with at least a bachelor's, master's or doctoral qualification, the proportion of fully certified teachers, and the proportion of teachers working part time or full time. In most cases (i.e. unless all schools are exactly the same size) this overall ratio differs from the modal-grade restricted ratios.

Time in regular lessons

In PISA 2022, time in regular lessons was calculated by combining answers from the student and school principal questionnaire and is not comparable to PISA 2018. Each student reported the number of class periods she/he is required to attend in all subjects per week, and school principals reported the average number of minutes per class period attended by students in modal grade. This combination may create some noise induced by the potential misreporting or misunderstanding of the definition of a class period, either by students or school principals.

Calculation of relationships between school and system characteristics and indicators of education systems' resilience

System-level correlations and partial correlations were used to examine whether characteristics of education systems are potential components of resilience. The relationships between various characteristics of education systems (e.g. the average disciplinary climate or the percentage of students who had attended pre-primary education for at least one year), on the one hand, and all indicators of resilience (e.g. average mathematics performance, socio-economic fairness and sense of belonging at school), on the other hand, were tested for their statistical significance and direction.

Correlational analyses were conducted separately for OECD countries and for all countries and economies that participated in PISA 2022. In addition, correlations were computed before and after accounting for per capita GDP, to account for the level of economic development of a country/economy. The system-level correlation tables show correlation coefficients and partial correlation coefficients as well as their significance. Figures display the percentage of the variation of the resilience indicators (e.g. average mathematics performance) that is explained by the system characteristic under study (e.g. average disciplinary climate). Relationships between trends (e.g. change in bullying and performance in mathematics) refer to the same period. While most trends refer to the 2018-2022 period, a few system characteristics were not measured in 2018 (e.g. disciplinary climate in mathematics lessons). In these cases, the trend relationship refers to the trend between 2012 and 2022 (e.g. change between 2012 and 2022 in disciplinary climate and mathematics performance). No trend relationships were reported for sense of belonging in these cases because the index of sense of belonging at school in 2012 and 2022 were not comparable.

Some considerations when interpreting the PISA results

Cross-national and cross-cultural comparability of the PISA data

PISA 2022 asked students and school principals to answer questions about the organisation of schools, and the social and economic contexts in which learning takes place. These are reports provided by principals and students themselves rather than external observations, and thus may be influenced by cultural differences in how individuals respond.

While PISA aims to maximise the cross-national and cross-cultural comparability of complex constructs, it must do so while keeping the questionnaires relatively short and minimising the perceived intrusiveness of the questions. Despite the extensive investments PISA makes in monitoring the process of translation, standardising the administration of the assessment, selecting questions and analysing the quality of the data, full comparability across countries and subpopulations cannot always be guaranteed.

The indicators of school climate and well-being analysed in this report are based on students' and principals' reports, which are susceptible to several possible measurement errors: memory decay; social desirability (the tendency to respond in a manner that is more acceptable in one's own social and cultural context, reference-group bias (what the comparison group is); and response-style bias (e.g. straight-lining, over-reporting, modesty, heaping, acquiescence) (Pekrun, 2020[3]; Harzing et al., 2012[4]; Spooren, Mortelmans and Thijssen, 2012[5]). These biases can operate differently in different cultural contexts, thus limiting the cross-country comparability of responses (Benítez, Van de Vijver and Padilla, 2019[6]; Van de Vijver et al., 2019[7]). Above all, readers should be particularly cautious when interpreting indicators with a strong subjective component, such as life satisfaction and student feelings, which are more likely to be influenced by cultural norms and the personality of the respondent.

In order to minimise the risk of misleading interpretations, a number of reliability and invariance analyses of the PISA indices used in this report have been carried out (see Annex A1 and the PISA 2022 Technical Report (OECD, forthcoming[1]) for more details), providing readers with an indication of how reliable cross-country comparisons are.

Interpreting information from principals and school-level results

In addition to the general constraints of self-reported data, there are other limitations, particularly those concerning the information collected from principals or the interpretation of school-level results, that should be taken into account when interpreting the data.

- The learning environment examined by PISA may only partially reflect that which shaped students' experiences in education earlier in their school careers, particularly in school systems where students progress through different types of educational institutions at the pre-primary, primary, lower secondary and upper secondary levels. To the extent that students' current learning environment differs from that of their earlier school years, the contextual data collected by PISA are an imperfect proxy for students' cumulative learning environments, and the effects of those environments on learning outcomes is likely to be underestimated. In most cases, 15-year-old students have been in their current school for less than three years (Table II.B1.2.3). This means that much of their academic development took place earlier, in other schools, which may have little or no connection with the school in which they were enrolled when they sat the PISA test. Parents may have fewer opportunities to interact with the school staff when their child has been attending the new school for just a few months. Students may have also spent too little time in the new school to develop a strong attachment to the school.
- In some countries, 15-year-old students have already transitioned into upper secondary education, while in others they are still in lower secondary education. Some of the questions may be influenced by the education level in which students are enrolled, especially in those countries where transitioning into upper secondary education means transferring into a new school.
- In some countries and economies, the definition of the school in which students are taught is not straightforward because schools vary in the level and purpose of education. For example, in some countries and economies, subunits within schools (e.g. study programmes, shifts and campuses) were sampled instead of schools as administrative units (see above).
- Although principals can provide information about their schools, generalising from a single source of information for each school and then matching that information with students' reports is not straightforward. Also, principals' perceptions may not be the most accurate source for some information related to teachers, such as teachers' morale and commitment.
- The age-based sampling followed in PISA means that, in some education systems, students are not always representative of their schools. Interpreting differences between schools appropriately therefore requires specific knowledge about how school systems are structured.
- When presenting results by the socio-economic profile of schools, the location of schools, the type of school or the education level, the number of students and schools in each subsample has to meet the PISA reporting requirements of at least 30 students and 5 schools. Even when these reporting requirements are met, the reader should interpret the results cautiously when the number of students or schools is just above the threshold.

Despite these caveats, information from the school questionnaire provides unique insights into the ways in which national and subnational authorities seek to realise their education objectives.

Schooling and school effects

In using results from non-experimental data on school performance, such as the PISA database, it is important to bear in mind the distinction between school effects and the effects of schooling, particularly when interpreting the modest association between factors such as school resources, policies and institutional characteristics, on the one hand, and student performance, on the other. School effects are education researchers' shorthand for the effect on academic performance of attending one school or another, usually schools that differ in resources or policies and institutional characteristics. Where schools and school systems do not vary in fundamental ways, the school effect can be modest. Nevertheless, modest school effects should not be confused with a lack of an effect of schooling (the influence on performance of not being schooled compared with being schooled).

Interpreting correlations and changes over time

A correlation indicates the strength and direction of a linear relationship, either positive or negative, between two variables. A correlation is a simple statistic that measures the degree to which two variables are associated with each other; it does not prove causality between the two.

Comparisons of results between resources, policies and practices, and mathematics performance across time (trends analyses) should also be interpreted with caution. Changes in the strength of the relationship between characteristics of education systems and education outcomes (e.g. mathematics performance) cannot be considered causal because they can occur for two key reasons. First, a particular set of resources, policies and practices might have been chosen by higher-performing students (or higher-performing schools or high-performing systems) while that set of resources, policies and practices might not have existed in lower-performing students/schools/systems. Under this interpretation, the relationship between mathematics performance, and resources, policies and practices is stronger because they are available to higher-performing students/schools/systems. Second, a particular set of resources, policies and practices may have been used more extensively in 2022 than earlier, and may have promoted student learning more in 2022 than before. PISA trend data indicate where changes have occurred. However, in order to understand the nature of the change, further analysis is needed.

Interpreting results before and after accounting for socio-economic status

When examining the relationship between education outcomes and resources, policies and practices within school systems, this volume takes into account socio-economic differences among students, schools and systems. The advantage of doing this lies in comparing similar entities, namely students, schools and systems with similar socio-economic profiles. At the same time, there is a risk that such adjusted comparisons underestimate the strength of the relationship between student performance and resources, policies and practices, since most of the differences in performance are often attributable to both policies and socio-economic status.

Conversely, analyses that do not take socio-economic status into account can overstate the relationship between student performance and resources, policies and practices, as the level of resources and the kinds of policies adopted may also be related to the socio-economic profile of students, schools and systems. At the same time, analyses without adjustments may paint a more realistic picture of the schools that parents choose for their children. They may also provide more information for other stakeholders who are interested in the overall performance of students, schools and systems, including any effects that may be related to the socio-economic profile of schools and systems. For example, parents may be primarily interested in a school's absolute performance standards, even if that school's higher achievement record stems partially from the fact that the school has a larger proportion of advantaged students.

For the system-level analyses, correlations are examined before and after accounting for per capita GDP in order to account for the extent to which the observed relationships are influenced by countries'/economies' level of economic development.

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Annex B1. Results for countries and economies

Table II.B1.1.1. Students' sense of belonging at school [1/6]

Based on students' reports

		Index of sense of belonging				Percentage of students who reported the following:															
						I feel like an outsider (or left out of things) at school								I make friends easily at school							
		Average		Variability		Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	-0.23	(0.01)	0.85	(0.01)	5.0	(0.2)	16.1	(0.4)	54.4	(0.6)	24.5	(0.4)	17.8	(0.4)	59.8	(0.5)	17.7	(0.4)	4.6	(0.2)
	Austria	0.44	(0.02)	1.17	(0.01)	5.1	(0.3)	7.9	(0.4)	23.3	(0.6)	63.7	(0.7)	37.1	(0.7)	42.8	(0.7)	14.0	(0.5)	6.1	(0.4)
	Belgium	0.02	(0.01)	0.84	(0.01)	3.2	(0.2)	8.5	(0.4)	44.8	(0.8)	43.6	(0.8)	24.6	(0.6)	55.2	(0.7)	15.9	(0.4)	4.3	(0.2)
	Canada*	-0.16	(0.01)	0.94	(0.01)	5.1	(0.2) †	15.6	(0.4) †	47.3	(0.6) †	32.0	(0.5) †	21.3	(0.5) †	54.0	(0.6) †	18.5	(0.4) †	6.3	(0.3) †
	Chile	-0.22	(0.02)	0.97	(0.01)	9.0	(0.5) †	16.6	(0.7) †	40.5	(0.8) †	33.9	(0.8) †	19.9	(0.7) †	43.6	(0.9) †	25.6	(0.7) †	10.9	(0.6) †
	Colombia	-0.16	(0.02)	0.94	(0.02)	9.0	(0.5)	11.2	(0.4)	49.4	(0.8)	30.5	(0.8)	24.2	(0.6)	52.4	(0.8)	16.7	(0.6)	6.7	(0.3)
	Costa Rica	-0.09	(0.02)	1.07	(0.02)	9.4	(0.5) †	13.3	(0.5) †	41.8	(1.0) †	35.5	(0.8) †	28.1	(0.9) †	45.8	(0.8) †	17.5	(0.5) †	8.6	(0.4) †
	Czech Republic	-0.28	(0.01)	0.81	(0.01)	7.0	(0.4)	16.9	(0.6)	53.1	(0.7)	23.0	(0.6)	16.7	(0.5)	54.4	(0.5)	22.6	(0.5)	6.3	(0.4)
	Denmark*	0.11	(0.02)	0.98	(0.02)	3.1	(0.3)	7.2	(0.6)	40.3	(0.9)	49.4	(0.8)	22.7	(0.7)	57.7	(1.0)	15.3	(0.7)	4.3	(0.3)
	Estonia	-0.14	(0.01)	0.83	(0.01)	3.4	(0.3)	10.4	(0.5)	48.8	(0.7)	37.4	(0.7)	15.6	(0.6)	55.2	(0.8)	23.0	(0.6)	6.1	(0.4)
	Finland	0.10	(0.01)	1.02	(0.01)	3.4	(0.2)	8.9	(0.3)	37.3	(0.7)	50.4	(0.6)	23.6	(0.6)	53.5	(0.7)	17.5	(0.6)	5.4	(0.3)
	France	-0.03	(0.01)	0.91	(0.01)	6.8	(0.4) †	18.4	(0.6) †	42.0	(0.6) †	32.8	(0.7) †	30.9	(0.7)	49.0	(0.7)	14.5	(0.6)	5.7	(0.4)
	Germany	0.27	(0.02)	1.00	(0.01)	3.6	(0.3) †	8.9	(0.4) †	29.8	(0.7) †	57.7	(0.8) †	22.8	(0.7) †	46.6	(0.7) †	22.2	(0.5) †	8.3	(0.4) †
	Greece	-0.06	(0.01)	0.88	(0.01)	4.8	(0.3)	11.1	(0.5)	52.2	(0.7)	31.9	(0.7)	20.2	(0.6)	54.6	(0.6)	19.6	(0.6)	5.5	(0.4)
	Hungary	0.14	(0.02)	0.95	(0.01)	3.9	(0.3)	9.3	(0.4)	42.0	(0.9)	44.8	(0.9)	27.1	(0.6)	53.6	(0.7)	15.4	(0.6)	3.9	(0.3)
	Iceland	0.16	(0.02)	1.13	(0.02)	4.7	(0.4)	8.6	(0.6)	38.0	(1.0)	48.7	(0.9)	24.8	(0.9)	51.8	(1.1)	16.1	(0.7)	7.3	(0.5)
	Ireland*	-0.13	(0.01)	0.82	(0.01)	2.9	(0.2)	11.4	(0.6)	55.5	(0.7)	30.3	(0.7)	16.8	(0.5)	64.2	(0.7)	15.1	(0.6)	3.9	(0.3)
	Israel	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Italy	-0.06	(0.01)	0.86	(0.01)	3.5	(0.3)	9.8	(0.4)	46.6	(0.7)	40.1	(0.6)	24.5	(0.6)	51.5	(0.7)	17.2	(0.5)	6.8	(0.4)
	Japan	0.25	(0.02)	1.02	(0.01)	2.0	(0.2)	4.4	(0.3)	38.6	(0.9)	55.0	(0.9)	28.4	(0.7)	46.4	(0.8)	20.1	(0.7)	5.1	(0.3)
	Korea	0.26	(0.02)	1.00	(0.01)	1.8	(0.2)	6.8	(0.3)	36.5	(0.7)	54.9	(0.8)	25.1	(0.7)	52.5	(0.8)	18.4	(0.7)	4.0	(0.3)
	Latvia*	-0.25	(0.01)	0.83	(0.01)	5.1	(0.4)	10.1	(0.5)	52.0	(0.8)	32.9	(0.7)	17.7	(0.5)	54.5	(0.8)	21.7	(0.6)	6.1	(0.3)
	Lithuania	-0.02	(0.02)	0.98	(0.01)	8.3	(0.4)	12.9	(0.5)	25.0	(0.6)	53.8	(0.8)	30.9	(0.7)	48.4	(0.8)	13.3	(0.5)	7.5	(0.3)
	Mexico	-0.18	(0.02)	1.05	(0.01)	11.8	(0.5)	14.7	(0.6)	39.6	(0.8)	33.9	(0.8)	23.9	(0.6)	45.5	(0.8)	20.1	(0.6)	10.6	(0.6)
	Netherlands*	0.10	(0.02)	0.86	(0.01)	3.5	(0.3)	6.1	(0.4)	39.5	(1.0)	50.8	(0.9)	22.1	(0.8)	60.8	(1.0)	13.4	(0.6)	3.6	(0.3)
	New Zealand*	-0.29	(0.01)	0.82	(0.01)	4.7	(0.5) †	17.1	(0.8) †	55.2	(1.0) †	23.0	(0.8) †	18.0	(0.6) †	57.2	(1.0) †	18.8	(0.8) †	6.0	(0.4) †
	Norway	0.23	(0.02)	1.13	(0.01)	4.4	(0.3)	5.9	(0.4)	34.2	(0.7)	55.4	(0.8)	30.7	(0.6)	50.3	(0.6)	13.7	(0.5)	5.2	(0.3)
	Poland	-0.31	(0.01)	0.82	(0.01)	8.9	(0.5)	15.1	(0.5)	54.0	(0.7)	22.0	(0.7)	18.8	(0.6)	52.5	(0.7)	20.2	(0.6)	8.5	(0.4)
	Portugal	0.08	(0.02)	0.93	(0.01)	3.0	(0.3)	7.9	(0.4)	44.0	(0.7)	45.1	(0.7)	22.5	(0.6)	53.9	(0.7)	18.6	(0.6)	5.0	(0.3)
	Slovak Republic	-0.20	(0.02)	0.87	(0.01)	8.6	(0.6)	12.1	(0.5)	52.4	(0.8)	27.0	(0.7)	18.5	(0.7)	57.5	(0.9)	19.2	(0.7)	4.9	(0.4)
	Slovenia	0.04	(0.01)	0.90	(0.01)	5.3	(0.4)	8.4	(0.5)	44.5	(0.9)	41.7	(0.9)	27.9	(0.6)	55.6	(0.6)	12.2	(0.6)	4.2	(0.3)
	Spain	0.27	(0.01)	1.14	(0.01)	5.8	(0.2)	6.1	(0.2)	33.9	(0.5)	54.2	(0.5)	26.5	(0.4)	51.9	(0.4)	15.1	(0.4)	6.4	(0.2)
	Sweden	0.09	(0.01)	1.09	(0.01)	7.5	(0.4)	8.3	(0.4)	34.4	(0.7)	49.7	(0.7)	25.9	(0.6)	53.5	(0.7)	14.4	(0.5)	6.3	(0.3)
	Switzerland	0.36	(0.02)	1.05	(0.01)	3.2	(0.3)	8.3	(0.5)	30.1	(0.8)	58.4	(0.9)	30.1	(0.6)	49.4	(0.8)	14.8	(0.5)	5.7	(0.4)
	Türkiye	-0.30	(0.01)	0.97	(0.01)	12.7	(0.5)	13.0	(0.5)	41.7	(0.8)	32.7	(0.7)	19.8	(0.5)	50.3	(0.7)	21.2	(0.6)	8.6	(0.4)
	United Kingdom*	-0.21	(0.01)	0.85	(0.01)	4.6	(0.3) †	14.8	(0.6) †	52.3	(0.8) †	28.4	(0.7) †	16.3	(0.6) †	59.0	(0.8) †	19.1	(0.6) †	5.5	(0.4) †
	United States*	-0.26	(0.02)	0.90	(0.02)	5.9	(0.4)	18.2	(0.7)	53.0	(1.0)	22.9	(0.9)	18.6	(1.0) †	55.9	(1.1) †	19.4	(0.8) †	6.1	(0.5) †
	OECD average	-0.02	(0.00)	0.95	(0.00)	5.6	(0.1)	11.1	(0.1)	43.0	(0.1)	40.3	(0.1)	23.3	(0.1)	52.8	(0.1)	17.7	(0.1)	6.1	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.1.1. Students' sense of belonging at school [2/6]

Based on students' reports

		Index of sense of belonging				Percentage of students who reported the following:															
						I feel like an outsider (or left out of things) at school								I make friends easily at school							
		Average		Variability		Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	0.25	(0.02)	1.05	(0.01)	8.5	(0.5) †	6.7	(0.5) †	27.5	(0.8) †	57.3	(0.9) †	34.8	(0.9) †	50.8	(0.9) †	9.3	(0.5) †	5.1	(0.3) †
	Argentina	-0.20	(0.02)	0.94	(0.01)	11.5	(0.5) †	14.6	(0.6) †	44.3	(0.6) †	29.6	(0.6) †	25.1	(0.7) †	48.3	(0.8) †	19.2	(0.6) †	7.4	(0.4) †
	Baku (Azerbaijan)	-0.17	(0.01)	1.03	(0.02)	12.4	(0.5) †	13.4	(0.5) †	42.2	(0.8) †	32.0	(0.7) †	31.4	(0.6) †	43.3	(0.6) †	16.8	(0.5) †	8.5	(0.4) †
	Brazil	-0.21	(0.01)	0.91	(0.01)	7.6	(0.3) †	11.7	(0.4) †	52.3	(0.7) †	28.4	(0.6) †	23.3	(0.5) †	46.3	(0.4) †	21.7	(0.5) †	8.7	(0.4) †
	Brunei Darussalam	-0.50	(0.01)	0.66	(0.01)	7.2	(0.4)	24.2	(0.7)	49.7	(0.8)	18.9	(0.6)	16.3	(0.6)	53.9	(0.7)	22.2	(0.6)	7.5	(0.4)
	Bulgaria	-0.19	(0.02)	1.01	(0.01)	17.3	(0.7) †	10.2	(0.5) †	33.3	(0.8) †	39.2	(0.9) †	25.6	(0.7) †	53.3	(0.9) †	14.4	(0.6) †	6.7	(0.5) †
	Cambodia	-0.43	(0.01)	0.61	(0.02)	10.3	(0.6)	15.7	(0.7)	58.1	(0.8)	15.9	(0.8)	11.2	(0.5)	66.1	(0.7)	19.0	(0.6)	3.8	(0.2)
	Croatia	0.13	(0.01)	0.96	(0.01)	4.5	(0.3)	6.1	(0.4)	44.0	(0.8)	45.3	(0.9)	25.9	(0.7)	58.5	(0.7)	12.1	(0.4)	3.5	(0.3)
	Cyprus	-0.10	(0.01)	0.94	(0.01)	8.0	(0.4)	13.0	(0.5)	48.6	(0.8)	30.5	(0.7)	24.4	(0.7) †	52.0	(0.7) †	17.3	(0.6) †	6.4	(0.3) †
	Dominican Republic	-0.23	(0.01)	1.05	(0.01)	16.3	(0.6) †	15.1	(0.5) †	41.4	(0.8) †	27.3	(0.8) †	34.1	(0.8)	42.2	(0.8)	14.2	(0.5)	9.5	(0.5)
	El Salvador	-0.27	(0.02)	0.99	(0.01)	14.5	(0.6) †	13.6	(0.6) †	44.5	(0.9) †	27.4	(0.9) †	26.4	(0.7) †	46.2	(0.8) †	18.3	(0.6) †	9.2	(0.5) †
	Georgia	-0.05	(0.02)	0.90	(0.01)	6.9	(0.5) †	5.8	(0.4) †	45.9	(0.8) †	41.4	(0.8) †	25.2	(0.7) †	54.3	(0.7) †	15.3	(0.6) †	5.2	(0.4) †
	Guatemala	-0.18	(0.02)	1.06	(0.01)	14.0	(0.5)	14.5	(0.5)	39.1	(0.8)	32.4	(0.7)	30.4	(0.7)	44.0	(0.8)	15.2	(0.6)	10.4	(0.5)
	Hong Kong (China)	-0.39	(0.01)	0.71	(0.01)	4.9	(0.3)	18.6	(0.6)	61.7	(0.8)	14.7	(0.5)	15.0	(0.5)	60.1	(0.8)	20.4	(0.6)	4.5	(0.4)
	Indonesia	-0.13	(0.01)	0.76	(0.01)	4.8	(0.4)	8.1	(0.4)	59.6	(0.8)	27.5	(0.8)	25.8	(0.7)	61.4	(0.7)	10.0	(0.4)	2.8	(0.2)
	Jamaica*	-0.34	(0.02)	0.86	(0.02)	11.6	(0.6) †	17.4	(0.8) †	48.7	(1.0) †	22.3	(1.0) †	21.5	(0.9) †	46.9	(1.1) †	21.3	(0.7) †	10.3	(0.6) †
	Jordan	-0.21	(0.01)	0.92	(0.01)	15.0	(0.6) †	17.3	(0.5) †	39.5	(0.6) †	28.2	(0.6) †	29.9	(0.6) †	46.6	(0.6) †	15.9	(0.5) †	7.6	(0.4) †
	Kazakhstan	-0.14	(0.01)	0.92	(0.01)	8.7	(0.3)	8.8	(0.3)	46.3	(0.4)	36.2	(0.5)	26.0	(0.4)	52.4	(0.4)	15.3	(0.3)	6.2	(0.3)
	Kosovo	m	m	m	m	6.9	(0.4) †	6.4	(0.4) †	41.2	(0.8) †	45.4	(0.9) †	26.4	(0.7)	55.5	(0.8)	14.1	(0.6)	4.1	(0.3)
	Macao (China)	-0.31	(0.01)	0.73	(0.01)	3.0	(0.3)	14.6	(0.7)	60.2	(0.9)	22.3	(0.7)	16.1	(0.7)	58.9	(0.9)	20.6	(0.7)	4.3	(0.3)
	Malaysia	-0.27	(0.01)	0.72	(0.01)	5.0	(0.3)	13.2	(0.5)	53.8	(0.6)	27.9	(0.7)	23.8	(0.6)	55.8	(0.8)	16.7	(0.5)	3.7	(0.2)
	Malta	-0.24	(0.02)	0.91	(0.02)	7.7	(0.5)	18.0	(0.8)	47.0	(1.0)	27.3	(1.0)	18.6	(0.8)	52.9	(0.9)	21.8	(0.8)	6.7	(0.5)
	Moldova	-0.06	(0.01)	0.90	(0.01)	5.2	(0.3)	8.4	(0.4)	44.9	(0.8)	41.5	(0.8)	27.3	(0.8)	52.4	(0.9)	15.6	(0.6)	4.7	(0.4)
	Mongolia	-0.15	(0.01)	0.81	(0.01)	5.7	(0.3)	13.4	(0.4)	45.1	(0.7)	35.8	(0.7)	20.9	(0.6)	52.3	(0.6)	20.8	(0.8)	5.9	(0.3)
	Montenegro	0.14	(0.01)	1.00	(0.01)	7.8	(0.4)	6.1	(0.4)	44.3	(0.7)	41.8	(0.8)	34.2	(0.7)	52.2	(0.7)	10.0	(0.5)	3.6	(0.3)
	Morocco	-0.29	(0.01)	0.79	(0.01)	11.2	(0.5)	14.0	(0.5)	51.5	(0.7)	23.3	(0.6)	27.5	(0.6)	49.0	(0.7)	15.8	(0.6)	7.7	(0.4)
	North Macedonia	0.12	(0.01)	0.97	(0.01)	8.3	(0.4) †	7.2	(0.3) †	45.3	(0.7) †	39.1	(0.7) †	30.9	(0.6)	54.2	(0.6)	10.9	(0.4)	4.0	(0.3)
	Palestinian Authority	-0.17	(0.01)	0.91	(0.01)	12.7	(0.5)	15.6	(0.5)	45.7	(0.8)	26.0	(0.7)	30.2	(0.6)	48.0	(0.7)	14.5	(0.5)	7.4	(0.3)
	Panama*	-0.19	(0.02)	1.02	(0.02)	12.4	(0.7) †	15.9	(0.7) †	37.3	(1.1) †	34.4	(1.1) †	28.2	(1.0) †	40.5	(1.0) †	19.7	(1.0) †	11.7	(0.8) †
	Paraguay	-0.24	(0.02)	0.98	(0.02)	14.2	(0.5)	15.0	(0.5)	43.7	(0.9)	27.0	(1.0)	29.2	(0.7)	46.4	(0.8)	15.1	(0.5)	9.2	(0.5)
	Peru	-0.20	(0.01)	0.83	(0.01)	8.5	(0.5)	10.6	(0.4)	47.1	(0.7)	33.9	(0.7)	19.8	(0.6)	53.1	(0.6)	20.7	(0.5)	6.4	(0.3)
	Philippines	-0.38	(0.01)	0.71	(0.02)	9.2	(0.5)	18.5	(0.6)	50.3	(0.8)	22.0	(0.8)	24.2	(0.6)	59.1	(0.7)	12.1	(0.5)	4.5	(0.2)
	Qatar	-0.16	(0.01)	0.97	(0.01)	10.1	(0.4) †	14.5	(0.6) †	41.5	(0.8) †	34.0	(0.8) †	25.6	(0.7) †	50.0	(0.8) †	16.8	(0.5) †	7.6	(0.4) †
	Romania	-0.02	(0.01)	0.94	(0.01)	5.1	(0.3)	9.8	(0.4)	47.8	(0.7)	37.3	(0.8)	29.6	(0.7)	53.4	(0.6)	12.9	(0.6)	4.1	(0.3)
	Saudi Arabia	0.00	(0.02)	1.01	(0.01)	8.5	(0.4)	11.2	(0.5)	38.1	(0.7)	42.2	(0.7)	24.4	(0.6)	46.1	(0.7)	19.0	(0.6)	10.5	(0.5)
	Serbia	0.18	(0.01)	1.02	(0.01)	6.3	(0.3)	6.5	(0.3)	44.4	(0.8)	42.8	(0.9)	31.9	(0.7)	53.9	(0.7)	10.3	(0.5)	4.0	(0.2)
	Singapore	-0.22	(0.01)	0.86	(0.01)	4.4	(0.3)	16.0	(0.6)	55.0	(0.8)	24.7	(0.7)	20.1	(0.5)	56.6	(0.7)	18.7	(0.5)	4.5	(0.3)
	Chinese Taipei	0.01	(0.02)	0.93	(0.02)	2.5	(0.3)	6.7	(0.4)	48.2	(0.8)	42.7	(0.7)	23.3	(0.8)	59.6	(0.7)	14.3	(0.6)	2.9	(0.3)
	Thailand	-0.34	(0.01)	0.66	(0.01)	5.8	(0.4)	12.1	(0.6)	54.2	(0.9)	28.0	(0.8)	21.6	(0.7)	62.0	(0.8)	13.1	(0.6)	3.3	(0.3)
	Ukrainian regions (18 of 27)	-0.08	(0.03)	0.92	(0.02)	6.3	(0.4)	6.6	(0.6)	50.7	(1.0)	36.4	(1.1)	27.0	(1.0)	50.4	(1.3)	17.5	(1.3)	5.1	(0.5)
	United Arab Emirates	-0.20	(0.01)	0.93	(0.01)	10.4	(0.3)	17.0	(0.3)	42.5	(0.4)	30.0	(0.4)	25.0	(0.4) †	50.4	(0.5) †	17.1	(0.3) †	7.6	(0.2) †
	Uruguay	-0.08	(0.01)	0.93	(0.01)	6.2	(0.3)	11.7	(0.5)	48.3	(0.8)	33.8	(0.9)	24.7	(0.7)	46.8	(0.8)	20.9	(0.6)	7.6	(0.4)
	Uzbekistan	0.08	(0.02)	1.02	(0.01)	10.5	(0.4)	7.9	(0.4)	31.5	(0.7)	50.0	(0.9)	39.7	(0.7)	46.1	(0.7)	9.0	(0.4)	5.2	(0.3)
	Viet Nam	-0.28	(0.01)	0.73	(0.02)	6.7	(0.4)	14.8	(0.6)	55.8	(0.8)	22.8	(0.7)	24.1	(0.7)	61.3	(0.8)	10.0	(0.5)	4.7	(0.3)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.1.1. Students' sense of belonging at school [3/6]

Based on students' reports

		Percentage of students who reported the following:															
		I feel like I belong at school								I feel awkward and out of place in my school							
		Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	12.1	(0.4)	58.1	(0.6)	22.7	(0.5)	7.1	(0.3)	5.6	(0.3)	19.4	(0.4)	54.9	(0.5)	20.1	(0.4)
	Austria	34.0	(0.7)	42.8	(0.7)	15.7	(0.5)	7.6	(0.4)	6.8	(0.4)	9.9	(0.5)	27.0	(0.6)	56.4	(0.8)
	Belgium	14.3	(0.5)	55.0	(0.6)	22.3	(0.7)	8.4	(0.4)	5.0	(0.3)	12.5	(0.3)	49.1	(0.8)	33.4	(0.8)
	Canada*	16.1	(0.4) †	56.1	(0.6) †	20.2	(0.5) †	7.6	(0.3) †	7.0	(0.2) †	21.6	(0.4) †	47.3	(0.5) †	24.1	(0.5) †
	Chile	20.2	(0.7) †	52.1	(0.9) †	19.6	(0.6) †	8.1	(0.4) †	8.4	(0.5) †	16.4	(0.6) †	44.1	(0.8) †	31.2	(0.8) †
	Colombia	25.2	(0.8)	58.4	(0.8)	11.9	(0.5)	4.5	(0.4)	7.8	(0.5) †	13.3	(0.6) †	53.6	(0.8) †	25.3	(0.8) †
	Costa Rica	27.3	(0.8) †	52.8	(0.9) †	13.4	(0.6) †	6.5	(0.4) †	9.2	(0.5) †	14.2	(0.6) †	46.0	(1.0) †	30.5	(0.8) †
	Czech Republic	13.9	(0.5)	58.9	(0.8)	20.5	(0.6)	6.7	(0.3)	5.6	(0.3)	17.9	(0.5)	56.3	(0.6)	20.2	(0.5)
	Denmark*	15.5	(0.6)	54.4	(0.8)	22.5	(0.7)	7.6	(0.4)	3.9	(0.4)	10.1	(0.6)	46.1	(0.9)	39.9	(0.9)
	Estonia	16.9	(0.7)	60.8	(0.7)	17.4	(0.5)	4.9	(0.3)	4.4	(0.3)	17.1	(0.6)	51.0	(0.8)	27.5	(0.7)
	Finland	22.6	(0.5)	56.9	(0.7)	15.6	(0.5)	4.9	(0.3)	5.5	(0.3)	15.5	(0.4)	43.9	(0.7)	35.0	(0.6)
	France	20.7	(0.6)	52.2	(0.8)	18.2	(0.6)	8.9	(0.5)	6.6	(0.4)	15.9	(0.5)	40.1	(0.7)	37.4	(0.7)
	Germany	28.0	(0.7) †	48.2	(0.8) †	17.0	(0.6) †	6.9	(0.4) †	4.2	(0.3) †	10.2	(0.5) †	34.1	(0.9) †	51.5	(0.9) †
	Greece	19.8	(0.7)	58.4	(0.9)	16.9	(0.6)	4.9	(0.3)	5.0	(0.3)	13.7	(0.5)	51.9	(0.8)	29.3	(0.7)
	Hungary	21.3	(0.6)	58.7	(0.7)	15.7	(0.5)	4.3	(0.3)	3.9	(0.3)	9.9	(0.5)	42.4	(0.9)	43.7	(1.0)
	Iceland	25.6	(0.8)	54.6	(1.0)	14.5	(0.7)	5.4	(0.4)	7.0	(0.5)	11.8	(0.7)	40.8	(1.0)	40.4	(1.0)
	Ireland*	11.5	(0.6)	59.5	(0.8)	22.2	(0.7)	6.8	(0.3)	3.8	(0.2)	15.8	(0.5)	56.7	(0.7)	23.7	(0.7)
	Israel	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Italy	11.5	(0.4)	52.4	(0.7)	26.0	(0.6)	10.1	(0.4)	3.8	(0.2)	12.2	(0.5)	52.3	(0.6)	31.6	(0.5)
	Japan	28.0	(0.8)	58.2	(0.8)	10.6	(0.5)	3.3	(0.3)	3.5	(0.3)	11.9	(0.5)	46.5	(0.8)	38.0	(0.9)
	Korea	22.7	(0.9)	56.5	(0.7)	13.9	(0.6)	6.9	(0.6)	2.7	(0.2)	8.6	(0.6)	40.4	(0.8)	48.3	(0.9)
	Latvia*	14.5	(0.6)	62.2	(0.8)	19.5	(0.7)	3.8	(0.3)	7.2	(0.4)	22.2	(0.7)	52.2	(0.8)	18.4	(0.6)
	Lithuania	21.0	(0.6)	43.8	(0.7)	19.7	(0.5)	15.5	(0.5)	9.8	(0.5)	17.2	(0.6)	32.1	(0.6)	40.9	(0.7)
	Mexico	23.7	(0.6)	54.2	(0.8)	15.8	(0.6)	6.4	(0.3)	10.3	(0.5)	16.4	(0.6)	43.8	(0.8)	29.5	(0.7)
	Netherlands*	11.3	(0.7)	58.8	(1.0)	22.6	(0.8)	7.3	(0.5)	3.4	(0.4)	10.3	(0.6)	47.5	(0.9)	38.7	(0.9)
	New Zealand*	11.5	(0.7) †	56.2	(0.9) †	23.1	(0.7) †	9.1	(0.6) †	6.1	(0.5) †	21.7	(0.8) †	52.2	(0.9) †	20.0	(0.7) †
	Norway	25.0	(0.7)	52.5	(0.7)	15.5	(0.6)	7.1	(0.4)	6.0	(0.4)	12.6	(0.5)	39.0	(0.7)	42.4	(0.8)
	Poland	9.8	(0.5)	54.3	(0.8)	29.0	(0.7)	6.8	(0.4)	7.5	(0.4)	15.6	(0.6)	55.4	(0.8)	21.4	(0.6)
	Portugal	20.3	(0.6)	61.6	(0.7)	14.5	(0.5)	3.6	(0.3)	4.1	(0.3)	16.6	(0.6)	45.8	(0.7)	33.5	(0.7)
	Slovak Republic	15.1	(0.6)	59.5	(0.9)	19.0	(0.7)	6.4	(0.4)	7.7	(0.5)	12.0	(0.6)	51.5	(0.7)	28.8	(0.8)
	Slovenia	16.4	(0.7)	62.7	(0.8)	16.1	(0.5)	4.8	(0.3)	5.1	(0.3)	11.1	(0.5)	49.5	(0.8)	34.3	(0.8)
	Spain	33.8	(0.5)	52.3	(0.5)	9.3	(0.3)	4.5	(0.2)	6.3	(0.2)	9.5	(0.3)	40.4	(0.5)	43.8	(0.4)
	Sweden	20.1	(0.6)	50.1	(0.7)	21.1	(0.6)	8.7	(0.5)	7.0	(0.4)	10.8	(0.5)	40.9	(0.8)	41.2	(0.8)
	Switzerland	31.3	(0.8)	47.3	(0.8)	15.1	(0.4)	6.3	(0.4)	4.9	(0.4)	11.0	(0.4)	30.3	(0.8)	53.8	(0.9)
	Türkiye	18.0	(0.5)	50.8	(0.8)	22.5	(0.5)	8.7	(0.4)	11.9	(0.4)	16.9	(0.5)	43.1	(0.9)	28.0	(0.7)
	United Kingdom*	9.5	(0.5) †	54.0	(0.8) †	26.5	(0.7) †	10.0	(0.6) †	6.3	(0.4) †	19.5	(0.8) †	51.2	(0.9) †	23.0	(0.6) †
	United States*	11.8	(0.7) †	58.4	(1.0) †	22.4	(0.8) †	7.4	(0.5) †	6.3	(0.4) †	21.2	(0.9) †	53.2	(1.0) †	19.3	(0.9) †
	OECD average	19.5	(0.1)	55.1	(0.1)	18.6	(0.1)	6.9	(0.1)	6.1	(0.1)	14.5	(0.1)	45.9	(0.1)	33.5	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.1.1. Students' sense of belonging at school [4/6]

Based on students' reports

		Percentage of students who reported the following:															
		I feel like I belong at school								I feel awkward and out of place in my school							
		Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	40.0	(0.9) †	45.4	(0.9) †	8.3	(0.5) †	6.3	(0.4) †	9.2	(0.5) †	13.7	(0.6) †	31.5	(0.7) †	45.6	(0.9) †
	Argentina	24.1	(0.8) †	54.2	(0.8) †	15.8	(0.5) †	5.9	(0.4) †	9.3	(0.5) †	13.8	(0.5) †	51.0	(0.8) †	25.9	(0.7) †
	Baku (Azerbaijan)	28.7	(0.8) †	46.2	(0.8) †	16.2	(0.6) †	8.9	(0.4) †	11.7	(0.5) †	13.6	(0.5) †	44.6	(0.8) †	30.1	(0.7) †
	Brazil	20.6	(0.5) †	55.1	(0.5) †	19.2	(0.5) †	5.1	(0.3) †	6.3	(0.3) †	13.2	(0.3) †	52.0	(0.7) †	28.5	(0.6) †
	Brunei Darussalam	7.8	(0.4)	51.6	(0.7)	30.8	(0.7)	9.8	(0.4)	9.2	(0.4)	33.1	(0.7)	45.5	(0.7)	12.2	(0.5)
	Bulgaria	20.5	(0.7) †	55.0	(0.8) †	17.3	(0.7) †	7.3	(0.5) †	14.2	(0.6) †	13.2	(0.6) †	42.5	(0.9) †	30.1	(0.7) †
	Cambodia	13.2	(0.7)	67.4	(0.9)	16.2	(0.7)	3.2	(0.3)	8.5	(0.5)	16.2	(0.7)	63.6	(1.0)	11.7	(0.8)
	Croatia	22.5	(0.6)	60.7	(0.6)	12.8	(0.5)	4.0	(0.3)	4.3	(0.3)	8.8	(0.4)	45.0	(0.8)	42.0	(0.8)
	Cyprus	19.5	(0.6) †	54.6	(0.8) †	18.3	(0.6) †	7.6	(0.4) †	7.6	(0.4) †	16.9	(0.6) †	48.8	(0.8) †	26.6	(0.7) †
	Dominican Republic	32.2	(0.7) †	48.6	(0.8) †	11.3	(0.4) †	7.9	(0.3) †	14.4	(0.6) †	16.3	(0.6) †	45.0	(0.7) †	24.3	(0.7) †
	El Salvador	29.8	(0.7) †	50.3	(0.8) †	12.2	(0.6) †	7.7	(0.4) †	12.5	(0.6) †	14.8	(0.6) †	49.0	(0.8) †	23.6	(0.9) †
	Georgia	13.9	(0.6) †	36.8	(0.7) †	36.6	(0.8) †	12.7	(0.7) †	6.2	(0.4) †	8.9	(0.4) †	55.1	(0.8) †	29.8	(0.8) †
	Guatemala	36.8	(0.9)	45.9	(0.9)	9.1	(0.5)	8.2	(0.4)	11.5	(0.6)	10.9	(0.4)	45.1	(0.8)	32.5	(0.9)
	Hong Kong (China)*	9.7	(0.5)	58.4	(0.8)	25.3	(0.8)	6.5	(0.4)	5.0	(0.3)	19.4	(0.7)	61.9	(0.8)	13.7	(0.5)
	Indonesia	21.2	(0.7)	65.2	(0.8)	10.8	(0.5)	2.8	(0.3)	4.6	(0.3)	7.7	(0.4)	61.5	(0.7)	26.2	(0.6)
	Jamaica*	23.9	(0.9) †	50.3	(1.0) †	16.2	(1.0) †	9.7	(0.6) †	10.9	(0.6) †	21.1	(0.9) †	47.1	(1.2) †	20.9	(1.0) †
	Jordan	26.3	(0.5) †	49.9	(0.6) †	15.9	(0.5) †	7.8	(0.4) †	12.5	(0.5) †	18.5	(0.6) †	40.6	(0.8) †	28.3	(0.9) †
	Kazakhstan	18.6	(0.4)	53.3	(0.4)	22.0	(0.4)	6.1	(0.2)	7.9	(0.3)	12.3	(0.4)	54.3	(0.5)	25.5	(0.5)
	Kosovo	31.5	(0.7) †	52.4	(0.8) †	11.1	(0.5) †	5.0	(0.4) †	7.2	(0.5) †	13.9	(0.6) †	48.4	(0.8) †	30.5	(0.8) †
	Macao (China)	13.1	(0.6)	66.4	(0.7)	16.2	(0.6)	4.3	(0.3)	4.7	(0.4)	21.1	(0.7)	59.0	(0.9)	15.1	(0.5)
	Malaysia	11.6	(0.5)	63.2	(0.8)	21.4	(0.6)	3.8	(0.3)	4.7	(0.3)	16.7	(0.6)	58.3	(0.6)	20.2	(0.6)
	Malta	13.4	(0.6)	50.1	(1.0)	25.3	(0.9)	11.2	(0.6)	7.5	(0.6)	21.2	(0.8)	48.2	(0.9)	23.2	(0.9)
	Moldova	23.9	(0.6)	57.1	(0.8)	14.6	(0.6)	4.3	(0.3)	5.5	(0.4)	12.8	(0.5)	51.1	(0.8)	30.7	(0.7)
	Mongolia	22.4	(0.7)	55.5	(0.7)	16.8	(0.4)	5.3	(0.3)	5.1	(0.3)	12.8	(0.5)	46.0	(0.8)	36.0	(0.7)
	Montenegro	29.7	(0.7)	55.8	(0.7)	10.7	(0.5)	3.9	(0.3)	7.6	(0.4)	9.8	(0.5)	44.0	(0.7)	38.5	(0.8)
	Morocco	25.2	(0.7)	55.6	(0.7)	14.0	(0.5)	5.2	(0.3)	9.2	(0.4)	15.1	(0.5)	51.6	(0.8)	24.1	(0.7)
	North Macedonia	28.9	(0.6) †	56.8	(0.6) †	10.1	(0.4) †	4.2	(0.3) †	5.6	(0.3)	7.2	(0.4)	42.8	(0.8)	44.3	(0.8)
	Palestinian Authority	25.3	(0.7)	52.4	(0.7)	15.2	(0.5)	7.1	(0.4)	10.6	(0.5)	16.2	(0.6)	45.4	(0.7)	27.7	(0.7)
	Panama*	28.9	(1.0) †	49.7	(1.2) †	13.3	(0.8) †	8.1	(0.7) †	11.0	(0.6) †	15.0	(0.8) †	46.6	(1.2) †	27.3	(0.9) †
	Paraguay	33.4	(0.9)	50.5	(0.9)	8.9	(0.4)	7.2	(0.4)	11.3	(0.5)	11.5	(0.5)	50.0	(0.9)	27.2	(0.8)
	Peru	18.0	(0.5)	58.2	(0.6)	18.6	(0.6)	5.2	(0.3)	7.4	(0.4)	13.8	(0.5)	53.9	(0.8)	25.0	(0.8)
	Philippines	24.1	(0.6)	59.5	(0.7)	12.0	(0.5)	4.3	(0.3)	8.1	(0.4)	25.5	(0.6)	52.2	(0.7)	14.2	(0.6)
	Qatar	17.8	(0.6) †	51.0	(0.8) †	21.3	(0.7) †	9.9	(0.5) †	8.9	(0.4) †	16.9	(0.6) †	44.9	(0.8) †	29.3	(0.7) †
	Romania	12.5	(0.5)	37.0	(0.7)	35.0	(0.6)	15.5	(0.7)	4.9	(0.3)	13.7	(0.5)	51.4	(0.8)	30.1	(0.7)
	Saudi Arabia	22.5	(0.7)	50.5	(0.8)	17.7	(0.6)	9.2	(0.5)	7.4	(0.4)	10.7	(0.5)	42.0	(0.8)	39.9	(0.8)
	Serbia	25.8	(0.6)	58.6	(0.7)	11.2	(0.5)	4.3	(0.4)	4.7	(0.4)	8.6	(0.4)	48.4	(0.8)	38.3	(0.7)
	Singapore	14.6	(0.5)	58.9	(0.7)	20.6	(0.7)	5.9	(0.3)	4.7	(0.3)	20.4	(0.5)	54.6	(0.6)	20.3	(0.6)
	Chinese Taipei	21.5	(0.7)	65.8	(0.7)	10.0	(0.5)	2.7	(0.3)	3.5	(0.3)	15.3	(0.5)	53.8	(0.9)	27.4	(0.9)
	Thailand	12.2	(0.5)	64.3	(0.7)	20.1	(0.6)	3.4	(0.3)	7.2	(0.4)	30.7	(0.7)	49.9	(0.8)	12.2	(0.5)
	Ukrainian regions (18 of 27)	24.7	(1.3) †	59.6	(1.1) †	11.8	(0.8) †	3.9	(0.4) †	6.2	(0.5)	11.3	(0.7)	53.9	(1.1)	28.6	(1.4)
	United Arab Emirates	21.3	(0.4)	50.1	(0.5)	19.8	(0.4)	8.7	(0.2)	8.6	(0.2) †	19.1	(0.4) †	45.1	(0.5) †	27.2	(0.4) †
	Uruguay	27.0	(0.8)	57.3	(0.8)	12.0	(0.5)	3.7	(0.3)	5.7	(0.3) †	12.5	(0.5) †	50.8	(0.8) †	31.0	(0.6) †
	Uzbekistan	28.7	(0.7)	42.8	(0.7)	20.4	(0.6)	8.1	(0.4)	8.8	(0.4)	11.2	(0.4)	43.8	(0.7)	36.2	(0.9)
	Viet Nam	15.8	(0.5)	66.7	(0.7)	14.1	(0.6)	3.5	(0.2)	5.3	(0.3)	24.2	(0.8)	58.8	(0.8)	11.8	(0.5)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.1.1. Students' sense of belonging at school [5/6]

Based on students' reports

		Percentage of students who reported the following:															
		Other students seem to like me								I feel lonely at school							
		Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	12.6	(0.4)	73.6	(0.5)	11.3	(0.4)	2.5	(0.1)	4.4	(0.2)	13.7	(0.4)	52.6	(0.5)	29.3	(0.5)
	Austria	36.4	(0.8)	50.4	(0.9)	9.1	(0.5)	4.2	(0.3)	5.8	(0.3)	8.1	(0.4)	22.3	(0.6)	63.8	(0.8)
	Belgium	14.3	(0.6)	72.9	(0.7)	10.3	(0.4)	2.5	(0.2)	3.2	(0.2)	7.7	(0.4)	41.4	(0.7)	47.7	(0.7)
	Canada*	16.2	(0.4) †	69.1	(0.5) †	11.8	(0.3) †	3.0	(0.2) †	5.6	(0.2) †	15.8	(0.4) †	45.4	(0.6) †	33.3	(0.6) †
	Chile	17.1	(0.5) †	58.0	(0.7) †	18.7	(0.6) †	6.2	(0.4) †	9.8	(0.5) †	17.2	(0.7) †	39.3	(0.9) †	33.7	(0.8) †
	Colombia	20.0	(0.6)	61.6	(0.8)	14.2	(0.5)	4.3	(0.3)	8.9	(0.6)	12.2	(0.5)	50.2	(0.7)	28.8	(0.7)
	Costa Rica	21.5	(0.7) †	57.4	(1.0) †	15.1	(0.6) †	6.1	(0.4) †	8.8	(0.5) †	13.0	(0.5) †	44.1	(0.9) †	34.1	(0.8) †
	Czech Republic	15.2	(0.5)	67.4	(0.7)	13.5	(0.4)	3.8	(0.3)	6.5	(0.4)	14.6	(0.5)	50.3	(0.6)	28.6	(0.7)
	Denmark*	20.3	(0.7)	63.7	(0.8)	10.8	(0.6)	5.3	(0.3)	3.2	(0.3)	8.2	(0.4)	43.5	(0.8)	45.1	(0.8)
	Estonia	9.7	(0.5)	62.7	(0.9)	23.1	(0.7)	4.5	(0.3)	5.0	(0.3)	12.2	(0.6)	46.5	(0.7)	36.2	(0.7)
	Finland	14.2	(0.5)	64.6	(0.6)	17.1	(0.5)	4.1	(0.3)	3.4	(0.2)	9.8	(0.4)	40.0	(0.6)	46.9	(0.7)
	France	18.1	(0.5)	68.2	(0.6)	10.2	(0.4)	3.5	(0.3)	5.0	(0.3)	10.3	(0.4)	37.8	(0.6)	46.9	(0.6)
	Germany	28.1	(0.8) †	57.4	(0.8) †	11.4	(0.5) †	3.1	(0.3) †	4.0	(0.3) †	8.5	(0.4) †	26.0	(0.7) †	61.6	(0.7) †
	Greece	16.3	(0.5)	66.7	(0.7)	13.4	(0.6)	3.6	(0.3)	4.2	(0.3)	9.4	(0.4)	44.6	(0.7)	41.9	(0.7)
	Hungary	16.5	(0.6)	67.9	(0.8)	13.3	(0.6)	2.3	(0.2)	3.6	(0.3)	8.7	(0.4)	38.7	(0.8)	49.1	(0.9)
	Iceland	20.6	(0.8)	62.6	(1.0)	12.3	(0.7)	4.4	(0.4)	5.2	(0.4)	8.5	(0.6)	39.0	(1.0)	47.4	(1.0)
	Ireland*	11.3	(0.5)	78.7	(0.7)	8.5	(0.5)	1.6	(0.2)	3.2	(0.3)	10.7	(0.5)	54.6	(0.8)	31.6	(0.7)
	Israel	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Italy	11.2	(0.5)	66.5	(0.8)	17.1	(0.5)	5.2	(0.3)	4.0	(0.3)	9.7	(0.5)	43.6	(0.7)	42.7	(0.6)
	Japan	18.6	(0.6)	65.9	(0.8)	12.9	(0.5)	2.6	(0.2)	2.2	(0.2)	7.8	(0.4)	41.1	(0.8)	48.9	(0.9)
	Korea	17.8	(0.7)	64.3	(1.0)	14.4	(0.5)	3.5	(0.4)	2.2	(0.3)	6.9	(0.4)	38.7	(0.8)	52.1	(1.1)
	Latvia*	10.3	(0.5)	58.6	(0.9)	24.4	(0.7)	6.6	(0.4)	5.7	(0.4)	13.1	(0.5)	52.4	(0.7)	28.9	(0.6)
	Lithuania	14.9	(0.5)	59.9	(0.8)	18.4	(0.6)	6.8	(0.3)	8.3	(0.4)	12.9	(0.4)	28.2	(0.6)	50.6	(0.8)
	Mexico	18.3	(0.5)	57.3	(0.7)	17.8	(0.5)	6.6	(0.4)	10.4	(0.5)	14.1	(0.6)	40.8	(0.7)	34.6	(0.7)
	Netherlands*	15.2	(0.6)	74.8	(0.7)	8.0	(0.5)	2.1	(0.2)	3.1	(0.3)	6.3	(0.4)	39.7	(0.9)	50.9	(1.0)
	New Zealand*	10.1	(0.5) †	74.4	(0.8) †	13.0	(0.6) †	2.5	(0.3) †	4.5	(0.4) †	16.2	(0.7) †	51.8	(0.9) †	27.4	(0.7) †
	Norway	24.4	(0.7)	56.8	(0.8)	12.6	(0.5)	6.1	(0.3)	4.8	(0.3)	9.1	(0.3)	37.5	(0.7)	48.6	(0.8)
	Poland	12.9	(0.5)	62.5	(0.7)	19.5	(0.6)	5.1	(0.3)	7.7	(0.4)	12.9	(0.5)	49.0	(0.6)	30.4	(0.7)
	Portugal	15.5	(0.6)	71.9	(0.7)	10.4	(0.5)	2.2	(0.2)	2.8	(0.2)	7.4	(0.4)	42.1	(0.7)	47.8	(0.8)
	Slovak Republic	13.3	(0.7)	67.0	(0.9)	15.1	(0.7)	4.5	(0.4)	6.3	(0.5)	12.1	(0.5)	51.4	(0.8)	30.1	(0.9)
	Slovenia	13.4	(0.6)	66.5	(0.8)	15.9	(0.6)	4.2	(0.3)	4.3	(0.3)	6.7	(0.4)	41.7	(0.8)	47.2	(0.9)
	Spain	24.6	(0.4)	62.2	(0.5)	9.4	(0.3)	3.8	(0.2)	5.6	(0.2)	6.5	(0.3)	34.3	(0.5)	53.6	(0.6)
	Sweden	17.9	(0.5)	63.8	(0.8)	13.8	(0.5)	4.5	(0.3)	6.5	(0.4)	8.5	(0.4)	38.5	(0.7)	46.5	(0.7)
	Switzerland	28.7	(0.7)	58.7	(0.8)	9.6	(0.4)	3.0	(0.2)	3.9	(0.3)	8.1	(0.4)	26.6	(0.8)	61.5	(0.8)
	Türkiye	14.2	(0.5)	55.0	(0.6)	23.5	(0.6)	7.2	(0.4)	13.1	(0.5)	15.2	(0.5)	42.9	(0.7)	28.8	(0.6)
	United Kingdom*	12.7	(0.5) †	71.6	(0.8) †	12.4	(0.6) †	3.2	(0.3) †	4.2	(0.4) †	11.8	(0.5) †	49.9	(0.8) †	34.1	(0.8) †
	United States*	14.2	(0.7)	72.2	(1.0)	10.8	(0.6)	2.8	(0.3)	6.1	(0.5) †	16.1	(0.7) †	50.0	(1.0) †	27.7	(0.9) †
	OECD average	17.1	(0.1)	64.8	(0.1)	14.0	(0.1)	4.1	(0.1)	5.4	(0.1)	10.8	(0.1)	42.1	(0.1)	41.6	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.1.1. Students' sense of belonging at school [6/6]

Based on students' reports

		Percentage of students who reported the following:															
		Other students seem to like me								I feel lonely at school							
		Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	24.5	(0.8) †	54.4	(1.0) †	12.4	(0.5) †	8.7	(0.5) †	7.0	(0.4) †	7.8	(0.4) †	23.9	(0.7) †	61.3	(0.9) †
	Argentina	21.1	(0.6) †	58.6	(0.7) †	14.3	(0.5) †	5.9	(0.4) †	9.1	(0.4) †	12.9	(0.6) †	45.7	(0.6) †	32.3	(0.7) †
	Baku (Azerbaijan)	26.4	(0.7) †	52.8	(0.8) †	14.0	(0.5) †	6.7	(0.4) †	12.4	(0.5) †	12.8	(0.5) †	42.9	(0.7) †	31.9	(0.7) †
	Brazil	15.0	(0.5) †	63.1	(0.7) †	17.3	(0.4) †	4.6	(0.3) †	8.5	(0.3) †	18.1	(0.4) †	47.7	(0.7) †	25.8	(0.6) †
	Brunei Darussalam	6.0	(0.4)	55.3	(0.8)	30.9	(0.7)	7.8	(0.4)	7.2	(0.4)	17.0	(0.6)	48.6	(0.7)	27.2	(0.6)
	Bulgaria	18.7	(0.7) †	56.9	(1.0) †	16.4	(0.7) †	8.0	(0.5) †	13.7	(0.6) †	10.3	(0.6) †	38.5	(0.9) †	37.5	(0.9) †
	Cambodia	10.5	(0.5)	68.5	(0.7)	17.9	(0.7)	3.2	(0.3)	9.9	(0.5)	13.7	(0.6)	58.0	(1.0)	18.3	(1.0)
	Croatia	13.8	(0.4)	67.7	(0.7)	14.7	(0.5)	3.7	(0.3)	4.1	(0.3)	7.8	(0.4)	42.1	(0.7)	46.1	(0.8)
	Cyprus	20.8	(0.6) †	62.0	(0.7) †	12.1	(0.5) †	5.1	(0.4) †	6.0	(0.4) †	10.0	(0.5) †	41.7	(0.8) †	42.3	(0.7) †
	Dominican Republic	28.4	(0.7) †	50.7	(0.9) †	12.9	(0.5) †	8.1	(0.5) †	13.4	(0.6) †	12.8	(0.6) †	43.2	(0.7) †	30.6	(0.7) †
	El Salvador	21.4	(0.6) †	52.8	(0.9) †	18.9	(0.6) †	6.9	(0.4) †	12.9	(0.6) †	14.6	(0.6) †	45.5	(0.9) †	27.0	(0.9) †
	Georgia	17.9	(0.6) †	52.3	(0.8) †	23.2	(0.7) †	6.5	(0.4) †	6.0	(0.4) †	7.9	(0.4) †	48.4	(0.7) †	37.7	(0.8) †
	Guatemala	25.0	(0.8)	53.5	(0.9)	13.7	(0.6)	7.8	(0.4)	12.1	(0.6)	12.5	(0.6)	43.5	(0.8)	32.0	(0.8)
	Hong Kong (China)*	7.1	(0.4)	63.9	(0.8)	24.2	(0.9)	4.8	(0.3)	4.1	(0.3)	15.4	(0.6)	60.5	(0.9)	20.0	(0.7)
	Indonesia	12.2	(0.4)	59.6	(0.7)	23.7	(0.6)	4.4	(0.3)	5.1	(0.4)	11.0	(0.4)	58.3	(0.6)	25.6	(0.6)
	Jamaica*	19.1	(0.7) †	60.0	(1.0) †	14.1	(0.6) †	6.8	(0.5) †	11.1	(0.7) †	14.8	(0.8) †	44.9	(1.1) †	29.2	(1.1) †
	Jordan	25.2	(0.5) †	55.3	(0.8) †	13.3	(0.6) †	6.2	(0.4) †	10.8	(0.4) †	11.6	(0.5) †	38.0	(0.8) †	39.6	(0.8) †
	Kazakhstan	15.0	(0.3)	59.2	(0.5)	20.2	(0.4)	5.6	(0.2)	8.2	(0.3)	9.4	(0.3)	48.1	(0.6)	34.4	(0.5)
	Kosovo	16.7	(0.7) †	59.7	(0.7) †	16.9	(0.6) †	6.7	(0.4) †	6.1	(0.4) †	6.5	(0.4) †	34.6	(0.9) †	52.9	(1.0) †
	Macao (China)	6.8	(0.4)	60.4	(0.8)	27.9	(0.7)	4.9	(0.3)	4.0	(0.3)	15.4	(0.5)	57.9	(0.7)	22.7	(0.6)
	Malaysia	9.5	(0.5)	57.7	(0.8)	26.9	(0.7)	5.9	(0.3)	5.9	(0.4)	15.9	(0.5)	52.4	(0.7)	25.7	(0.7)
	Malta	14.4	(0.7)	67.7	(0.9)	13.6	(0.8)	4.3	(0.4)	6.2	(0.5)	13.3	(0.6)	42.9	(1.0)	37.7	(1.0)
	Moldova	16.0	(0.5)	60.9	(0.8)	17.8	(0.6)	5.3	(0.4)	7.5	(0.4)	15.0	(0.5)	42.9	(0.7)	34.6	(0.7)
	Mongolia	9.5	(0.4)	53.3	(0.7)	28.1	(0.6)	9.2	(0.4)	6.1	(0.4)	14.5	(0.5)	42.4	(0.7)	37.0	(0.6)
	Montenegro	25.0	(0.7)	59.7	(0.8)	11.4	(0.5)	3.9	(0.3)	5.9	(0.4)	7.3	(0.4)	40.7	(0.6)	46.1	(0.7)
	Morocco	19.1	(0.7)	56.4	(0.7)	17.0	(0.6)	7.5	(0.4)	9.5	(0.4)	15.2	(0.5)	48.7	(0.8)	26.6	(0.7)
	North Macedonia	20.0	(0.6) †	60.1	(0.7) †	13.8	(0.5) †	6.1	(0.4) †	6.2	(0.4) †	7.5	(0.4) †	39.4	(0.7) †	46.9	(0.8) †
	Palestinian Authority	26.8	(0.6)	56.3	(0.7)	10.9	(0.4)	6.0	(0.3)	9.3	(0.4)	10.3	(0.4)	41.2	(0.7)	39.2	(0.6)
	Panama*	26.5	(1.1) †	52.9	(1.2) †	13.2	(0.7) †	7.4	(0.6) †	11.0	(0.6) †	14.5	(0.7) †	41.0	(1.0) †	33.4	(0.9) †
	Paraguay	21.1	(0.8)	57.5	(0.7)	14.8	(0.5)	6.6	(0.4)	11.2	(0.5)	11.7	(0.5)	46.0	(0.9)	31.1	(0.9)
	Peru	14.4	(0.5)	62.5	(0.8)	19.0	(0.6)	4.1	(0.3)	8.0	(0.3)	12.3	(0.5)	47.1	(0.7)	32.6	(0.7)
	Philippines	10.2	(0.5)	62.6	(0.7)	22.5	(0.6)	4.6	(0.3)	8.3	(0.4)	20.1	(0.6)	50.6	(0.7)	21.0	(0.7)
	Qatar	22.2	(0.6) †	61.0	(0.7) †	11.8	(0.5) †	5.0	(0.3) †	9.0	(0.4) †	13.4	(0.6) †	41.5	(0.8) †	36.2	(0.9) †
	Romania	17.7	(0.6)	67.0	(0.7)	12.3	(0.5)	3.0	(0.3)	5.3	(0.4)	11.4	(0.5)	45.2	(0.7)	38.1	(0.8)
	Saudi Arabia	25.4	(0.7)	59.7	(0.8)	10.2	(0.5)	4.7	(0.3)	7.8	(0.4)	10.4	(0.4)	38.3	(0.8)	43.5	(0.8)
	Serbia	30.0	(0.7)	59.3	(0.7)	6.8	(0.3)	3.9	(0.3)	5.3	(0.3)	7.3	(0.4)	41.4	(0.8)	46.1	(0.8)
	Singapore	11.6	(0.4)	70.6	(0.6)	14.8	(0.5)	3.1	(0.2)	4.3	(0.3)	15.2	(0.4)	52.9	(0.8)	27.6	(0.7)
	Chinese Taipei	10.6	(0.5)	58.0	(0.8)	27.3	(0.7)	4.1	(0.3)	3.0	(0.3)	9.7	(0.6)	50.8	(1.0)	36.4	(0.9)
	Thailand	7.6	(0.5)	55.3	(0.8)	31.4	(0.9)	5.6	(0.3)	5.6	(0.4)	13.9	(0.6)	53.0	(0.9)	27.4	(0.8)
	Ukrainian regions (18 of 27)	15.0	(0.9)	58.0	(1.1)	21.1	(1.0)	5.9	(0.4)	6.9	(0.5)	11.5	(0.7)	51.8	(1.0)	29.7	(1.1)
	United Arab Emirates	20.2	(0.4) †	57.9	(0.4) †	15.0	(0.3) †	6.9	(0.2) †	8.5	(0.2)	13.4	(0.3)	42.3	(0.5)	35.8	(0.4)
	Uruguay	39.4	(0.7)	54.6	(0.8)	3.7	(0.3)	2.2	(0.2)	7.1	(0.4) †	12.8	(0.6) †	46.1	(0.8) †	34.0	(0.7) †
	Uzbekistan	28.0	(0.8)	54.8	(0.9)	10.9	(0.5)	6.3	(0.3)	9.6	(0.4)	8.5	(0.4)	35.2	(0.7)	46.7	(0.9)
	Viet Nam	7.5	(0.4)	57.6	(0.7)	29.5	(0.6)	5.4	(0.3)	6.7	(0.4)	7.7	(0.4)	56.6	(0.8)	29.0	(0.9)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.1.5. Change between 2018 and 2022 in the index of sense of belonging [1/2]

Based on students' reports

		Index of sense of belonging, by PISA cycle						Change in the index of sense of belonging between:					
		PISA 2015		PISA 2018		PISA 2022		PISA 2018 and PISA 2015 (PISA 2018 - PISA 2015)		PISA 2022 and PISA 2015 (PISA 2022 - PISA 2015)		PISA 2022 and PISA 2018 (PISA 2022 - PISA 2018)	
		Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Index dif.	S.E.	Index dif.	S.E.	Index dif.	S.E.
OECD	Australia*	-0.12	(0.01)	-0.19	(0.01)	-0.23	(0.01)	**-0.07**	(0.02)	**-0.10**	(0.01)	**-0.04**	(0.01)
	Austria	0.44	(0.02)	0.40	(0.02)	0.44	(0.02)	-0.04	(0.02)	0.00	(0.02)	0.05	(0.02)
	Belgium	0.01	(0.01)	0.06	(0.01)	0.02	(0.01)	**0.05**	(0.02)	0.01	(0.02)	**-0.04**	(0.02)
	Canada*	-0.11	(0.01)	-0.18	(0.01)	-0.16	(0.01)	**-0.06**	(0.02)	**-0.05**	(0.02)	0.02	(0.02)
	Chile	-0.04	(0.02)	-0.10	(0.01)	-0.22	(0.02)	**-0.06**	(0.02)	**-0.18**	(0.02)	**-0.12**	(0.02)
	Colombia	-0.31	(0.01)	-0.18	(0.02)	-0.16	(0.02)	**0.13**	(0.02)	**0.15**	(0.02)	0.02	(0.02)
	Costa Rica	-0.16	(0.02)	0.05	(0.02)	-0.09	(0.02)	**0.21**	(0.02)	**0.06**	(0.03)	**-0.15**	(0.02)
	Czech Republic	-0.25	(0.01)	-0.28	(0.01)	-0.28	(0.01)	-0.03	(0.02)	**-0.03**	(0.02)	0.00	(0.02)
	Denmark*	0.14	(0.01)	0.21	(0.02)	0.11	(0.02)	**0.07**	(0.02)	-0.03	(0.02)	**-0.10**	(0.02)
	Estonia	-0.06	(0.01)	-0.13	(0.01)	-0.14	(0.01)	**-0.07**	(0.02)	**-0.07**	(0.02)	0.00	(0.02)
	Finland	0.09	(0.02)	0.01	(0.01)	0.10	(0.01)	**-0.08**	(0.02)	0.01	(0.02)	**0.09**	(0.02)
	France	-0.06	(0.01)	-0.07	(0.01)	-0.03	(0.01)	-0.01	(0.02)	**0.03**	(0.02)	**0.05**	(0.02)
	Germany	0.29	(0.02)	0.28	(0.02) †	0.27	(0.02)	-0.01	(0.03) †	-0.02	(0.03)	-0.01	(0.02) †
	Greece	0.10	(0.01)	0.02	(0.02)	-0.06	(0.01)	**-0.08**	(0.02)	**-0.16**	(0.02)	**-0.08**	(0.02)
	Hungary	0.06	(0.02)	0.07	(0.02)	0.14	(0.02)	0.01	(0.03)	**0.08**	(0.02)	**0.06**	(0.02)
	Iceland	0.19	(0.02)	0.10	(0.02)	0.16	(0.02)	**-0.09**	(0.03)	-0.03	(0.03)	**0.06**	(0.03)
	Ireland*	-0.02	(0.01)	-0.15	(0.01)	-0.13	(0.01)	**-0.14**	(0.02)	**-0.12**	(0.02)	0.02	(0.02)
	Israel	m	m	m	m	m	m	m	m	m	m	m	m
	Italy	0.05	(0.01)	0.04	(0.02)	-0.06	(0.01)	-0.01	(0.02)	**-0.12**	(0.02)	**-0.11**	(0.02)
	Japan	-0.03	(0.01)	0.02	(0.02)	0.25	(0.02)	**0.05**	(0.02)	**0.28**	(0.02)	**0.23**	(0.02)
	Korea	0.16	(0.02)	0.28	(0.02)	0.26	(0.02)	**0.12**	(0.02)	**0.10**	(0.02)	-0.02	(0.02)
	Latvia*	-0.20	(0.01)	-0.26	(0.01)	-0.25	(0.01)	**-0.06**	(0.02)	**-0.04**	(0.02)	0.01	(0.02)
	Lithuania	-0.27	(0.02)	-0.13	(0.01)	-0.02	(0.02)	**0.13**	(0.02)	**0.24**	(0.03)	**0.11**	(0.02)
	Mexico	-0.14	(0.02)	-0.02	(0.02) †	-0.18	(0.02)	**0.12**	(0.02) †	-0.04	(0.02)	**-0.16**	(0.02) †
	Netherlands*	0.17	(0.01)	0.20	(0.02)	0.10	(0.02)	0.03	(0.02)	**-0.06**	(0.02)	**-0.10**	(0.02)
	New Zealand*	-0.17	(0.01)	-0.21	(0.01)	-0.29	(0.01)	**-0.04**	(0.02)	**-0.12**	(0.02)	**-0.08**	(0.02)
	Norway	0.21	(0.02)	0.36	(0.02)	0.23	(0.02)	**0.15**	(0.03)	0.02	(0.02)	**-0.14**	(0.03)
	Poland	-0.25	(0.01)	-0.24	(0.01)	-0.31	(0.01)	0.01	(0.02)	**-0.06**	(0.02)	**-0.07**	(0.02)
	Portugal	0.10	(0.01)	0.12	(0.02)	0.08	(0.02)	0.02	(0.02)	-0.02	(0.02)	-0.04	(0.02)
	Slovak Republic	-0.28	(0.01)	-0.28	(0.01)	-0.20	(0.02)	0.00	(0.02)	**0.08**	(0.02)	**0.08**	(0.02)
	Slovenia	-0.10	(0.02)	-0.11	(0.01)	0.04	(0.01)	-0.01	(0.02)	**0.14**	(0.02)	**0.14**	(0.02)
	Spain	0.47	(0.02)	0.46	(0.01)	0.27	(0.01)	-0.01	(0.02)	**-0.20**	(0.02)	**-0.19**	(0.01)
	Sweden	0.04	(0.02)	0.03	(0.02)	0.09	(0.01)	-0.01	(0.03)	0.05	(0.03)	**0.06**	(0.02)
	Switzerland	0.36	(0.02)	0.30	(0.02)	0.36	(0.02)	**-0.06**	(0.02)	0.00	(0.02)	**0.06**	(0.02)
	Türkiye	-0.44	(0.02)	-0.14	(0.02)	-0.30	(0.01)	**0.30**	(0.03)	**0.14**	(0.02)	**-0.16**	(0.02)
	United Kingdom*	-0.09	(0.01)	-0.19	(0.01)	-0.21	(0.01)	**-0.10**	(0.02)	**-0.12**	(0.02)	-0.02	(0.02)
	United States*	-0.09	(0.02)	-0.24	(0.02)	-0.26	(0.02)	**-0.15**	(0.02)	**-0.17**	(0.03)	-0.03	(0.03)
	OECD average	-0.01	(0.00)	0.00	(0.00)	-0.02	(0.00)	0.01	(0.00)	**-0.01**	(0.00)	**-0.02**	(0.00)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.1.5. Change between 2018 and 2022 in the index of sense of belonging [2/2]

Based on students' reports

		Index of sense of belonging, by PISA cycle						Change in the index of sense of belonging between:					
		PISA 2015		PISA 2018		PISA 2022		PISA 2018 and PISA 2015 (PISA 2018 - PISA 2015)		PISA 2022 and PISA 2015 (PISA 2022 - PISA 2015)		PISA 2022 and PISA 2018 (PISA 2022 - PISA 2018)	
		Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Index dif.	S.E.	Index dif.	S.E.	Index dif.	S.E.
Partners	Albania	0.40	(0.01) ‡	0.40	(0.02)	0.25	(0.02)	-0.01	(0.02) ‡	**-0.15**	(0.02) ‡	**-0.14**	(0.03)
	Argentina	0.21	(0.02)	-0.11	(0.02)	-0.20	(0.02)	**-0.32**	(0.02)	**-0.41**	(0.02)	**-0.09**	(0.02)
	Baku (Azerbaijan)	m	m	-0.21	(0.02) †	-0.17	(0.01)	m	m	m	m	**0.04**	(0.02) †
	Brazil	-0.15	(0.01)	-0.19	(0.01)	-0.21	(0.01)	**-0.04**	(0.02)	**-0.06**	(0.02)	-0.02	(0.02)
	Brunei Darussalam	m	m	-0.44	(0.01)	-0.50	(0.01)	m	m	m	m	**-0.07**	(0.01)
	Bulgaria	-0.34	(0.02)	-0.30	(0.02)	-0.19	(0.02)	**0.05**	(0.02)	**0.15**	(0.02)	**0.11**	(0.02)
	Cambodia	m	m	-0.14	(0.02)	-0.43	(0.01)	m	m	m	m	**-0.29**	(0.02)
	Croatia	0.05	(0.02)	0.06	(0.01)	0.13	(0.01)	0.01	(0.02)	**0.09**	(0.02)	**0.08**	(0.02)
	Cyprus	0.10	(0.01)	-0.07	(0.01)	-0.10	(0.01)	**-0.17**	(0.02)	**-0.21**	(0.02)	-0.04	(0.02)
	Dominican Republic	-0.40	(0.02)	-0.26	(0.02) †	-0.23	(0.01)	**0.14**	(0.03) †	**0.17**	(0.03)	0.03	(0.03) †
	El Salvador	m	m	m	m	-0.27	(0.02)	m	m	m	m	m	m
	Georgia	0.20	(0.02)	-0.10	(0.02)	-0.05	(0.02)	**-0.30**	(0.02)	**-0.25**	(0.02)	**0.06**	(0.03)
	Guatemala	m	m	0.13	(0.03)	-0.18	(0.02)	m	m	m	m	**-0.31**	(0.04)
	Hong Kong (China)*	-0.35	(0.01)	-0.39	(0.01)	-0.39	(0.01)	**-0.04**	(0.02)	**-0.04**	(0.02)	0.00	(0.02)
	Indonesia	0.10	(0.01)	-0.14	(0.01)	-0.13	(0.01)	**-0.24**	(0.02)	**-0.24**	(0.02)	0.00	(0.02)
	Jamaica*	m	m	m	m	-0.34	(0.02)	m	m	m	m	m	m
	Jordan	0.19	(0.02)	-0.17	(0.02)	-0.21	(0.01)	**-0.36**	(0.03)	**-0.40**	(0.02)	-0.04	(0.02)
	Kazakhstan	0.34	(0.02)	-0.21	(0.01)	-0.14	(0.01)	**-0.55**	(0.02)	**-0.48**	(0.02)	**0.07**	(0.02)
	Kosovo	0.29	(0.01)	0.00	(0.02)	m	m	**-0.28**	(0.02)	m	m	m	m
	Macao (China)	-0.40	(0.01)	-0.40	(0.01)	-0.31	(0.01)	0.01	(0.02)	**0.09**	(0.02)	**0.09**	(0.02)
	Malaysia	-0.13	(0.02)	-0.19	(0.01)	-0.27	(0.01)	**-0.05**	(0.02)	**-0.14**	(0.02)	**-0.09**	(0.02)
	Malta	-0.02	(0.02)	-0.24	(0.01)	-0.24	(0.02)	**-0.21**	(0.02)	**-0.22**	(0.02)	0.00	(0.02)
	Moldova	0.04	(0.01)	-0.06	(0.02)	-0.06	(0.01)	**-0.10**	(0.02)	**-0.10**	(0.02)	0.01	(0.02)
	Mongolia	m	m	m	m	-0.15	(0.01)	m	m	m	m	m	m
	Montenegro	-0.10	(0.01)	-0.10	(0.01)	0.14	(0.01)	0.00	(0.02)	**0.24**	(0.02)	**0.24**	(0.02)
	Morocco	m	m	-0.31	(0.02) †	-0.29	(0.01)	m	m	m	m	0.02	(0.02) †
	North Macedonia	0.35	(0.01)	m	m	0.12	(0.01)	m	m	**-0.23**	(0.02)	m	m
	Palestinian Authority	m	m	m	m	-0.17	(0.01)	m	m	m	m	m	m
	Panama*	m	m	-0.21	(0.02) †	-0.19	(0.02)	m	m	m	m	0.02	(0.03) †
	Paraguay	m	m	0.15	(0.03)	-0.24	(0.02)	m	m	m	m	**-0.39**	(0.03)
	Peru	-0.22	(0.01)	-0.12	(0.01) †	-0.20	(0.01)	**0.10**	(0.02) †	0.02	(0.02)	**-0.09**	(0.02) †
	Philippines	m	m	-0.26	(0.01)	-0.38	(0.01)	m	m	m	m	**-0.12**	(0.02)
	Qatar	-0.10	(0.01)	-0.20	(0.01)	-0.16	(0.01)	**-0.09**	(0.01)	**-0.05**	(0.02)	**0.04**	(0.02)
	Romania	0.00	(0.02)	-0.03	(0.02)	-0.02	(0.01)	-0.03	(0.03)	-0.02	(0.02)	0.01	(0.02)
	Saudi Arabia	m	m	0.03	(0.02)	0.00	(0.02)	m	m	m	m	-0.03	(0.03)
	Serbia	m	m	0.03	(0.02)	0.18	(0.01)	m	m	m	m	**0.15**	(0.02)
	Singapore	-0.21	(0.01)	-0.17	(0.01)	-0.22	(0.01)	**0.04**	(0.02)	-0.01	(0.02)	**-0.06**	(0.02)
	Chinese Taipei	0.02	(0.01)	-0.05	(0.01)	0.01	(0.02)	**-0.07**	(0.02)	-0.01	(0.02)	**0.06**	(0.02)
	Thailand	-0.35	(0.01)	-0.40	(0.02)	-0.34	(0.01)	**-0.04**	(0.02)	0.01	(0.01)	**0.05**	(0.02)
	Ukrainian regions (18 of 27)	m	m	m	m	-0.08	(0.03)	m	m	m	m	m	m
	United Arab Emirates	-0.10	(0.01)	-0.10	(0.01)	-0.20	(0.01)	0.00	(0.01)	**-0.10**	(0.01)	**-0.10**	(0.01)
	Uruguay	-0.09	(0.02)	-0.03	(0.03)	-0.08	(0.01)	**0.06**	(0.03)	0.01	(0.02)	-0.05	(0.03)
	Uzbekistan	m	m	m	m	0.08	(0.02)	m	m	m	m	m	m
	Viet Nam	-0.06	(0.01)	-0.34	(0.02)	-0.28	(0.01)	**-0.27**	(0.02)	**-0.22**	(0.02)	**0.05**	(0.02)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.1.7. Change between 2018 and 2022 in sense of belonging, by students' socio-economic status [1/2]

Based on students' reports

	Change between 2018 and 2022 in the index of sense of belonging at school, by students' socio-economic status:																	
	PISA 2018						PISA 2022						Change between PISA 2018 and PISA 2022 (PISA 2022 - PISA 2018)					
	Disadvantaged students[1]		Advantaged students		Advantaged - disadvantaged		Disadvantaged students		Advantaged students		Advantaged - disadvantaged		Disadvantaged students		Advantaged students		Advantaged - disadvantaged	
	Mean index	S.E.	Mean index	S.E.	Dif.	S.E.	Mean index	S.E.	Mean index	S.E.	Dif.	S.E.	Dif.	S.E.	Dif.	S.E.	Dif.	S.E.
OECD																		
Australia*	-0.34	(0.02)	-0.04	(0.03)	**0.30**	(0.04)	-0.34	(0.02)	-0.14	(0.02)	**0.20**	(0.02)	0.00	(0.03)	**-0.09**	(0.03)	**-0.09**	(0.04)
Austria	0.32	(0.04)	0.48	(0.03)	**0.16**	(0.05)	0.27	(0.03)	0.56	(0.03)	**0.29**	(0.05)	-0.05	(0.05)	0.08	(0.05)	0.13	(0.07)
Belgium	0.03	(0.04)	0.06	(0.03)	0.03	(0.05) †	-0.05	(0.02)	0.10	(0.02)	**0.15**	(0.03)	-0.08	(0.04)	0.04	(0.03)	**0.12**	(0.06)
Canada*	-0.22	(0.02)	-0.10	(0.02)	**0.12**	(0.03)	-0.31	(0.02)	-0.02	(0.02)	**0.29**	(0.03)	**-0.09**	(0.03)	**0.09**	(0.03)	**0.17**	(0.04)
Chile	-0.23	(0.03)	0.05	(0.03)	**0.28**	(0.04)	-0.31	(0.03)	-0.09	(0.03)	**0.22**	(0.04)	-0.07	(0.04)	**-0.13**	(0.04)	-0.06	(0.06)
Colombia	-0.29	(0.03)	-0.04	(0.03)	**0.25**	(0.04)	-0.24	(0.02)	-0.04	(0.03)	**0.19**	(0.04)	0.05	(0.04)	0.00	(0.04)	-0.05	(0.06)
Costa Rica	-0.02	(0.03)	0.19	(0.04)	**0.21**	(0.05)	m	m	m	m	m	m	m	m	m	m	m	m
Czech Republic	-0.39	(0.04)	-0.23	(0.02)	**0.16**	(0.04)	-0.37	(0.02)	-0.22	(0.02)	**0.14**	(0.03)	0.02	(0.04)	0.00	(0.03)	-0.01	(0.05)
Denmark*	0.10	(0.04)	0.30	(0.03)	**0.20**	(0.05)	0.01	(0.03)	0.17	(0.04)	**0.17**	(0.04)	-0.09	(0.05)	**-0.13**	(0.04)	-0.03	(0.07)
Estonia	-0.15	(0.03)	-0.06	(0.03)	**0.09**	(0.04)	-0.27	(0.02)	-0.02	(0.02)	**0.25**	(0.04)	**-0.12**	(0.04)	0.04	(0.04)	**0.17**	(0.06)
Finland	-0.06	(0.03)	0.11	(0.03)	**0.17**	(0.04)	-0.04	(0.02)	0.21	(0.02)	**0.24**	(0.03)	0.02	(0.03)	**0.09**	(0.04)	0.07	(0.05)
France	-0.16	(0.02)	-0.01	(0.02)	**0.15**	(0.03)	-0.13	(0.03)	0.10	(0.02)	**0.23**	(0.04)	0.03	(0.03)	**0.11**	(0.03)	0.08	(0.05)
Germany	0.12	(0.04)	0.44	(0.03)	**0.32**	(0.06) †	0.12	(0.03)	0.41	(0.03)	**0.29**	(0.04)	0.00	(0.05)	-0.03	(0.04)	-0.03	(0.07)
Greece	-0.10	(0.03)	0.12	(0.02)	**0.22**	(0.04)	-0.11	(0.02)	0.02	(0.02)	**0.13**	(0.03)	-0.01	(0.04)	**-0.10**	(0.03)	-0.08	(0.05)
Hungary	-0.17	(0.03)	0.21	(0.04)	**0.39**	(0.05)	0.02	(0.03)	0.26	(0.02)	**0.24**	(0.03)	**0.19**	(0.04)	0.04	(0.04)	**-0.15**	(0.06)
Iceland	0.04	(0.04)	0.24	(0.04)	**0.20**	(0.06)	-0.03	(0.04)	0.29	(0.04)	**0.33**	(0.06)	-0.07	(0.06)	0.06	(0.06)	0.13	(0.08)
Ireland*	-0.14	(0.03)	-0.14	(0.02)	0.00	(0.03)	-0.20	(0.02)	-0.05	(0.02)	**0.15**	(0.03)	-0.06	(0.03)	**0.09**	(0.03)	**0.15**	(0.05)
Israel	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Italy	-0.05	(0.03)	0.09	(0.03)	**0.14**	(0.04)	-0.17	(0.02)	0.02	(0.02)	**0.18**	(0.03)	**-0.12**	(0.04)	**-0.08**	(0.04)	0.04	(0.05)
Japan	-0.05	(0.03)	0.07	(0.04)	**0.13**	(0.04)	0.17	(0.03)	0.33	(0.03)	**0.15**	(0.04)	**0.23**	(0.04)	**0.25**	(0.05)	0.03	(0.06)
Korea	0.13	(0.03)	0.40	(0.04)	**0.26**	(0.05)	0.13	(0.04)	0.41	(0.03)	**0.28**	(0.05)	-0.01	(0.05)	0.01	(0.05)	0.02	(0.07)
Latvia*	-0.28	(0.02)	-0.18	(0.03)	**0.09**	(0.04)	-0.32	(0.03)	-0.17	(0.03)	**0.15**	(0.04)	-0.04	(0.04)	0.01	(0.04)	0.05	(0.06)
Lithuania	-0.22	(0.03)	-0.01	(0.03)	**0.21**	(0.04)	-0.13	(0.03)	0.10	(0.04)	**0.23**	(0.04)	**0.09**	(0.04)	**0.11**	(0.04)	0.02	(0.06)
Mexico	-0.16	(0.03)	0.16	(0.03)	**0.31**	(0.05) †	-0.30	(0.02)	-0.06	(0.03)	**0.25**	(0.04)	**-0.15**	(0.04)	**-0.21**	(0.04)	-0.07	(0.06)
Netherlands*	0.19	(0.04)	0.21	(0.04)	0.02	(0.05) †	0.02	(0.03)	0.18	(0.03)	**0.16**	(0.04)	**-0.17**	(0.05)	-0.03	(0.05)	**0.14**	(0.06)
New Zealand*	-0.24	(0.03)	-0.15	(0.03)	**0.10**	(0.04)	-0.40	(0.03)	-0.20	(0.02)	**0.20**	(0.04)	**-0.16**	(0.04)	-0.05	(0.04)	0.11	(0.06)
Norway	0.32	(0.04)	0.43	(0.04)	0.10	(0.06)	0.06	(0.03)	0.38	(0.04)	**0.32**	(0.05)	**-0.26**	(0.05)	-0.04	(0.06)	**0.22**	(0.08)
Poland	-0.23	(0.03)	-0.30	(0.02)	-0.07	(0.04)	-0.36	(0.02)	-0.27	(0.02)	**0.09**	(0.04)	**-0.14**	(0.04)	0.03	(0.03)	**0.16**	(0.05)
Portugal	0.04	(0.04)	0.29	(0.03)	**0.24**	(0.05)	-0.01	(0.03)	0.25	(0.03)	**0.26**	(0.04)	-0.05	(0.04)	-0.03	(0.04)	0.02	(0.06)
Slovak Republic	-0.42	(0.03)	-0.14	(0.03)	**0.29**	(0.04)	-0.31	(0.04)	-0.09	(0.02)	**0.22**	(0.04)	**0.11**	(0.05)	0.04	(0.04)	-0.07	(0.06)
Slovenia	-0.22	(0.02)	-0.01	(0.03)	**0.21**	(0.03)	-0.08	(0.03)	0.13	(0.03)	**0.21**	(0.04)	**0.14**	(0.04)	**0.14**	(0.04)	0.00	(0.05)
Spain	0.41	(0.02)	0.55	(0.02)	**0.13**	(0.03)	0.13	(0.02)	0.44	(0.02)	**0.31**	(0.03)	**-0.29**	(0.03)	**-0.11**	(0.03)	**0.18**	(0.05)
Sweden	-0.02	(0.05)	0.11	(0.04)	0.13	(0.07)	-0.05	(0.03)	0.22	(0.03)	**0.26**	(0.04)	-0.03	(0.06)	**0.11**	(0.05)	0.13	(0.08)
Switzerland	0.22	(0.04)	0.31	(0.04)	0.09	(0.06)	0.26	(0.03)	0.41	(0.03)	**0.16**	(0.04)	0.04	(0.05)	**0.10**	(0.05)	0.06	(0.08)
Türkiye	-0.23	(0.03)	-0.15	(0.04)	0.09	(0.05)	-0.40	(0.02)	-0.22	(0.02)	**0.18**	(0.03)	**-0.17**	(0.03)	-0.08	(0.05)	0.09	(0.06)
United Kingdom*	-0.20	(0.04)	-0.13	(0.03)	0.07	(0.04)	-0.34	(0.02)	-0.11	(0.03)	**0.23**	(0.04)	**-0.14**	(0.04)	0.02	(0.04)	**0.16**	(0.06)
United States*	-0.30	(0.04)	-0.17	(0.04)	**0.13**	(0.05)	-0.38	(0.03)	-0.12	(0.03)	**0.25**	(0.04)	-0.08	(0.05)	0.04	(0.05)	**0.13**	(0.06)
OECD average	-0.08	(0.01)	0.08	(0.01)	**0.16**	(0.01)	-0.13	(0.00)	0.09	(0.00)	**0.22**	(0.01)	**-0.04**	(0.01)	0.01	(0.01)	**0.05**	(0.01)

1. A socio-economically disadvantaged (advantaged) student is a student in the bottom (top) quarter of the PISA index of economic, social and cultural status (ESCS) in his or her own country/economy.

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.1.7. Change between 2018 and 2022 in sense of belonging, by students' socio-economic status [2/2]

Based on students' reports

		Change between 2018 and 2022 in the index of sense of belonging at school, by students' socio-economic status:																	
		PISA 2018						PISA 2022						Change between PISA 2018 and PISA 2022 (PISA 2022 - PISA 2018)					
		Disadvantaged students[1]		Advantaged students		Advantaged - disadvantaged		Disadvantaged students		Advantaged students		Advantaged - disadvantaged		Disadvantaged students		Advantaged students		Advantaged - disadvantaged	
		Mean index	S.E.	Mean index	S.E.	Dif.	S.E.	Mean index	S.E.	Mean index	S.E.	Dif.	S.E.	Dif.	S.E.	Dif.	S.E.	Dif.	S.E.
Partners	Albania	0.28	(0.04)	0.54	(0.03)	**0.26**	(0.05)	0.14	(0.03)	0.38	(0.04)	**0.24**	(0.05)	**-0.14**	(0.05)	**-0.16**	(0.05)	-0.02	(0.07)
	Argentina	-0.33	(0.03)	0.14	(0.03)	**0.47**	(0.04)	-0.38	(0.02)	0.02	(0.03)	**0.41**	(0.04)	-0.05	(0.04)	**-0.12**	(0.04)	-0.06	(0.06)
	Baku (Azerbaijan)	-0.24	(0.03) †	-0.17	(0.04)	0.07	(0.05) †	-0.23	(0.03)	-0.13	(0.02)	**0.10**	(0.03)	0.01	(0.04)	0.04	(0.04)	0.03	(0.06)
	Brazil	-0.32	(0.03) †	-0.04	(0.03)	**0.28**	(0.04) †	-0.33	(0.02)	-0.02	(0.03)	**0.31**	(0.03)	-0.01	(0.03)	0.02	(0.04)	0.03	(0.05)
	Brunei Darussalam	-0.47	(0.02)	-0.40	(0.02)	**0.06**	(0.02)	-0.55	(0.01)	-0.43	(0.02)	**0.11**	(0.03)	**-0.08**	(0.02)	-0.03	(0.03)	0.05	(0.03)
	Bulgaria	-0.51	(0.04)	-0.14	(0.03)	**0.37**	(0.05)	-0.30	(0.03)	-0.09	(0.03)	**0.21**	(0.04)	**0.21**	(0.05)	0.05	(0.04)	**-0.16**	(0.06)
	Cambodia	m	m	m	m	m	m	-0.42	(0.02)	-0.42	(0.02)	0.00	(0.03)	m	m	m	m	m	m
	Croatia	0.01	(0.03)	0.08	(0.02)	0.07	(0.04)	0.07	(0.03)	0.16	(0.02)	**0.09**	(0.04)	0.07	(0.04)	**0.08**	(0.03)	0.02	(0.06)
	Cyprus	-0.14	(0.02)	-0.15	(0.03)	-0.01	(0.04)	-0.15	(0.03)	-0.05	(0.03)	**0.10**	(0.04)	-0.02	(0.04)	**0.09**	(0.04)	0.11	(0.06)
	Dominican Republic	-0.37	(0.05) ‡	-0.06	(0.04)	**0.31**	(0.07) ‡	-0.31	(0.02)	-0.10	(0.03)	**0.20**	(0.04)	0.06	(0.05) ‡	-0.04	(0.05)	-0.10	(0.08) ‡
	El Salvador	m	m	m	m	m	m	-0.35	(0.03)	-0.13	(0.04)	**0.22**	(0.05)	m	m	m	m	m	m
	Georgia	-0.16	(0.03)	-0.05	(0.04)	**0.11**	(0.05)	-0.13	(0.02)	0.05	(0.03)	**0.18**	(0.03)	0.03	(0.04)	**0.10**	(0.05)	0.07	(0.06)
	Guatemala	m	m	m	m	m	m	-0.24	(0.04)	-0.08	(0.04)	**0.17**	(0.05)	m	m	m	m	m	m
	Hong Kong (China)*	-0.42	(0.03)	-0.34	(0.02)	**0.08**	(0.03)	-0.43	(0.02)	-0.32	(0.02)	**0.10**	(0.03)	-0.01	(0.03)	0.02	(0.03)	0.02	(0.04)
	Indonesia	-0.15	(0.04)	-0.08	(0.03)	0.07	(0.05)	-0.20	(0.02)	-0.11	(0.03)	**0.09**	(0.03)	-0.04	(0.04)	-0.03	(0.04)	0.02	(0.06)
	Jamaica*	m	m	m	m	m	m	-0.35	(0.04)	-0.32	(0.03)	0.03	(0.05)	m	m	m	m	m	m
	Jordan	-0.25	(0.03)	-0.09	(0.04)	**0.16**	(0.06)	-0.32	(0.03)	-0.13	(0.03)	**0.20**	(0.04)	-0.07	(0.04)	-0.03	(0.05)	0.04	(0.07)
	Kazakhstan	-0.24	(0.03)	-0.17	(0.02)	0.07	(0.04)	-0.20	(0.01)	-0.02	(0.02)	**0.18**	(0.02)	0.04	(0.03)	**0.15**	(0.03)	**0.11**	(0.04)
	Kosovo	-0.09	(0.03)	0.14	(0.03)	**0.23**	(0.04)	m	m	m	m	m	m	m	m	m	m	m	m
	Macao (China)	-0.42	(0.02)	-0.35	(0.02)	0.06	(0.03)	-0.33	(0.02)	-0.28	(0.02)	0.05	(0.03)	**0.08**	(0.03)	**0.07**	(0.03)	-0.01	(0.04)
	Malaysia	-0.21	(0.03)	-0.12	(0.04)	0.09	(0.05)	-0.31	(0.02)	-0.23	(0.02)	**0.08**	(0.02)	**-0.10**	(0.03)	**-0.11**	(0.04)	-0.01	(0.06)
	Malta	-0.31	(0.03)	-0.19	(0.03)	**0.13**	(0.04)	-0.34	(0.03)	-0.09	(0.04)	**0.25**	(0.05)	-0.03	(0.04)	**0.10**	(0.05)	**0.13**	(0.06)
	Moldova	-0.07	(0.05)	-0.02	(0.03)	0.04	(0.06)	-0.14	(0.03)	0.05	(0.03)	**0.19**	(0.04)	-0.08	(0.05)	0.07	(0.04)	**0.15**	(0.07)
	Mongolia	m	m	m	m	m	m	-0.17	(0.02)	-0.10	(0.03)	**0.07**	(0.03)	m	m	m	m	m	m
	Montenegro	-0.18	(0.03)	-0.06	(0.03)	**0.12**	(0.04)	0.02	(0.03)	0.19	(0.03)	**0.17**	(0.04)	**0.20**	(0.04)	**0.25**	(0.04)	0.05	(0.06)
	Morocco	-0.47	(0.03) †	-0.18	(0.03)	**0.29**	(0.05) †	-0.37	(0.02)	-0.20	(0.02)	**0.17**	(0.03)	**0.11**	(0.04)	-0.02	(0.04)	**-0.12**	(0.05)
	North Macedonia	m	m	m	m	m	m	0.05	(0.02)	0.21	(0.03)	**0.16**	(0.03)	m	m	m	m	m	m
	Palestinian Authority	m	m	m	m	m	m	-0.25	(0.02)	-0.06	(0.03)	**0.19**	(0.04)	m	m	m	m	m	m
	Panama*	-0.39	(0.05) ‡	-0.13	(0.03)	**0.27**	(0.05) ‡	-0.28	(0.04)	0.01	(0.05)	**0.28**	(0.06)	**0.12**	(0.06) ‡	**0.14**	(0.05)	0.02	(0.08) ‡
	Paraguay	m	m	m	m	m	m	-0.29	(0.03)	-0.07	(0.03)	**0.22**	(0.04)	m	m	m	m	m	m
	Peru	-0.22	(0.04) ‡	-0.01	(0.02)	**0.21**	(0.05) ‡	-0.29	(0.02)	-0.09	(0.02)	**0.19**	(0.03)	-0.07	(0.05) ‡	**-0.08**	(0.03)	-0.01	(0.06) ‡
	Philippines	-0.36	(0.03)	-0.21	(0.03)	**0.15**	(0.05)	-0.37	(0.02)	-0.38	(0.02)	-0.01	(0.03)	-0.01	(0.04)	**-0.17**	(0.04)	**-0.16**	(0.06)
	Qatar	-0.29	(0.02)	-0.12	(0.01)	**0.17**	(0.03)	-0.24	(0.03)	-0.10	(0.03)	**0.14**	(0.04)	0.05	(0.03)	0.02	(0.03)	-0.04	(0.05)
	Romania	-0.16	(0.04)	0.09	(0.03)	**0.25**	(0.05)	-0.10	(0.03)	0.09	(0.02)	**0.19**	(0.04)	0.06	(0.05)	0.00	(0.04)	-0.06	(0.06)
	Saudi Arabia	-0.09	(0.04)	0.14	(0.04)	**0.22**	(0.06)	-0.09	(0.02)	0.10	(0.03)	**0.18**	(0.04)	0.00	(0.05)	-0.04	(0.05)	-0.04	(0.07)
	Serbia	-0.08	(0.03)	0.12	(0.04)	**0.21**	(0.05)	0.09	(0.02)	0.26	(0.02)	**0.17**	(0.03)	**0.17**	(0.04)	**0.14**	(0.05)	-0.04	(0.06)
	Singapore	-0.24	(0.02)	-0.06	(0.02)	**0.18**	(0.03)	-0.28	(0.02)	-0.14	(0.03)	**0.14**	(0.03)	-0.04	(0.03)	**-0.08**	(0.03)	-0.04	(0.04)
	Chinese Taipei	-0.11	(0.02)	0.03	(0.02)	**0.14**	(0.03)	-0.08	(0.03)	0.08	(0.03)	**0.16**	(0.04)	0.04	(0.04)	0.06	(0.03)	0.02	(0.05)
	Thailand	-0.48	(0.02)	-0.22	(0.03)	**0.25**	(0.04)	-0.37	(0.02)	-0.27	(0.02)	**0.11**	(0.03)	**0.10**	(0.03)	-0.04	(0.03)	**-0.15**	(0.05)
	Ukrainian regions (18 of 27)	m	m	m	m	m	m	-0.19	(0.05)	0.11	(0.04)	**0.30**	(0.06)	m	m	m	m	m	m
	United Arab Emirates	-0.13	(0.02)	-0.13	(0.03)	0.01	(0.03)	-0.27	(0.02)	-0.16	(0.01)	**0.11**	(0.02)	**-0.14**	(0.02)	-0.03	(0.03)	**0.10**	(0.04)
	Uruguay	-0.19	(0.05) †	0.22	(0.07)	**0.41**	(0.08) †	-0.23	(0.02)	0.11	(0.04)	**0.35**	(0.04)	-0.04	(0.06)	-0.11	(0.07)	-0.07	(0.09)
	Uzbekistan	m	m	m	m	m	m	0.06	(0.03)	0.16	(0.03)	**0.10**	(0.04)	m	m	m	m	m	m
	Viet Nam	-0.35	(0.05)	-0.32	(0.03)	0.02	(0.06)	-0.35	(0.02)	-0.22	(0.02)	**0.12**	(0.03)	0.00	(0.05)	**0.10**	(0.03)	0.10	(0.06)

1. A socio-economically disadvantaged (advantaged) student is a student in the bottom (top) quarter of the PISA index of economic, social and cultural status (ESCS) in his or her own country/economy.

Notes: Values that are statistically significant are indicated in bold (see Annex A3). Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.5. Confidence in capacity for self-directed learning [1/8]

Based on students' reports

	Index of confidence in capacity for self-directed learning				Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
					Using a learning-management system or school learning platform								Using a video communication program							
	Average		Variability		Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
	Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD Australia*	0.02	(0.01)	0.99	(0.01)	8.7	(0.4)	13.0	(0.4)	47.0	(0.8)	31.2	(0.8)	9.0	(0.5)	14.1	(0.4)	46.5	(0.8)	30.4	(0.8)
Austria	0.22	(0.02) †	1.06	(0.01) †	13.5	(0.8) †	16.4	(0.8) †	35.7	(1.1) †	34.3	(1.1) †	8.3	(0.7) †	13.3	(0.8) †	31.7	(1.1) †	46.7	(1.3) †
Belgium	-0.13	(0.02) †	0.94	(0.01) †	11.6	(0.6) †	16.6	(0.6) †	43.3	(0.9) †	28.5	(0.8) †	8.8	(0.6) †	15.9	(0.8) †	46.2	(1.0) †	29.1	(1.2) †
Canada*	0.01	(0.02) †	1.02	(0.01) †	8.5	(0.4) †	12.9	(0.5) †	44.1	(0.8) †	34.6	(0.9) †	7.1	(0.4) †	11.2	(0.5) †	44.8	(0.7) †	36.9	(0.9) †
Chile	0.01	(0.02) †	1.07	(0.02) †	10.8	(0.8) †	16.3	(0.9) †	44.3	(1.5) †	28.5	(1.3) †	9.8	(0.9) †	16.3	(0.9) †	44.2	(1.3) †	29.7	(1.2) †
Colombia	0.30	(0.02) †	0.87	(0.01) †	6.9	(0.6) †	13.4	(0.9) †	53.3	(1.1) †	26.4	(1.2) †	6.6	(0.6) †	14.0	(0.7) †	51.6	(0.9) †	27.8	(1.0) †
Costa Rica	0.06	(0.02)	0.99	(0.01)	15.5	(0.9)	19.5	(1.0)	39.8	(0.8)	25.3	(1.2)	14.0	(0.9)	18.8	(0.8)	41.3	(1.0)	25.9	(1.1)
Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Estonia	0.09	(0.02)	0.91	(0.01)	3.8	(0.4)	10.5	(0.5)	45.7	(0.9)	39.9	(0.9)	3.9	(0.4)	11.5	(0.5)	49.3	(0.9)	35.2	(1.0)
Finland	0.16	(0.02) †	1.01	(0.01) †	6.2	(0.5) †	13.3	(0.8) †	46.3	(1.0) †	34.1	(0.9) †	5.4	(0.4) †	14.5	(0.8) †	47.2	(0.9) †	32.8	(0.9) †
France	0.19	(0.02) †	0.98	(0.01) †	6.5	(0.5) †	6.9	(0.6) †	41.3	(1.1) †	45.3	(1.4) †	7.4	(0.6) †	10.8	(0.7) †	43.7	(1.0) †	38.1	(1.1) †
Germany	0.13	(0.02) †	1.05	(0.01) †	13.2	(0.7) ‡	13.2	(0.8) ‡	35.5	(1.4) ‡	38.1	(1.4) ‡	8.7	(0.7) ‡	12.3	(0.7) ‡	33.8	(1.2) ‡	45.1	(1.5) ‡
Greece	-0.07	(0.02)	1.07	(0.01)	14.0	(0.7) †	24.2	(1.0) †	28.0	(0.8) †	33.8	(0.9) †	8.6	(0.6)	19.6	(0.7)	29.5	(1.0)	42.3	(1.1)
Hungary	0.10	(0.02) †	0.96	(0.01) †	9.0	(0.7) †	14.8	(0.9) †	47.3	(1.2) †	28.9	(1.1) †	6.8	(0.6) †	14.9	(0.9) †	46.7	(1.2) †	31.6	(1.3) †
Iceland	0.09	(0.03) †	1.03	(0.02) †	10.1	(0.9) †	10.8	(0.8) †	52.0	(1.5) †	27.0	(1.6) †	12.5	(0.9) †	16.9	(1.1) †	49.1	(1.7) †	21.5	(1.5) †
Ireland*	-0.07	(0.02)	0.95	(0.01)	7.1	(0.5)	12.3	(0.8)	49.8	(1.0)	30.8	(1.1)	6.4	(0.4)	12.3	(0.7)	52.5	(1.0)	28.9	(0.9)
Israel	-0.18	(0.02) †	1.13	(0.01) †	23.7	(1.0)	20.4	(0.8)	31.4	(1.1)	24.4	(1.2)	12.9	(0.8)	13.5	(0.7)	37.4	(1.2)	36.2	(1.3)
Italy	0.22	(0.02)	0.85	(0.01)	5.0	(0.4)	8.8	(0.7)	44.8	(1.2)	41.5	(1.5)	3.2	(0.4)	7.8	(0.6)	43.4	(1.1)	45.7	(1.3)
Japan	-0.68	(0.02)	0.97	(0.01)	25.0	(1.2)	26.7	(1.1)	31.1	(1.0)	17.2	(0.9)	21.5	(1.3)	21.7	(0.9)	36.0	(1.2)	20.9	(1.0)
Korea	-0.22	(0.03)	1.13	(0.01)	12.3	(1.0)	16.6	(1.1)	43.7	(1.3)	27.4	(1.2)	12.4	(0.9)	17.1	(0.9)	41.3	(2.0)	29.2	(2.0)
Latvia*	-0.04	(0.02) †	0.94	(0.01) †	6.5	(0.5) †	14.0	(0.8) †	47.3	(1.1) †	32.2	(1.2) †	5.7	(0.5) †	14.9	(0.8) †	48.3	(1.0) †	31.1	(1.2) †
Lithuania	0.19	(0.02)	0.97	(0.01)	5.6	(0.5) †	10.3	(0.8) †	43.6	(1.1) †	40.5	(1.1) †	4.4	(0.5) †	10.8	(0.7) †	44.7	(1.0) †	40.0	(1.1) †
Mexico	0.20	(0.03) †	1.00	(0.01) †	9.4	(0.7) †	16.1	(0.9) †	45.2	(1.0) †	29.4	(1.1) †	7.1	(0.6) †	16.2	(0.9) †	42.8	(1.0) †	33.9	(1.4) †
Netherlands*	-0.15	(0.02)	0.89	(0.02)	11.3	(0.8) †	19.7	(0.9) †	51.2	(1.1) †	17.8	(0.9) †	7.6	(0.6) †	15.3	(0.8) †	51.9	(1.0) †	25.2	(0.9) †
New Zealand*	-0.08	(0.02) †	0.96	(0.02) †	8.9	(0.8) †	13.7	(0.7) †	49.5	(1.1) †	27.9	(1.2) †	7.5	(0.6) †	14.9	(0.8) †	51.1	(1.2) †	26.5	(1.2) †
Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Poland	-0.19	(0.01)	0.96	(0.01)	10.9	(0.6)	20.4	(0.9)	42.5	(1.0)	26.2	(0.7)	6.9	(0.6)	17.2	(0.7)	45.0	(1.1)	30.9	(1.0)
Portugal	0.12	(0.01)	0.91	(0.01)	6.0	(0.5)	12.8	(0.6)	50.8	(1.0)	30.5	(1.0)	4.5	(0.4) †	10.9	(0.6) †	50.7	(1.1) †	33.9	(1.1) †
Slovak Republic	-0.09	(0.02) †	0.96	(0.01) †	15.0	(0.7) †	20.2	(0.8) †	45.2	(1.0) †	19.6	(0.9) †	9.8	(0.7) †	18.3	(1.0) †	47.1	(1.3) †	24.8	(1.1) †
Slovenia	-0.10	(0.02)	0.91	(0.01)	9.4	(0.6)	19.3	(1.0)	51.8	(1.3)	19.5	(0.9)	7.2	(0.5)	15.7	(0.7)	51.4	(1.2)	25.6	(1.1)
Spain	0.20	(0.01)	0.93	(0.01)	6.7	(0.3) †	11.6	(0.4) †	43.0	(0.7) †	38.6	(0.8) †	6.3	(0.3) †	11.5	(0.4) †	43.1	(0.7) †	39.1	(0.8) †
Sweden	0.09	(0.02) †	1.01	(0.01) †	9.1	(0.6) †	13.5	(0.7) †	37.6	(1.0) †	39.7	(1.2) †	5.9	(0.5) †	10.3	(0.7) †	39.5	(1.0) †	44.3	(1.2) †
Switzerland	0.16	(0.02) †	0.98	(0.01) †	16.3	(1.1) ‡	19.1	(1.0) ‡	38.3	(1.2) ‡	26.3	(1.1) ‡	9.1	(0.8) ‡	15.3	(0.9) ‡	39.6	(1.4) ‡	36.0	(1.4) ‡
Türkiye	-0.06	(0.02)	1.06	(0.01)	14.5	(0.7)	16.9	(0.6)	46.2	(0.9)	22.3	(0.8)	11.9	(0.6)	16.3	(0.6)	46.2	(1.1)	25.6	(0.8)
United Kingdom*	-0.19	(0.02) †	0.96	(0.01) †	11.8	(0.8) †	17.4	(0.8) †	50.3	(1.3) †	20.4	(0.9) †	9.4	(0.7) †	15.7	(0.8) †	50.8	(1.2) †	24.1	(1.1) †
United States*	-0.01	(0.02)	1.02	(0.01)	9.5	(0.7)	12.1	(0.7)	45.4	(1.2)	33.0	(1.3)	9.6	(0.6)	14.6	(0.8)	45.5	(1.2)	30.3	(1.4)
OECD average	0.01	(0.00)	0.98	(0.00)	10.7	(0.1)	15.4	(0.1)	43.9	(0.2)	30.0	(0.2)	8.4	(0.1)	14.5	(0.1)	44.5	(0.2)	32.5	(0.2)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.5. Confidence in capacity for self-directed learning [2/8]

Based on students' reports

		Index of confidence in capacity for self-directed learning				Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
						Using a learning-management system or school learning platform								Using a video communication program							
		Average		Variability		Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	0.16	(0.02) ‡	1.09	(0.02) ‡	13.9	(0.9) ‡	24.3	(1.4) ‡	39.0	(1.4) ‡	22.7	(1.2) ‡	9.0	(0.8) ‡	21.2	(1.2) ‡	41.4	(1.3) ‡	28.5	(1.2) ‡
	Argentina	-0.06	(0.02) ‡	1.00	(0.02) ‡	14.9	(1.0) ‡	19.4	(1.0) ‡	41.0	(1.2) ‡	24.8	(1.0) ‡	14.0	(1.0) ‡	20.4	(1.1) ‡	41.4	(1.2) ‡	24.2	(1.1) ‡
	Baku (Azerbaijan)	0.01	(0.03) ‡	1.02	(0.02) ‡	16.1	(1.2) ‡	24.3	(1.3) ‡	42.2	(1.5) ‡	17.4	(1.0) ‡	11.1	(1.0) ‡	21.5	(1.2) ‡	47.3	(1.8) ‡	20.1	(1.2) ‡
	Brazil	-0.39	(0.01) †	0.97	(0.01) †	16.4	(0.7) †	29.9	(1.0) †	41.1	(1.0) †	12.6	(0.6) †	16.8	(0.7) †	28.1	(0.8) †	40.6	(0.8) †	14.6	(0.8) †
	Brunei Darussalam	-0.37	(0.01) †	0.82	(0.01) †	12.3	(0.8) †	35.2	(1.0) †	39.9	(1.0) †	12.5	(0.7) †	9.9	(0.6) †	32.4	(1.0) †	42.5	(1.0) †	15.1	(0.6) †
	Bulgaria	0.05	(0.02) †	1.02	(0.01) †	12.6	(0.9) †	18.8	(0.8) †	39.2	(1.1) †	29.3	(1.2) †	9.8	(0.7) †	19.7	(1.0) †	42.0	(1.3) †	28.5	(1.4) †
	Cambodia	-0.25	(0.02) †	0.74	(0.02) †	15.5	(0.8) †	35.3	(1.2) †	41.2	(1.3) †	8.0	(0.8) †	10.7	(0.6) †	32.3	(1.2) †	48.0	(1.2) †	9.0	(0.7) †
	Croatia	0.34	(0.02)	0.94	(0.01)	7.3	(0.5) †	12.0	(0.7) †	48.8	(1.0) †	31.9	(0.9) †	3.0	(0.4)	7.8	(0.6)	45.7	(0.9)	43.4	(1.0)
	Cyprus	0.01	(0.02) ‡	1.09	(0.01) ‡	14.7	(0.8) ‡	19.2	(0.9) ‡	33.3	(1.1) ‡	32.8	(1.2) ‡	9.1	(0.7) ‡	19.9	(1.0) ‡	36.6	(1.2) ‡	34.4	(1.3) ‡
	Dominican Republic	0.10	(0.04) ‡	1.14	(0.02) ‡	19.5	(1.2) ‡	22.2	(1.4) ‡	31.3	(1.3) ‡	27.0	(1.5) ‡	13.9	(1.2) ‡	21.9	(1.4) ‡	34.1	(1.5) ‡	30.1	(1.9) ‡
	El Salvador	0.08	(0.02) †	0.97	(0.02) †	12.7	(1.0) †	17.1	(1.1) †	50.6	(1.4) †	19.6	(1.1) †	10.9	(0.8) †	16.9	(1.1) †	52.3	(1.5) †	19.9	(1.3) †
	Georgia	-0.14	(0.02) ‡	1.08	(0.01) ‡	16.9	(1.0) ‡	28.8	(1.1) ‡	35.7	(1.2) ‡	18.6	(1.0) ‡	14.1	(0.9) ‡	27.4	(1.1) ‡	39.2	(1.3) ‡	19.3	(1.0) ‡
	Guatemala	0.17	(0.03) ‡	1.05	(0.02) ‡	13.6	(0.9) ‡	16.2	(1.0) ‡	42.8	(1.2) ‡	27.5	(1.4) ‡	10.6	(0.7) ‡	15.8	(1.1) ‡	44.2	(1.3) ‡	29.3	(1.5) ‡
	Hong Kong (China)*	-0.18	(0.02)	0.93	(0.01)	7.0	(0.6)	17.1	(0.7)	53.8	(1.1)	22.1	(0.8)	6.0	(0.5)	15.9	(0.7)	52.4	(0.9)	25.7	(1.2)
	Indonesia	-0.09	(0.01)	0.77	(0.01)	10.1	(0.6)	32.1	(1.1)	48.2	(1.2)	9.6	(0.6)	9.6	(0.6)	34.9	(1.0)	47.5	(1.1)	7.9	(0.5)
	Jamaica*	-0.13	(0.03) ‡	1.03	(0.02) ‡	17.7	(1.7) ‡	19.7	(1.5) ‡	43.6	(1.8) ‡	19.0	(1.2) ‡	15.3	(1.4) ‡	23.6	(1.5) ‡	42.8	(1.7) ‡	18.2	(1.4) ‡
	Jordan	-0.20	(0.02) †	1.07	(0.02) †	26.0	(1.0) †	26.2	(1.1) †	32.2	(1.1) †	15.6	(0.9) †	22.3	(1.1) †	27.1	(1.2) †	34.8	(1.2) †	15.8	(0.9) †
	Kazakhstan	0.17	(0.01)	0.92	(0.01)	7.5	(0.4)	15.8	(0.5)	52.5	(0.7)	24.2	(0.6)	7.2	(0.4)	17.6	(0.6)	51.8	(0.7)	23.4	(0.8)
	Kosovo	-0.07	(0.02) †	0.99	(0.01) †	16.2	(1.0) †	27.7	(1.2) †	36.6	(1.3) †	19.4	(1.0) †	11.2	(0.7) †	28.1	(1.2) †	39.0	(1.2) †	21.7	(1.1) †
	Macao (China)	-0.15	(0.02)	0.93	(0.01)	7.1	(0.5)	20.6	(0.9)	48.7	(1.1)	23.6	(0.9)	6.5	(0.5)	19.4	(0.9)	49.7	(1.0)	24.4	(1.0)
	Malaysia	-0.28	(0.02)	0.87	(0.01)	12.9	(0.6) †	35.2	(1.0) †	38.2	(1.0) †	13.8	(0.7) †	10.3	(0.7) †	32.5	(1.0) †	42.8	(0.9) †	14.4	(0.7) †
	Malta	-0.04	(0.02) †	1.02	(0.02) †	12.4	(1.0) †	19.8	(1.1) †	41.2	(1.3) †	26.6	(1.3) †	7.9	(0.7) †	13.6	(1.0) †	45.0	(1.3) †	33.5	(1.2) †
	Moldova	-0.01	(0.02)	0.95	(0.01)	8.9	(0.6)	21.7	(0.9)	44.9	(1.0)	24.5	(1.1)	6.4	(0.5)	23.8	(0.8)	45.4	(1.0)	24.4	(1.0)
	Mongolia	-0.02	(0.01)	0.95	(0.01)	12.4	(0.6)	28.1	(0.9)	41.5	(0.9)	18.0	(0.8)	9.8	(0.5)	26.3	(0.9)	44.6	(1.0)	19.3	(0.7)
	Montenegro	-0.08	(0.02) †	1.05	(0.01) †	14.9	(0.8) †	31.2	(1.1) †	33.9	(1.1) †	20.1	(1.0) †	13.8	(0.7) †	29.2	(1.0) †	35.8	(1.1) †	21.2	(0.9) †
	Morocco	-0.37	(0.02) ‡	0.99	(0.02) ‡	34.7	(1.4) ‡	28.5	(1.2) ‡	26.6	(1.2) ‡	10.2	(0.8) ‡	29.3	(1.1) ‡	30.9	(1.2) ‡	28.1	(1.0) ‡	11.6	(1.0) ‡
	North Macedonia	0.07	(0.02) †	0.99	(0.01) †	11.8	(0.7) †	23.1	(1.0) †	45.2	(1.1) †	19.8	(0.9) †	9.4	(0.6) †	21.3	(1.0) †	46.4	(1.1) †	22.9	(1.0) †
	Palestinian Authority	-0.20	(0.02) †	0.98	(0.01) †	24.7	(0.9) †	29.3	(1.0) †	32.2	(0.9) †	13.8	(0.8) †	18.9	(0.9) †	27.8	(0.8) †	38.4	(1.0) †	14.9	(0.7) †
	Panama*	0.35	(0.04) ‡	0.97	(0.03) ‡	9.6	(1.5) ‡	10.4	(1.3) ‡	49.7	(2.3) ‡	30.3	(2.1) ‡	8.0	(1.5) ‡	9.8	(1.7) ‡	42.4	(2.6) ‡	39.7	(2.7) ‡
	Paraguay	0.04	(0.02) †	0.96	(0.02) †	13.5	(0.8) †	18.1	(0.9) †	48.0	(1.1) †	20.4	(1.0) †	10.7	(0.7) †	23.5	(1.1) †	46.7	(1.1) †	19.1	(1.0) †
	Peru	0.07	(0.03) ‡	0.96	(0.01) ‡	8.8	(0.8) ‡	20.6	(1.0) ‡	47.0	(1.3) ‡	23.6	(1.4) ‡	7.8	(0.7) ‡	20.1	(1.0) ‡	45.3	(1.5) ‡	26.8	(1.7) ‡
	Philippines	-0.13	(0.01) †	0.79	(0.01) †	11.9	(0.7) †	31.5	(1.1) †	47.8	(1.1) †	8.9	(0.7) †	13.6	(0.7) †	34.3	(1.0) †	43.2	(1.0) †	8.9	(0.7) †
	Qatar	0.07	(0.02) †	1.06	(0.01) †	12.0	(0.8) †	18.1	(0.9) †	40.9	(1.3) †	29.1	(1.1) †	9.7	(0.7) †	19.3	(0.9) †	40.7	(1.3) †	30.3	(1.3) †
	Romania	-0.02	(0.02) †	1.02	(0.01) †	12.6	(0.7) †	22.0	(1.0) †	41.8	(0.8) †	23.6	(1.0) †	10.2	(0.8) †	20.4	(0.9) †	44.3	(1.1) †	25.1	(1.0) †
	Saudi Arabia	0.17	(0.02) †	1.11	(0.01) †	14.8	(0.8) †	22.0	(1.0) †	38.5	(1.1) †	24.6	(1.0) †	12.1	(0.7) †	19.1	(1.0) †	38.9	(1.1) †	29.9	(1.2) †
	Serbia	-0.18	(0.02) †	1.00	(0.02) †	14.3	(0.8) †	22.1	(0.9) †	40.8	(1.0) †	22.8	(1.2) †	12.3	(0.8) †	25.1	(1.0) †	42.0	(1.2) †	20.5	(1.1) †
	Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chinese Taipei	-0.16	(0.02)	0.99	(0.02)	7.5	(0.7)	17.5	(0.9)	50.4	(1.1)	24.6	(1.2)	6.0	(0.6)	14.7	(1.0)	48.6	(1.4)	30.7	(1.5)
	Thailand	-0.27	(0.02)	0.88	(0.01)	12.1	(0.7)	38.7	(1.1)	37.7	(1.0)	11.6	(0.7)	11.6	(0.8)	37.2	(1.1)	38.7	(0.9)	12.4	(0.8)
	Ukrainian regions (18 of 27)	0.06	(0.03) †	0.93	(0.02) †	9.9	(1.1) †	17.4	(1.4) †	47.2	(1.4) †	25.5	(1.6) †	5.5	(0.8) †	15.9	(1.3) †	52.1	(1.7) †	26.5	(1.6) †
	United Arab Emirates	0.30	(0.01)	1.05	(0.01)	7.6	(0.3) †	12.8	(0.4) †	41.3	(0.6) †	38.3	(0.5) †	6.7	(0.3) †	13.3	(0.6) †	39.3	(0.7) †	40.7	(0.7) †
	Uruguay	-0.05	(0.02) ‡	0.98	(0.02) ‡	13.5	(1.0) ‡	17.1	(1.1) ‡	45.2	(1.6) ‡	24.2	(1.3) ‡	11.7	(0.7) ‡	17.9	(1.0) ‡	45.0	(1.3) ‡	25.5	(1.2) ‡
	Uzbekistan	0.07	(0.03) ‡	1.06	(0.02) ‡	15.7	(1.0) ‡	22.7	(1.3) ‡	39.8	(1.4) ‡	21.8	(1.2) ‡	15.7	(0.9) ‡	24.4	(1.3) ‡	38.2	(1.0) ‡	21.6	(1.4) ‡
	Viet Nam	-0.09	(0.02)	0.86	(0.01)	6.0	(0.4)	29.2	(0.9)	47.4	(0.7)	17.3	(0.8)	4.7	(0.4)	22.1	(0.8)	52.3	(0.8)	21.0	(0.9)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.5. Confidence in capacity for self-directed learning [3/8]

Based on students' reports

	Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
	Finding learning resources online on my own								Planning when to do school work on my own							
	Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																
Australia*	5.8	(0.4)	16.6	(0.5)	54.6	(0.7)	23.1	(0.5)	7.5	(0.4)	20.1	(0.5)	52.7	(0.7)	19.7	(0.6)
Austria	7.8	(0.5) †	19.1	(0.8) †	39.8	(1.0) †	33.3	(1.2) †	7.0	(0.5) †	18.0	(0.9) †	42.3	(1.1) †	32.6	(1.2) †
Belgium	10.7	(0.6) †	24.7	(0.9) †	47.0	(0.9) †	17.6	(0.7) †	9.9	(0.7) †	25.2	(0.9) †	47.0	(0.9) †	18.0	(0.8) †
Canada*	7.4	(0.4) †	18.0	(0.7) †	49.9	(0.7) †	24.6	(0.8) †	8.8	(0.3) †	20.8	(0.6) †	49.1	(0.7) †	21.3	(0.7) †
Chile	8.8	(0.8) †	20.4	(1.0) †	46.0	(1.5) †	24.8	(1.1) †	9.7	(0.8) †	23.4	(1.1) †	46.4	(1.4) †	20.5	(1.1) †
Colombia	4.2	(0.5) †	14.4	(0.8) †	58.2	(1.2) †	23.2	(1.2) †	3.6	(0.5) †	13.3	(0.8) †	62.6	(1.2) †	20.5	(1.0) †
Costa Rica	9.4	(0.7)	21.1	(1.0)	47.6	(1.1)	22.0	(0.9)	8.2	(0.7)	18.1	(0.9)	51.2	(1.0)	22.5	(1.0)
Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Estonia	3.9	(0.4)	15.4	(0.8)	54.4	(1.0)	26.3	(0.9)	4.8	(0.5)	22.5	(0.7)	51.2	(0.9)	21.4	(0.9)
Finland	4.9	(0.4) †	15.3	(0.7) †	54.3	(0.8) †	25.5	(0.8) †	6.5	(0.5) †	21.5	(0.8) †	48.9	(1.0) †	23.1	(0.7) †
France	6.4	(0.5) †	10.7	(0.7) †	49.9	(1.1) †	33.0	(1.1) †	7.7	(0.5) †	17.6	(0.9) †	47.4	(1.0) †	27.3	(1.1) †
Germany	7.8	(0.7) ‡	14.9	(0.8) ‡	42.7	(1.3) ‡	34.7	(1.1) ‡	8.6	(0.7) ‡	16.6	(0.9) ‡	43.3	(1.1) ‡	31.6	(1.0) ‡
Greece	11.8	(0.8)	32.1	(0.9)	29.8	(0.9)	26.2	(0.9)	11.0	(0.6)	29.1	(1.0)	33.0	(1.0)	26.8	(0.8)
Hungary	5.1	(0.4) †	15.6	(0.8) †	52.1	(1.1) †	27.2	(1.1) †	5.5	(0.5) †	21.1	(0.9) †	51.3	(1.1) †	22.1	(0.9) †
Iceland	7.5	(0.9) †	12.6	(1.0) †	57.7	(1.7) †	22.2	(1.4) †	7.6	(0.7) †	20.0	(1.3) †	52.3	(1.8) †	20.1	(1.6) †
Ireland*	7.8	(0.5)	20.1	(0.8)	52.8	(0.9)	19.3	(0.8)	7.7	(0.5)	21.5	(0.9)	53.6	(1.0)	17.1	(0.7)
Israel	14.6	(0.8)	23.8	(1.0)	37.2	(0.9)	24.4	(1.0)	15.5	(0.8)	25.6	(1.1)	36.5	(1.0)	22.4	(1.0)
Italy	3.7	(0.4)	9.7	(0.6)	52.6	(1.0)	34.0	(1.1)	3.8	(0.4)	16.7	(0.6)	54.8	(1.0)	24.6	(0.9)
Japan	28.9	(1.0)	38.5	(1.1)	22.2	(0.8)	10.4	(0.7)	24.5	(0.9)	38.8	(1.0)	27.5	(1.1)	9.2	(0.5)
Korea	12.5	(0.7)	22.6	(0.8)	43.5	(1.2)	21.4	(1.0)	17.3	(1.0)	31.5	(1.0)	36.1	(1.3)	15.1	(0.9)
Latvia*	5.5	(0.5) †	19.4	(1.0) †	53.1	(1.1) †	22.0	(0.9) †	6.7	(0.5) †	26.4	(1.0) †	48.8	(0.9) †	18.0	(0.8) †
Lithuania	4.4	(0.4) †	13.2	(0.7) †	50.9	(1.1) †	31.5	(1.0) †	5.5	(0.5) †	18.7	(0.7) †	50.8	(1.0) †	24.9	(1.0) †
Mexico	7.0	(0.5) †	20.7	(1.0) †	46.6	(1.2) †	25.6	(1.4) †	7.4	(0.7) †	20.2	(1.1) †	49.2	(1.0) †	23.2	(1.2) †
Netherlands*	6.2	(0.7) †	19.2	(0.9) †	55.1	(1.2) †	19.5	(1.1) †	8.0	(0.5) †	26.3	(0.9) †	51.5	(1.4) †	14.2	(0.9) †
New Zealand*	7.0	(0.5) †	19.6	(0.9) †	55.2	(1.4) †	18.2	(0.9) †	8.2	(0.7) †	21.5	(0.9) †	53.0	(1.2) †	17.4	(0.8) †
Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Poland	7.2	(0.5)	21.6	(0.7)	48.0	(0.8)	23.2	(0.8)	9.8	(0.6)	27.9	(0.9)	44.2	(1.0)	18.1	(0.7)
Portugal	6.1	(0.5) †	20.6	(0.6) †	53.5	(1.0) †	19.8	(0.8) †	5.6	(0.5) †	18.9	(0.7) †	54.8	(0.9) †	20.7	(0.7) †
Slovak Republic	8.6	(0.7) †	21.9	(1.1) †	50.4	(1.1) †	19.1	(0.8) †	7.8	(0.7) †	24.7	(0.9) †	51.6	(1.2) †	15.9	(0.9) †
Slovenia	5.4	(0.4)	21.7	(1.0)	55.4	(1.2)	17.6	(1.0)	6.8	(0.5)	25.7	(1.0)	51.5	(1.1)	16.0	(0.7)
Spain	5.2	(0.3) †	17.2	(0.6) †	49.5	(0.6) †	28.0	(0.6) †	5.4	(0.3) †	15.5	(0.5) †	52.7	(0.7) †	26.4	(0.6) †
Sweden	7.5	(0.6) †	21.0	(0.9) †	45.9	(1.1) †	25.5	(0.9) †	6.9	(0.5) †	21.2	(0.9) †	50.0	(1.2) †	21.8	(1.0) †
Switzerland	7.8	(0.7) ‡	15.7	(1.0) ‡	45.2	(1.2) ‡	31.3	(1.3) ‡	5.8	(0.6) ‡	18.6	(1.1) ‡	45.5	(1.2) ‡	30.1	(1.3) ‡
Türkiye	10.5	(0.6)	19.1	(0.7)	47.8	(1.0)	22.6	(0.8)	11.1	(0.7)	24.1	(0.7)	45.2	(0.9)	19.5	(0.9)
United Kingdom*	8.2	(0.6) †	19.2	(0.9) †	55.0	(1.0) †	17.6	(0.8) †	10.4	(0.7) †	24.0	(1.1) †	51.0	(1.2) †	14.6	(0.8) †
United States*	8.1	(0.6)	18.3	(0.9)	51.1	(1.1)	22.4	(1.0)	8.9	(0.6)	19.9	(0.9)	51.1	(1.1)	20.1	(0.8)
OECD average	8.1	(0.1)	19.2	(0.1)	48.7	(0.2)	24.0	(0.2)	8.5	(0.1)	22.2	(0.2)	48.2	(0.2)	21.1	(0.2)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.5. Confidence in capacity for self-directed learning [4/8]

Based on students' reports

		Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
		Finding learning resources online on my own								Planning when to do school work on my own							
		Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	8.3	(0.7) ‡	23.7	(1.1) ‡	42.7	(1.1) ‡	25.3	(0.9) ‡	7.1	(0.7) ‡	22.2	(1.2) ‡	45.2	(1.2) ‡	25.4	(1.1) ‡
	Argentina	11.1	(0.7) ‡	21.3	(1.1) ‡	48.1	(1.2) ‡	19.5	(1.0) ‡	10.6	(0.9) ‡	23.1	(1.0) ‡	49.0	(1.7) ‡	17.3	(1.1) ‡
	Baku (Azerbaijan)	9.2	(1.0) ‡	23.2	(1.3) ‡	48.4	(1.5) ‡	19.2	(1.2) ‡	9.2	(1.0) ‡	23.9	(1.4) ‡	47.6	(1.6) ‡	19.3	(1.2) ‡
	Brazil	14.5	(0.6) †	32.7	(0.9) †	41.5	(0.9) †	11.3	(0.5) †	15.3	(0.7) †	32.9	(0.9) †	41.1	(0.9) †	10.7	(0.6) †
	Brunei Darussalam	8.0	(0.6) †	37.4	(1.1) †	43.3	(1.0) †	11.3	(0.6) †	8.1	(0.6) †	37.5	(1.0) †	44.9	(1.1) †	9.6	(0.7) †
	Bulgaria	9.2	(0.7) †	24.7	(1.0) †	42.6	(1.3) †	23.6	(1.1) †	8.0	(0.7) †	24.1	(1.0) †	45.6	(1.3) †	22.3	(1.0) †
	Cambodia	10.6	(0.7) †	34.7	(0.9) †	46.9	(1.0) †	7.8	(0.6) †	5.9	(0.4) †	27.0	(1.0) †	57.4	(1.2) †	9.6	(0.7) †
	Croatia	3.5	(0.4) †	9.4	(0.6) †	54.1	(1.0) †	33.0	(1.0) †	4.3	(0.5) †	13.2	(0.6) †	55.9	(1.0) †	26.6	(0.9) †
	Cyprus	10.6	(0.8) ‡	24.2	(1.0) ‡	39.5	(1.3) ‡	25.6	(1.3) ‡	9.0	(0.7) ‡	25.8	(1.1) ‡	40.7	(1.2) ‡	24.6	(1.0) ‡
	Dominican Republic	13.4	(1.1) ‡	23.5	(1.3) ‡	36.3	(1.5) ‡	26.9	(1.7) ‡	9.6	(0.9) ‡	24.1	(1.6) ‡	38.3	(1.6) ‡	28.0	(1.4) ‡
	El Salvador	9.7	(0.9) †	17.9	(1.1) †	55.8	(1.3) †	16.6	(1.0) †	7.8	(0.7) †	17.8	(1.2) †	56.0	(1.4) †	18.4	(1.3) †
	Georgia	11.9	(0.7) ‡	24.5	(0.9) ‡	43.4	(1.3) ‡	20.2	(0.9) ‡	11.6	(0.8) ‡	27.4	(1.2) ‡	42.9	(1.2) ‡	18.1	(0.9) ‡
	Guatemala	10.7	(0.7) ‡	19.7	(0.8) ‡	45.7	(1.2) ‡	24.0	(1.2) ‡	8.9	(0.6) ‡	16.3	(1.0) ‡	49.0	(1.4) ‡	25.7	(1.2) ‡
	Hong Kong (China)*	7.6	(0.7)	22.8	(0.8)	54.9	(1.0)	14.7	(0.7)	9.8	(0.7)	32.2	(0.9)	46.8	(1.0)	11.3	(0.7)
	Indonesia	7.6	(0.6)	33.7	(0.9)	51.0	(1.0)	7.8	(0.5)	5.5	(0.5)	28.3	(0.9)	58.4	(1.0)	7.8	(0.5)
	Jamaica*	10.6	(1.0) ‡	24.2	(1.8) ‡	44.8	(1.7) ‡	20.4	(1.5) ‡	12.0	(1.2) ‡	22.7	(1.4) ‡	48.3	(2.1) ‡	17.1	(1.5) ‡
	Jordan	15.7	(0.8) †	24.6	(1.0) †	42.3	(1.3) †	17.4	(1.0) †	14.9	(1.0) †	27.5	(1.1) †	41.1	(1.1) †	16.5	(1.0) †
	Kazakhstan	5.6	(0.3)	16.5	(0.6)	56.9	(0.7)	20.9	(0.6)	5.3	(0.3)	19.1	(0.6)	57.1	(0.7)	18.6	(0.5)
	Kosovo	10.0	(0.7) †	28.1	(1.1) †	44.0	(1.2) †	17.9	(1.0) †	10.2	(0.8) †	25.9	(1.1) †	46.1	(1.3) †	17.8	(1.0) †
	Macao (China)	7.2	(0.5)	27.0	(0.9)	48.6	(1.0)	17.3	(0.7)	7.5	(0.6)	34.4	(1.1)	44.4	(1.1)	13.8	(0.7)
	Malaysia	7.5	(0.5) †	32.4	(0.9) †	47.8	(0.9) †	12.4	(0.9) †	7.8	(0.6) †	32.8	(1.0) †	48.1	(0.9) †	11.3	(0.7) †
	Malta	9.0	(0.8) †	23.0	(1.2) †	47.2	(1.4) †	20.7	(1.1) †	8.6	(0.8) †	22.1	(1.1) †	47.6	(1.3) †	21.7	(1.2) †
	Moldova	6.0	(0.4)	26.3	(1.1)	49.7	(1.2)	18.0	(0.9)	6.5	(0.6) †	29.2	(1.1) †	48.6	(1.2) †	15.7	(0.8) †
	Mongolia	8.2	(0.5)	24.3	(0.9)	50.3	(0.9)	17.2	(0.7)	7.5	(0.5)	26.0	(0.8)	49.2	(0.9)	17.2	(0.8)
	Montenegro	9.2	(0.7) †	33.0	(1.1) †	37.8	(1.1) †	20.0	(0.8) †	10.7	(0.8) †	31.4	(1.2) †	38.5	(1.1) †	19.5	(0.9) †
	Morocco	19.7	(1.0) ‡	26.7	(1.3) ‡	40.0	(1.4) ‡	13.6	(0.8) ‡	16.8	(0.9) ‡	28.6	(1.1) ‡	41.5	(1.3) ‡	13.0	(0.9) ‡
	North Macedonia	7.9	(0.6) †	23.9	(0.9) †	48.0	(1.1) †	20.2	(0.9) †	6.7	(0.5) †	22.7	(0.9) †	50.9	(1.1) †	19.7	(0.9) †
	Palestinian Authority	15.2	(0.7) †	25.8	(1.0) †	43.9	(0.9) †	15.1	(0.7) †	13.5	(0.8) †	27.4	(0.9) †	43.8	(0.9) †	15.2	(0.7) †
	Panama*	7.3	(1.1) ‡	12.1	(1.8) ‡	53.2	(2.6) ‡	27.4	(2.1) ‡	4.8	(0.8) ‡	11.9	(1.5) ‡	53.1	(2.1) ‡	30.3	(2.0) ‡
	Paraguay	8.7	(0.8) †	20.6	(1.0) †	51.9	(1.2) †	18.7	(1.0) †	7.6	(0.6) †	18.5	(0.9) †	56.0	(1.0) †	17.9	(0.9) †
	Peru	7.4	(0.6) ‡	20.4	(1.2) ‡	53.9	(1.2) ‡	18.3	(1.2) ‡	5.9	(0.6) ‡	19.8	(1.1) ‡	55.7	(1.3) ‡	18.6	(1.0) ‡
	Philippines	8.9	(0.6) †	30.0	(1.0) †	51.9	(1.0) †	9.2	(0.6) †	8.2	(0.6) †	27.0	(0.9) †	55.3	(1.1) †	9.6	(0.6) †
	Qatar	8.1	(0.6) †	19.0	(0.9) †	46.9	(1.3) †	26.0	(1.1) †	8.8	(0.6) †	23.8	(1.1) †	44.9	(1.2) †	22.6	(1.2) †
	Romania	9.0	(0.6) †	22.5	(0.9) †	48.1	(1.0) †	20.4	(0.8) †	8.9	(0.6) †	24.7	(0.9) †	46.9	(1.1) †	19.5	(0.8) †
	Saudi Arabia	9.6	(0.8) †	21.4	(1.0) †	43.8	(1.2) †	25.2	(1.0) †	10.1	(0.7) †	21.3	(1.0) †	43.5	(1.1) †	25.0	(1.1) †
	Serbia	10.5	(0.7) †	27.7	(1.1) †	44.6	(1.2) †	17.2	(0.9) †	10.4	(0.6) †	28.6	(0.9) †	45.0	(1.1) †	16.0	(0.9) †
	Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chinese Taipei	8.0	(0.7)	24.4	(1.0)	48.4	(1.5)	19.3	(1.1)	10.9	(0.9)	36.7	(1.3)	38.8	(1.4)	13.7	(0.8)
	Thailand	8.1	(0.5)	35.5	(1.0)	46.0	(1.1)	10.3	(0.7)	8.0	(0.5)	37.5	(1.2)	44.8	(1.2)	9.7	(0.5)
	Ukrainian regions (18 of 27)	5.0	(0.7) †	18.5	(1.3) †	53.9	(1.5) †	22.6	(1.4) †	5.2	(0.8) †	24.3	(1.2) †	52.1	(1.8) †	18.4	(1.2) †
	United Arab Emirates	5.2	(0.4) †	15.6	(0.4) †	45.5	(0.7) †	33.7	(0.7) †	5.6	(0.2) †	19.1	(0.5) †	46.5	(0.5) †	28.8	(0.6) †
	Uruguay	9.0	(0.7) ‡	24.5	(1.0) ‡	47.1	(1.2) ‡	19.3	(1.0) ‡	9.4	(0.8) ‡	22.4	(1.1) ‡	49.1	(1.3) ‡	19.1	(0.9) ‡
	Uzbekistan	10.3	(0.9) ‡	22.1	(1.0) ‡	44.8	(1.5) ‡	22.7	(1.2) ‡	9.3	(0.8) ‡	21.5	(1.2) ‡	47.3	(1.6) ‡	21.9	(1.2) ‡
	Viet Nam	4.3	(0.3)	26.0	(0.8)	54.4	(0.8)	15.2	(0.7)	4.9	(0.4)	34.4	(0.7)	48.4	(0.8)	12.3	(0.6)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.5. Confidence in capacity for self-directed learning [5/8]

Based on students' reports

	Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
	Motivating myself to do school work								Focusing on school work without reminders							
	Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD Australia*	13.3	(0.5)	32.3	(0.8)	41.8	(0.8)	12.5	(0.5)	10.2	(0.4)	29.1	(0.7)	45.7	(0.7)	15.0	(0.5)
Austria	10.4	(0.6) †	25.8	(0.9) †	41.6	(1.0) †	22.3	(1.0) †	9.6	(0.7) †	20.7	(0.9) †	44.0	(1.1) †	25.7	(1.0) †
Belgium	15.3	(0.8) †	32.8	(0.9) †	40.9	(0.9) †	11.0	(0.6) †	12.3	(0.7) †	29.0	(1.0) †	45.9	(1.0) †	12.9	(0.8) †
Canada*	17.2	(0.6) †	31.4	(0.7) †	38.9	(0.7) †	12.5	(0.5) †	12.4	(0.5) †	27.4	(0.7) †	43.7	(0.7) †	16.5	(0.6) †
Chile	11.3	(0.8) †	25.4	(1.3) †	45.7	(1.7) †	17.6	(1.0) †	10.8	(0.8) †	23.5	(1.0) †	46.1	(1.4) †	19.6	(1.2) †
Colombia	3.1	(0.4) †	14.5	(0.8) †	62.1	(1.2) †	20.3	(0.9) †	3.8	(0.4) †	13.3	(0.9) †	61.4	(1.0) †	21.5	(0.9) †
Costa Rica	9.0	(0.5)	21.4	(0.8)	49.4	(1.0)	20.2	(0.8)	7.8	(0.6)	20.7	(0.8)	48.7	(1.1)	22.9	(1.0)
Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Estonia	10.2	(0.6)	33.6	(1.1)	43.1	(1.1)	13.2	(0.7)	7.6	(0.5)	30.4	(1.1)	46.4	(0.9)	15.6	(0.6)
Finland	8.7	(0.6) †	27.8	(0.9) †	46.2	(0.8) †	17.2	(0.8) †	6.9	(0.5) †	23.7	(0.8) †	49.3	(0.9) †	20.1	(0.8) †
France	10.9	(0.7) †	24.0	(0.9) †	47.2	(1.1) †	17.9	(0.7) †	9.8	(0.7) †	21.7	(1.0) †	48.8	(1.1) †	19.7	(0.8) †
Germany	13.3	(0.9) ‡	27.4	(1.2) ‡	40.1	(1.2) ‡	19.2	(1.0) ‡	10.9	(0.8) ‡	23.6	(1.1) ‡	40.1	(1.3) ‡	25.5	(1.1) ‡
Greece	14.4	(0.6)	33.8	(0.8)	31.7	(1.0)	20.1	(0.8)	13.4	(0.7)	35.3	(0.9)	30.8	(0.9)	20.5	(0.8)
Hungary	8.6	(0.6) †	29.7	(0.9) †	44.9	(1.0) †	16.8	(0.9) †	8.6	(0.7) †	28.3	(1.0) †	45.2	(1.2) †	17.8	(0.9) †
Iceland	7.6	(0.7) †	18.7	(1.2) †	55.5	(1.6) †	18.3	(1.3) †	7.2	(0.8) †	22.3	(1.4) †	53.3	(1.8) †	17.1	(1.3) †
Ireland*	16.7	(0.7)	35.3	(0.9)	38.5	(0.9)	9.4	(0.6)	12.4	(0.6)	30.0	(0.9)	45.0	(1.0)	12.7	(0.7)
Israel	21.5	(1.0)	30.3	(1.2)	30.9	(1.0)	17.4	(0.9)	18.1	(0.9)	29.4	(1.1)	33.3	(1.0)	19.2	(0.8)
Italy	10.7	(0.6)	31.0	(0.7)	46.4	(1.0)	11.9	(0.5)	6.2	(0.4)	19.6	(0.8)	54.4	(1.0)	19.8	(0.8)
Japan	26.1	(1.0)	40.0	(1.2)	25.0	(0.9)	8.9	(0.6)	24.5	(1.0)	39.0	(1.0)	27.1	(1.0)	9.4	(0.5)
Korea	14.7	(0.9)	28.3	(1.0)	40.8	(1.2)	16.1	(0.9)	15.4	(0.9)	30.2	(1.5)	38.2	(1.3)	16.2	(1.4)
Latvia*	14.5	(0.8) †	34.5	(1.2) †	40.0	(1.2) †	11.1	(0.7) †	8.3	(0.6) †	32.8	(1.0) †	44.0	(1.1) †	14.8	(0.8) †
Lithuania	8.5	(0.5) †	28.7	(1.1) †	45.1	(1.2) †	17.7	(0.8) †	7.8	(0.5) †	26.4	(0.8) †	47.6	(1.0) †	18.2	(0.8) †
Mexico	7.0	(0.6) †	20.8	(0.8) †	46.5	(1.0) †	25.8	(0.9) †	6.8	(0.6) †	19.8	(1.1) †	45.8	(1.2) †	27.5	(1.2) †
Netherlands*	16.3	(0.6) †	33.6	(1.1) †	41.6	(1.1) †	8.5	(0.6) †	10.8	(0.7) †	29.8	(1.0) †	49.3	(1.0) †	10.2	(0.7) †
New Zealand*	16.1	(0.9) †	32.6	(1.2) †	41.1	(1.3) †	10.2	(0.7) †	12.0	(0.8) †	29.2	(1.0) †	45.7	(1.1) †	13.0	(0.9) †
Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Poland	17.9	(0.8)	38.0	(0.9)	33.4	(1.0)	10.7	(0.7)	13.7	(0.6)	35.8	(1.1)	37.3	(1.0)	13.2	(0.7)
Portugal	7.2	(0.5) †	27.1	(0.9) †	51.1	(1.0) †	14.5	(0.7) †	7.2	(0.5) †	25.4	(0.8) †	51.7	(0.9) †	15.8	(0.8) †
Slovak Republic	11.4	(0.8) †	28.7	(0.9) †	47.4	(1.2) †	12.5	(0.8) †	9.0	(0.6) †	26.7	(1.0) †	49.7	(1.1) †	14.6	(0.8) †
Slovenia	14.0	(0.8)	33.3	(1.0)	42.3	(1.1)	10.3	(0.7)	9.4	(0.6)	30.3	(1.1)	47.6	(1.3)	12.7	(0.7)
Spain	9.9	(0.4) †	27.1	(0.6) †	47.5	(0.7) †	15.5	(0.5) †	6.2	(0.3) †	20.0	(0.6) †	50.0	(0.7) †	23.8	(0.5) †
Sweden	9.7	(0.8) †	30.5	(1.1) †	42.4	(1.3) †	17.5	(0.8) †	8.5	(0.6) †	25.3	(1.0) †	45.9	(1.1) †	20.3	(0.8) †
Switzerland	8.8	(0.8) ‡	26.4	(1.3) ‡	44.4	(1.2) ‡	20.4	(1.0) ‡	6.6	(0.7) ‡	23.4	(1.1) ‡	47.9	(1.0) ‡	22.2	(1.0) ‡
Türkiye	12.8	(0.6)	25.7	(0.8)	45.3	(1.0)	16.3	(0.7)	12.3	(0.7)	25.6	(0.8)	45.3	(0.7)	16.7	(0.6)
United Kingdom*	20.3	(1.0) †	32.7	(1.1) †	38.0	(1.0) †	9.0	(0.6) †	15.3	(1.0) †	30.9	(1.2) †	43.1	(1.2) †	10.7	(0.8) †
United States*	15.1	(0.7)	30.3	(1.2)	40.1	(1.2)	14.5	(0.8)	13.0	(0.8)	28.6	(1.0)	43.4	(1.2)	15.0	(0.8)
OECD average	12.7	(0.1)	29.2	(0.2)	42.9	(0.2)	15.2	(0.1)	10.4	(0.1)	26.7	(0.2)	45.3	(0.2)	17.5	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.5. Confidence in capacity for self-directed learning [6/8]

Based on students' reports

	Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
	Motivating myself to do school work								Focusing on school work without reminders							
	Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																
Albania	7.5	(0.8) ‡	23.1	(1.2) ‡	43.7	(1.3) ‡	25.7	(1.2) ‡	7.3	(0.7) ‡	21.0	(1.2) ‡	45.2	(1.2) ‡	26.6	(1.2) ‡
Argentina	13.0	(0.7) ‡	25.7	(1.2) ‡	44.3	(1.3) ‡	17.0	(1.0) ‡	10.1	(0.8) ‡	24.1	(1.2) ‡	47.3	(1.3) ‡	18.5	(0.9) ‡
Baku (Azerbaijan)	8.4	(0.8) ‡	22.2	(1.4) ‡	51.2	(1.6) ‡	18.2	(1.3) ‡	8.5	(0.9) ‡	22.0	(1.1) ‡	48.7	(1.5) ‡	20.8	(1.1) ‡
Brazil	15.6	(0.7) †	32.4	(0.7) †	42.5	(0.9) †	9.5	(0.5) †	15.2	(0.6) †	35.2	(0.8) †	39.5	(0.9) †	10.1	(0.5) †
Brunei Darussalam	13.8	(0.7) †	40.7	(1.1) †	38.3	(1.0) †	7.3	(0.6) †	11.1	(0.7) †	43.3	(1.1) †	37.8	(1.1) †	7.7	(0.6) †
Bulgaria	10.0	(0.7) †	24.2	(0.9) †	44.4	(1.3) †	21.4	(1.1) †	9.1	(0.6) †	25.7	(1.1) †	45.3	(1.3) †	20.0	(1.0) †
Cambodia	5.2	(0.5) †	19.7	(0.9) †	63.1	(1.5) †	12.0	(1.0) †	7.7	(0.5) †	29.0	(1.1) †	52.9	(1.4) †	10.4	(0.9) †
Croatia	6.9	(0.5) †	20.7	(0.8) †	51.9	(1.0) †	20.5	(0.7) †	5.4	(0.5) †	18.5	(0.9) †	52.8	(1.1) †	23.3	(1.0) †
Cyprus	12.1	(0.8) ‡	30.4	(1.1) ‡	38.5	(1.2) ‡	18.9	(0.9) ‡	10.3	(0.7) ‡	28.2	(1.2) ‡	38.5	(1.2) ‡	23.0	(1.1) ‡
Dominican Republic	10.8	(1.1) ‡	23.2	(1.1) ‡	39.0	(1.4) ‡	27.0	(1.6) ‡	9.7	(1.2) ‡	21.7	(1.3) ‡	38.8	(1.5) ‡	29.9	(1.5) ‡
El Salvador	7.5	(0.7) †	15.8	(1.1) †	57.5	(1.2) †	19.1	(1.1) †	7.7	(0.7) †	16.6	(1.1) †	57.6	(1.3) †	18.1	(0.8) †
Georgia	11.9	(0.9) ‡	28.5	(1.1) ‡	42.7	(1.1) ‡	16.9	(0.8) ‡	12.4	(0.7) ‡	28.6	(1.2) ‡	40.3	(1.3) ‡	18.7	(0.9) ‡
Guatemala	9.5	(0.8) ‡	14.8	(0.9) ‡	50.0	(1.3) ‡	25.8	(1.2) ‡	8.8	(0.7) ‡	16.3	(0.9) ‡	47.7	(1.4) ‡	27.2	(1.1) ‡
Hong Kong (China)*	12.0	(0.8)	34.9	(1.1)	43.4	(1.2)	9.7	(0.7)	11.8	(0.7)	36.2	(1.1)	41.8	(0.9)	10.2	(0.5)
Indonesia	4.7	(0.5)	25.1	(0.9)	60.2	(1.0)	10.0	(0.6)	4.9	(0.5)	27.1	(1.0)	58.4	(1.0)	9.6	(0.6)
Jamaica*	15.6	(1.2) ‡	27.9	(1.4) ‡	39.1	(1.7) ‡	17.4	(1.3) ‡	14.5	(1.3) ‡	28.0	(1.6) ‡	40.0	(1.9) ‡	17.5	(1.3) ‡
Jordan	11.8	(0.7) †	25.9	(1.0) †	43.9	(1.0) †	18.4	(0.8) †	12.5	(0.8) †	26.8	(1.0) †	41.5	(1.2) †	19.2	(0.9) †
Kazakhstan	5.2	(0.3)	19.3	(0.5)	57.2	(0.7)	18.4	(0.5)	5.6	(0.3)	20.1	(0.6)	55.6	(0.8)	18.7	(0.6)
Kosovo	9.6	(0.8) †	27.2	(1.0) †	45.7	(1.2) †	17.6	(0.9) †	10.2	(0.7) †	26.6	(1.0) †	45.6	(1.3) †	17.6	(1.0) †
Macao (China)	9.7	(0.7)	35.8	(1.1)	42.4	(0.9)	12.0	(0.7)	9.6	(0.6)	36.9	(0.9)	41.3	(0.8)	12.2	(0.6)
Malaysia	8.3	(0.5)	34.3	(0.9)	46.5	(1.0)	11.0	(0.7)	8.3	(0.5) †	37.1	(0.9) †	43.3	(1.0) †	11.4	(0.7) †
Malta	16.1	(1.0) †	31.7	(1.2) †	37.4	(1.3) †	14.7	(1.1) †	11.3	(0.9) †	29.2	(1.4) †	43.4	(1.4) †	16.2	(1.2) †
Moldova	6.7	(0.6) †	28.2	(1.1) †	49.4	(1.0) †	15.7	(0.8) †	6.0	(0.5) †	28.8	(0.9) †	49.0	(1.0) †	16.2	(0.8) †
Mongolia	7.7	(0.5)	28.7	(0.8)	48.1	(1.0)	15.4	(0.7)	7.5	(0.5)	26.7	(0.9)	49.4	(1.0)	16.4	(0.8)
Montenegro	11.1	(0.7) †	34.8	(1.1) †	37.5	(1.2) †	16.7	(0.9) †	9.7	(0.7) †	31.7	(1.0) †	39.2	(1.1) †	19.4	(0.8) †
Morocco	17.1	(1.0) ‡	25.9	(1.3) ‡	40.9	(1.1) ‡	16.1	(0.8) ‡	16.3	(0.8) ‡	27.3	(1.2) ‡	42.0	(1.4) ‡	14.3	(1.0) ‡
North Macedonia	6.6	(0.5) †	24.5	(1.1) †	49.7	(1.2) †	19.2	(0.9) †	6.8	(0.6) †	24.8	(1.0) †	48.2	(1.1) †	20.2	(0.9) †
Palestinian Authority	11.2	(0.6) †	24.2	(1.0) †	48.6	(1.0) †	16.0	(0.8) †	10.4	(0.6) †	26.9	(1.0) †	47.0	(1.0) †	15.8	(0.7) †
Panama*	5.5	(1.1) ‡	15.4	(1.8) ‡	55.8	(2.0) ‡	23.3	(1.8) ‡	5.9	(1.3) ‡	12.7	(1.5) ‡	55.9	(2.5) ‡	25.4	(2.1) ‡
Paraguay	8.2	(0.6) †	20.3	(0.9) †	51.4	(1.1) †	20.2	(0.8) †	8.1	(0.6) †	19.9	(0.9) †	51.2	(1.3) †	20.7	(0.9) †
Peru	7.2	(0.8) ‡	21.3	(1.1) ‡	53.7	(1.3) ‡	17.7	(1.1) ‡	7.2	(0.6) ‡	21.9	(1.1) ‡	51.4	(1.3) ‡	19.5	(1.1) ‡
Philippines	7.7	(0.6) †	24.2	(0.8) †	56.4	(1.1) †	11.8	(0.7) †	7.9	(0.5) †	31.8	(1.0) †	50.6	(1.0) †	9.7	(0.5) †
Qatar	9.1	(0.7) †	26.1	(1.2) †	43.6	(1.2) †	21.2	(1.0) †	9.7	(0.7) †	27.0	(1.1) †	41.5	(1.1) †	21.7	(1.1) †
Romania	10.0	(0.6) †	24.9	(0.9) †	47.5	(1.1) †	17.6	(0.8) †	10.0	(0.6) †	25.2	(0.9) †	48.4	(1.0) †	16.4	(0.8) †
Saudi Arabia	7.6	(0.6) †	18.6	(0.9) †	44.7	(1.0) †	29.0	(1.0) †	8.2	(0.6) †	19.2	(0.8) †	45.7	(1.1) †	26.9	(1.0) †
Serbia	15.1	(0.8) †	30.8	(0.9) †	41.6	(1.1) †	12.5	(0.9) †	12.0	(0.6) †	29.1	(1.0) †	43.7	(1.1) †	15.2	(0.8) †
Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chinese Taipei	9.5	(0.8)	37.9	(1.1)	40.0	(1.2)	12.7	(0.9)	11.3	(0.7)	43.4	(1.2)	33.6	(1.3)	11.7	(0.8)
Thailand	8.8	(0.6)	36.1	(1.1)	45.9	(1.0)	9.3	(0.7)	8.3	(0.6)	40.5	(1.1)	41.7	(0.9)	9.5	(0.6)
Ukrainian regions (18 of 27)	7.3	(0.8) †	28.2	(1.7) †	48.6	(1.3) †	15.9	(1.3) †	6.0	(0.7) †	26.9	(1.5) †	52.2	(1.5) †	14.9	(1.2) †
United Arab Emirates	8.1	(0.4) †	22.9	(0.6) †	43.8	(0.6) †	25.3	(0.5) †	7.3	(0.3) †	21.0	(0.5) †	45.6	(0.6) †	26.1	(0.5) †
Uruguay	11.9	(0.8) ‡	27.9	(1.2) ‡	45.5	(1.3) ‡	14.8	(1.0) ‡	10.0	(0.8) ‡	23.4	(1.1) ‡	49.4	(1.2) ‡	17.1	(1.0) ‡
Uzbekistan	9.3	(0.9) ‡	22.2	(1.2) ‡	44.6	(1.4) ‡	23.9	(1.1) ‡	8.2	(0.8) ‡	20.5	(1.1) ‡	48.7	(1.4) ‡	22.6	(1.3) ‡
Viet Nam	4.5	(0.3)	29.8	(0.8)	53.9	(0.8)	11.8	(0.6)	4.7	(0.3)	30.6	(0.8)	52.8	(0.8)	11.9	(0.5)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.5. Confidence in capacity for self-directed learning [7/8]

Based on students' reports

		Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
		Completing school work independently								Assessing my progress with learning							
		Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	7.6	(0.4)	17.5	(0.6)	53.8	(0.7)	21.1	(0.6)	7.8	(0.4)	23.9	(0.7)	52.2	(0.8)	16.0	(0.5)
	Austria	7.1	(0.5) †	15.9	(0.8) †	43.5	(1.1) †	33.4	(1.1) †	7.9	(0.5) †	21.1	(0.9) †	44.9	(1.0) †	26.2	(1.0) †
	Belgium	8.3	(0.6) †	20.6	(0.7) †	52.8	(0.9) †	18.4	(0.8) †	12.1	(0.6) †	30.6	(0.9) †	43.3	(1.0) †	14.0	(0.8) †
	Canada*	8.7	(0.4) †	18.4	(0.6) †	50.7	(0.7) †	22.3	(0.6) †	9.3	(0.4) †	22.7	(0.6) †	50.6	(0.7) †	17.3	(0.6) †
	Chile	10.0	(0.8) †	21.7	(1.0) †	47.4	(1.4) †	20.8	(1.2) †	10.6	(0.7) †	24.9	(0.9) †	44.6	(1.3) †	19.8	(1.0) †
	Colombia	2.8	(0.3) †	11.9	(0.6) †	60.2	(1.0) †	25.0	(1.0) †	3.2	(0.4) †	13.0	(0.7) †	59.8	(0.9) †	24.1	(0.8) †
	Costa Rica	7.0	(0.5)	20.7	(1.0)	48.0	(1.1)	24.3	(1.1)	9.2	(0.6)	21.7	(0.7)	48.3	(1.0)	20.8	(0.9)
	Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	4.9	(0.4)	21.4	(0.8)	54.0	(0.9)	19.7	(0.7)	5.5	(0.5)	26.3	(0.9)	51.4	(1.1)	16.8	(0.8)
	Finland	5.3	(0.4) †	17.3	(0.8) †	54.1	(1.0) †	23.3	(0.9) †	5.5	(0.4) †	22.8	(0.9) †	51.4	(1.0) †	20.4	(0.8) †
	France	6.9	(0.5) †	13.4	(0.7) †	53.1	(1.1) †	26.6	(1.0) †	7.3	(0.5) †	23.8	(1.1) †	49.3	(1.2) †	19.6	(1.0) †
	Germany	8.0	(0.7) ‡	15.9	(0.9) ‡	45.7	(1.1) ‡	30.4	(1.0) ‡	11.5	(0.8) ‡	31.0	(1.0) ‡	40.6	(1.1) ‡	16.8	(0.8) ‡
	Greece	9.6	(0.5)	29.2	(1.0)	35.1	(0.9)	26.1	(0.8)	11.0	(0.6) †	30.1	(1.0) †	34.5	(1.0) †	24.4	(0.8) †
	Hungary	5.0	(0.5) †	19.1	(0.9) †	53.9	(1.2) †	22.1	(0.9) †	7.0	(0.5) †	23.6	(0.8) †	49.7	(1.0) †	19.7	(0.8) †
	Iceland	8.3	(0.9) †	17.3	(1.1) †	56.3	(1.5) †	18.1	(1.3) †	7.3	(0.8) †	17.4	(1.1) †	56.1	(1.7) †	19.3	(1.4) †
	Ireland*	8.3	(0.5)	17.0	(0.8)	56.3	(1.0)	18.4	(0.8)	9.7	(0.5)	25.6	(0.9)	50.5	(1.0)	14.2	(0.7)
	Israel	15.2	(0.9)	24.7	(1.0)	36.4	(1.1)	23.7	(1.0)	14.7	(0.8)	25.7	(1.1)	37.2	(1.0)	22.4	(0.9)
	Italy	4.4	(0.4)	13.8	(0.7)	58.7	(1.0)	23.1	(0.8)	5.6	(0.4)	20.0	(0.7)	56.7	(0.8)	17.6	(0.8)
	Japan	20.2	(0.9)	38.2	(1.0)	32.2	(1.3)	9.4	(0.5)	22.1	(0.9)	43.2	(1.0)	26.5	(0.9)	8.2	(0.5)
	Korea	17.2	(1.0)	30.1	(1.0)	37.0	(1.3)	15.7	(1.0)	15.1	(0.8)	30.4	(1.3)	40.2	(1.3)	14.3	(0.9)
	Latvia*	7.2	(0.6) †	26.7	(1.1) †	49.6	(1.3) †	16.5	(0.8) †	7.6	(0.6) †	27.4	(1.1) †	49.0	(1.1) †	16.0	(0.9) †
	Lithuania	5.4	(0.4) †	19.1	(0.8) †	53.3	(1.1) †	22.1	(0.9) †	6.4	(0.5) †	21.2	(0.9) †	52.4	(1.1) †	20.1	(0.8) †
	Mexico	6.5	(0.5) †	18.5	(0.8) †	46.9	(1.1) †	28.2	(1.2) †	6.6	(0.6) †	21.1	(0.9) †	47.8	(1.0) †	24.5	(1.0) †
	Netherlands*	9.0	(0.6) †	20.9	(0.9) †	55.7	(0.9) †	14.4	(0.7) †	9.9	(0.8) †	28.1	(1.0) †	51.8	(1.1) †	10.3	(0.6) †
	New Zealand*	8.0	(0.6) †	19.4	(0.8) †	55.9	(1.1) †	16.6	(0.8) †	8.7	(0.7) †	25.7	(1.0) †	52.0	(1.3) †	13.5	(0.9) †
	Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Poland	14.0	(0.7)	29.8	(1.0)	42.2	(1.0)	14.0	(0.6)	11.9	(0.6)	33.1	(0.9)	40.5	(1.0)	14.5	(0.7)
	Portugal	4.0	(0.4)	14.4	(0.7)	60.5	(0.9)	21.2	(0.9)	5.2	(0.4)	20.8	(0.9)	57.1	(1.0)	17.0	(0.7)
	Slovak Republic	9.9	(0.6) †	21.1	(0.9) †	53.5	(1.3) †	15.5	(0.9) †	10.0	(0.6) †	23.8	(1.0) †	50.1	(1.1) †	16.1	(0.8) †
	Slovenia	7.2	(0.6)	23.3	(0.9)	53.9	(1.0)	15.6	(0.8)	9.4	(0.7)	30.5	(1.1)	47.1	(1.3)	13.0	(0.8)
	Spain	4.6	(0.3) †	16.2	(0.5) †	52.6	(0.6) †	26.6	(0.7) †	7.1	(0.3) †	22.1	(0.5) †	51.2	(0.7) †	19.5	(0.5) †
	Sweden	6.5	(0.5) †	18.0	(0.9) †	50.9	(1.1) †	24.7	(0.9) †	9.9	(0.6) †	30.0	(1.0) †	43.3	(1.1) †	16.8	(0.8) †
	Switzerland	5.3	(0.6) ‡	17.5	(0.9) ‡	47.6	(1.0) ‡	29.6	(1.2) ‡	8.2	(0.7) ‡	25.6	(1.1) ‡	47.3	(1.2) ‡	19.0	(1.0) ‡
	Türkiye	10.6	(0.7)	21.4	(0.8)	48.7	(1.1)	19.3	(0.8)	11.2	(0.6)	21.7	(0.8)	48.0	(1.1)	19.1	(0.7)
	United Kingdom*	9.4	(0.7) †	20.5	(0.9) †	56.1	(0.9) †	14.0	(0.6) †	12.9	(0.8) †	28.4	(0.9) †	47.0	(1.2) †	11.7	(0.6) †
	United States*	8.3	(0.6)	17.3	(0.7)	53.2	(1.3)	21.1	(1.0)	9.2	(0.6)	21.9	(0.8)	50.6	(1.2)	18.3	(1.0)
	OECD average	8.3	(0.1)	20.2	(0.1)	50.3	(0.2)	21.2	(0.2)	9.3	(0.1)	25.3	(0.2)	47.7	(0.2)	17.7	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.5. Confidence in capacity for self-directed learning [8/8]

Based on students' reports

		Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
		Completing school work independently								Assessing my progress with learning							
		Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	7.5	(0.7) ‡	19.5	(1.0) ‡	42.0	(1.2) ‡	31.1	(1.2) ‡	7.6	(0.7) ‡	19.7	(1.1) ‡	42.3	(1.5) ‡	30.4	(1.5) ‡
	Argentina	7.9	(0.7) ‡	22.0	(1.1) ‡	48.0	(1.3) ‡	22.1	(1.2) ‡	10.6	(0.8) ‡	24.8	(1.1) ‡	44.4	(1.1) ‡	20.2	(1.1) ‡
	Baku (Azerbaijan)	8.1	(0.9) ‡	19.8	(1.2) ‡	48.3	(1.7) ‡	23.8	(1.5) ‡	7.4	(0.9) ‡	19.8	(1.3) ‡	47.4	(1.6) ‡	25.4	(1.4) ‡
	Brazil	13.1	(0.7) †	32.1	(0.8) †	43.3	(0.8) †	11.6	(0.6) †	13.4	(0.6) †	30.1	(0.8) †	43.3	(0.8) †	13.1	(0.6) †
	Brunei Darussalam	7.6	(0.6) †	38.3	(1.1) †	45.3	(1.2) †	8.7	(0.6) †	8.1	(0.6) †	38.3	(1.0) †	45.3	(1.1) †	8.3	(0.6) †
	Bulgaria	7.6	(0.7) †	20.8	(1.1) †	47.8	(1.2) †	23.9	(0.9) †	8.0	(0.6) †	22.8	(1.1) †	45.8	(1.3) †	23.4	(1.0) †
	Cambodia	7.8	(0.7) †	24.6	(0.9) †	56.7	(1.1) †	10.8	(0.7) †	5.6	(0.5) †	29.1	(1.1) †	53.5	(1.1) †	11.8	(0.7) †
	Croatia	3.7	(0.4) †	10.2	(0.6) †	57.8	(1.0) †	28.2	(0.9) †	3.8	(0.4) †	14.9	(0.7) †	58.1	(1.0) †	23.2	(0.9) †
	Cyprus	10.3	(0.8) ‡	23.3	(0.9) ‡	41.3	(1.2) ‡	25.2	(1.2) ‡	10.8	(0.8) ‡	23.8	(1.1) ‡	40.1	(1.2) ‡	25.4	(1.1) ‡
	Dominican Republic	8.3	(1.0) ‡	20.8	(1.3) ‡	38.7	(1.6) ‡	32.1	(1.6) ‡	9.5	(1.0) ‡	19.1	(1.2) ‡	39.5	(1.4) ‡	31.9	(1.4) ‡
	El Salvador	7.2	(0.6) †	15.0	(1.0) †	56.8	(1.3) †	21.0	(1.1) †	7.3	(0.7) †	14.8	(0.9) †	57.8	(1.3) †	20.2	(1.0) †
	Georgia	11.5	(0.8) ‡	24.6	(1.0) ‡	43.0	(1.4) ‡	20.9	(1.1) ‡	11.4	(0.8) ‡	25.9	(1.2) ‡	42.6	(1.2) ‡	20.2	(1.0) ‡
	Guatemala	8.2	(0.7) ‡	13.7	(1.1) ‡	49.9	(1.5) ‡	28.2	(1.4) ‡	9.2	(0.7) ‡	17.2	(1.2) ‡	49.4	(1.3) ‡	24.3	(1.0) ‡
	Hong Kong (China)*	7.2	(0.6)	21.0	(0.7)	57.6	(1.0)	14.1	(0.6)	9.1	(0.6)	35.5	(1.0)	45.6	(1.0)	9.9	(0.6)
	Indonesia	4.3	(0.4)	23.9	(0.9)	60.6	(0.9)	11.1	(0.5)	5.0	(0.4)	25.0	(0.9)	58.5	(1.0)	11.5	(0.6)
	Jamaica*	11.3	(1.2) ‡	18.4	(1.6) ‡	49.2	(1.7) ‡	21.1	(1.5) ‡	10.0	(1.3) ‡	21.8	(1.7) ‡	49.2	(1.5) ‡	19.0	(1.2) ‡
	Jordan	12.6	(0.8) †	23.1	(1.0) †	41.7	(1.0) †	22.6	(1.1) †	12.4	(0.7) †	22.2	(1.0) †	41.8	(1.3) †	23.6	(0.9) †
	Kazakhstan	4.8	(0.3)	16.3	(0.6)	57.8	(0.7)	21.1	(0.6)	4.9	(0.3)	16.2	(0.4)	58.0	(0.7)	20.9	(0.6)
	Kosovo	7.9	(0.7) †	24.3	(1.1) †	45.4	(1.3) †	22.5	(1.1) †	8.3	(0.6) †	24.1	(1.0) †	45.7	(1.1) †	21.9	(1.1) †
	Macao (China)	6.5	(0.5)	27.3	(1.0)	49.0	(1.0)	17.1	(0.8)	9.0	(0.6)	34.0	(1.0)	44.6	(1.0)	12.4	(0.6)
	Malaysia	7.8	(0.5)	43.4	(1.1)	39.5	(0.9)	9.2	(0.6)	7.5	(0.5) †	35.3	(1.0) †	47.0	(0.9) †	10.2	(0.6) †
	Malta	8.4	(0.9) †	19.7	(1.0) †	49.6	(1.2) †	22.3	(1.2) †	9.1	(0.8) †	23.9	(1.1) †	48.4	(1.3) †	18.6	(1.2) †
	Moldova	6.2	(0.5) †	27.2	(1.0) †	49.7	(1.0) †	16.9	(0.8) †	6.3	(0.5)	25.0	(0.9)	49.7	(1.1)	18.9	(0.9)
	Mongolia	6.4	(0.5)	24.3	(0.8)	51.1	(0.9)	18.2	(0.7)	7.6	(0.5)	26.4	(0.9)	48.9	(0.9)	17.2	(0.8)
	Montenegro	10.1	(0.6) †	28.8	(0.9) †	39.9	(1.0) †	21.2	(0.8) †	9.0	(0.7) †	32.5	(1.2) †	37.8	(1.1) †	20.7	(0.9) †
	Morocco	13.9	(0.9) ‡	26.2	(1.1) ‡	42.3	(1.2) ‡	17.5	(1.0) ‡	14.0	(1.0) ‡	24.1	(1.2) ‡	41.3	(1.4) ‡	20.5	(1.1) ‡
	North Macedonia	5.1	(0.5) †	20.2	(0.9) †	51.5	(1.1) †	23.2	(1.0) †	6.3	(0.6) †	19.7	(0.7) †	50.0	(1.1) †	24.0	(0.9) †
	Palestinian Authority	10.3	(0.6) †	23.4	(0.9) †	47.8	(1.2) †	18.5	(0.8) †	11.1	(0.7) †	22.3	(0.9) †	47.4	(1.1) †	19.2	(0.8) †
	Panama*	4.1	(1.0) ‡	11.5	(1.4) ‡	53.4	(2.1) ‡	30.9	(1.8) ‡	5.3	(0.9) ‡	12.0	(1.6) ‡	54.0	(2.8) ‡	28.7	(2.2) ‡
	Paraguay	8.0	(0.6) †	22.0	(0.8) †	48.6	(1.2) †	21.4	(0.8) †	7.8	(0.5) †	19.0	(0.8) †	52.0	(1.1) †	21.2	(0.9) †
	Peru	6.3	(0.7) ‡	21.7	(1.1) ‡	53.1	(1.3) ‡	19.0	(1.2) ‡	6.1	(0.6) ‡	22.0	(1.1) ‡	53.2	(1.1) ‡	18.6	(1.1) ‡
	Philippines	5.9	(0.5) †	23.5	(0.8) †	57.5	(0.9) †	13.1	(0.7) †	6.3	(0.5) †	23.9	(1.0) †	58.0	(1.1) †	11.8	(0.8) †
	Qatar	8.9	(0.7) †	19.0	(1.0) †	47.6	(1.1) †	24.5	(1.2) †	8.2	(0.6) †	21.6	(1.0) †	47.7	(1.2) †	22.5	(1.1) †
	Romania	8.7	(0.6) †	22.6	(0.8) †	47.7	(0.9) †	21.0	(0.8) †	8.9	(0.6) †	23.0	(0.8) †	48.4	(1.0) †	19.7	(0.7) †
	Saudi Arabia	7.1	(0.6) †	16.0	(0.7) †	44.7	(1.1) †	32.2	(1.1) †	7.9	(0.6) †	15.4	(0.9) †	45.6	(1.1) †	31.1	(1.1) †
	Serbia	10.5	(0.8) †	25.3	(0.9) †	46.6	(1.2) †	17.6	(0.9) †	11.8	(0.6) †	27.6	(0.8) †	43.8	(0.9) †	16.9	(0.8) †
	Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chinese Taipei	7.9	(0.8)	27.4	(1.3)	48.1	(1.4)	16.5	(1.0)	10.0	(0.8)	31.3	(1.3)	44.1	(1.3)	14.6	(0.8)
	Thailand	7.5	(0.5)	33.0	(1.1)	48.5	(1.1)	11.0	(0.7)	8.5	(0.5)	34.9	(1.1)	46.2	(1.0)	10.4	(0.6)
	Ukrainian regions (18 of 27)	5.1	(0.7) †	23.4	(1.4) †	53.3	(1.6) †	18.2	(1.4) †	5.8	(0.8) †	24.0	(1.3) †	51.0	(1.6) †	19.2	(1.4) †
	United Arab Emirates	5.7	(0.3) †	16.2	(0.4) †	47.1	(0.6) †	31.0	(0.5) †	6.1	(0.3) †	17.4	(0.5) †	47.6	(0.7) †	28.9	(0.6) †
	Uruguay	8.0	(0.7) ‡	21.6	(1.3) ‡	49.9	(1.4) ‡	20.6	(1.2) ‡	9.4	(0.8) ‡	25.6	(1.3) ‡	47.9	(1.4) ‡	17.2	(1.2) ‡
	Uzbekistan	8.2	(0.8) ‡	17.7	(1.1) ‡	47.3	(1.6) ‡	26.8	(1.4) ‡	8.9	(0.8) ‡	17.0	(1.0) ‡	46.1	(1.4) ‡	27.9	(1.2) ‡
	Viet Nam	4.5	(0.3)	31.8	(0.8)	52.0	(0.8)	11.7	(0.6)	4.9	(0.3)	35.8	(0.8)	47.6	(0.8)	11.6	(0.5)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.24. Experience with learning at home [1/10]

Based on students' reports

	Index of students' experience with learning at home				Percentage of students who reported the following about the time when their school building was closed because of COVID-19:															
					I felt lonely								I enjoyed learning by myself							
	Average		Variability		Strongly disagree		Disagree		Agree		Strongly agree		Strongly disagree		Disagree		Agree		Strongly agree	
	Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																				
Australia*	0.10	(0.01) †	0.98	(0.01) †	18.6	(0.5)	39.5	(0.8)	29.3	(0.7)	12.5	(0.6)	10.9	(0.4)	25.8	(0.7)	45.9	(0.7)	17.4	(0.6)
Austria	0.02	(0.02) †	1.11	(0.02) †	34.0	(1.1) †	31.0	(0.9) †	23.3	(0.9) †	11.7	(0.9) †	19.5	(1.0) †	28.4	(1.1) †	35.6	(1.1) †	16.5	(0.8) †
Belgium	-0.10	(0.02) ‡	0.93	(0.02) ‡	31.0	(1.2) †	36.4	(1.0) †	24.7	(0.9) †	7.9	(0.6) †	15.5	(0.8) †	25.2	(1.0) †	45.2	(0.9) †	14.1	(0.7) †
Canada*	-0.01	(0.02) †	1.00	(0.01) †	18.5	(0.6) †	31.5	(0.9) †	33.1	(0.8) †	16.9	(0.6) †	16.1	(0.6) †	29.8	(0.7) †	40.7	(0.8) †	13.4	(0.5) †
Chile	0.09	(0.02) ‡	1.04	(0.02) ‡	16.4	(1.1) †	25.2	(1.3) †	31.3	(1.7) †	27.1	(1.4) †	19.5	(1.1) ‡	33.7	(1.3) ‡	34.8	(1.3) ‡	12.0	(0.9) ‡
Colombia	0.33	(0.02) ‡	0.96	(0.02) ‡	16.4	(0.8) †	34.8	(1.2) †	35.8	(1.3) †	13.0	(0.8) †	9.6	(0.6) †	29.8	(1.1) †	49.6	(1.2) †	11.0	(0.7) †
Costa Rica	0.21	(0.02) †	1.03	(0.02) †	19.9	(1.0)	31.0	(1.0)	30.9	(1.2)	18.1	(1.0)	13.2	(0.7)	29.3	(1.0)	42.3	(1.1)	15.2	(0.8)
Czech Republic	-0.05	(0.01) †	0.88	(0.01) †	21.1	(1.0) †	38.0	(1.0) †	29.7	(0.9) †	11.2	(0.7) †	13.8	(0.8) †	36.0	(1.1) †	39.8	(1.2) †	10.4	(0.6) †
Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Estonia	0.13	(0.02) †	0.90	(0.01) †	29.6	(1.1)	36.8	(0.9)	25.8	(0.9)	7.8	(0.6)	10.3	(0.7)	26.0	(1.0)	46.4	(0.9)	17.3	(0.8)
Finland	0.25	(0.02) †	0.99	(0.02) †	36.9	(1.0) †	37.9	(1.0) †	18.8	(0.8) †	6.4	(0.5) †	7.3	(0.6) †	20.3	(0.8) †	48.2	(1.0) †	24.1	(0.8) †
France	-0.08	(0.02) ‡	1.04	(0.02) ‡	37.2	(1.2) †	30.0	(1.2) †	22.0	(0.9) †	10.8	(0.7) †	15.6	(0.9) †	23.0	(1.0) †	44.9	(1.3) †	16.5	(0.8) †
Germany	-0.11	(0.03) ‡	1.03	(0.02) ‡	37.1	(1.3) ‡	31.3	(1.3) ‡	21.8	(1.1) ‡	9.7	(0.8) ‡	21.8	(1.0) ‡	29.6	(1.1) ‡	32.6	(1.2) ‡	16.0	(1.0) ‡
Greece	-0.07	(0.02) †	0.96	(0.02) †	20.8	(0.8)	36.3	(0.9)	30.4	(1.1)	12.6	(0.8)	11.8	(0.7)	33.0	(0.9)	44.0	(1.1)	11.2	(0.7)
Hungary	0.10	(0.02) †	0.99	(0.02) †	34.2	(1.2) †	35.1	(1.2) †	23.1	(1.0) †	7.6	(0.6) †	13.1	(0.9) †	24.9	(1.1) †	45.4	(1.1) †	16.6	(0.8) †
Iceland	0.00	(0.03) ‡	1.09	(0.03) ‡	30.6	(1.6) †	34.8	(1.7) †	26.3	(1.5) †	8.3	(0.9) †	19.8	(1.3) †	28.7	(1.5) †	38.3	(1.7) †	13.2	(1.3) †
Ireland*	-0.08	(0.02) †	0.91	(0.01) †	18.2	(0.9)	38.1	(0.9)	32.6	(1.0)	11.2	(0.7)	15.4	(0.7)	32.0	(0.9)	41.4	(1.0)	11.1	(0.8)
Israel	-0.17	(0.02) †	1.05	(0.01) †	32.6	(1.0)	31.0	(1.0)	24.7	(1.0)	11.7	(0.7)	25.2	(1.1)	31.9	(1.0)	31.5	(1.1)	11.4	(0.7)
Italy	m	m	m	m	17.1	(0.8)	30.1	(1.0)	36.9	(0.9)	16.0	(0.8)	13.7	(0.7)	34.1	(0.8)	42.6	(0.9)	9.6	(0.7)
Japan	-0.42	(0.03) †	1.11	(0.02) †	37.7	(1.4)	19.7	(1.0)	28.0	(1.1)	14.5	(0.8)	26.7	(1.1)	34.2	(1.2)	30.2	(1.0)	9.0	(0.7)
Korea	-0.34	(0.03) †	1.11	(0.02) †	57.5	(1.9)	22.3	(1.2)	15.5	(1.3)	4.7	(0.6)	27.2	(1.2)	25.3	(1.1)	37.2	(1.4)	10.3	(0.7)
Latvia*	0.10	(0.02) †	0.91	(0.02) †	20.2	(0.9) †	41.8	(1.1) †	27.6	(1.1) †	10.4	(0.8) †	12.8	(0.9) †	29.9	(1.3) †	42.7	(1.4) †	14.5	(0.9) †
Lithuania	0.17	(0.02) †	1.04	(0.02) †	31.8	(1.1) †	36.4	(1.2) †	23.2	(0.9) †	8.6	(0.6) †	11.3	(0.7) †	26.4	(0.9) †	45.2	(1.0) †	17.1	(0.9) †
Mexico	0.22	(0.02) ‡	0.99	(0.02) ‡	18.1	(1.1) †	28.2	(1.3) †	36.5	(1.3) †	17.3	(0.9) †	13.9	(1.0) †	32.9	(1.3) †	42.4	(1.3) †	10.8	(0.8) †
Netherlands*	-0.16	(0.02) †	0.90	(0.02) †	32.2	(1.3) †	37.9	(1.2) †	21.9	(1.0) †	8.0	(0.7) †	15.2	(0.8) †	32.2	(1.3) †	41.6	(1.1) †	11.0	(0.7) †
New Zealand*	0.02	(0.02) †	0.93	(0.01) †	22.5	(1.1) †	39.7	(1.2) †	29.4	(1.2) †	8.5	(0.7) †	10.4	(0.8) †	25.3	(1.1) †	49.1	(1.3) †	15.1	(1.0) †
Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Poland	-0.11	(0.02) †	0.95	(0.02) †	24.5	(1.0)	35.4	(1.1)	28.1	(0.9)	12.0	(0.8)	15.6	(0.8)	33.1	(1.0)	39.5	(1.1)	11.8	(0.7)
Portugal	0.06	(0.02) †	0.94	(0.02) †	27.6	(0.9) †	40.1	(1.0) †	23.0	(1.0) †	9.3	(0.7) †	14.6	(0.7) †	34.8	(0.8) †	40.6	(1.1) †	10.0	(0.8) †
Slovak Republic	0.03	(0.02) †	0.95	(0.02) †	21.7	(0.9) †	38.1	(1.1) †	30.0	(1.1) †	10.1	(0.9) †	16.2	(0.9) †	34.3	(1.4) †	39.6	(1.2) †	9.9	(0.8) †
Slovenia	m	m	m	m	25.1	(1.0)	37.6	(1.2)	28.1	(1.0)	9.2	(0.7)	11.8	(0.8)	30.8	(1.1)	45.4	(1.4)	12.0	(0.7)
Spain	m	m	m	m	30.6	(0.6) †	38.0	(0.6) †	22.0	(0.5) †	9.3	(0.4) †	13.8	(0.6) †	30.3	(0.7) †	43.3	(0.7) †	12.6	(0.5) †
Sweden	0.11	(0.03) †	1.03	(0.02) †	36.3	(1.2) †	39.1	(1.3) †	18.6	(1.1) †	6.0	(0.8) †	14.1	(1.0) †	27.4	(1.1) †	40.3	(1.3) †	18.1	(1.0) †
Switzerland	0.15	(0.03) ‡	1.07	(0.02) ‡	42.9	(1.4) ‡	31.1	(1.4) ‡	20.5	(1.0) ‡	5.5	(0.7) ‡	13.3	(0.9) ‡	22.8	(1.2) ‡	42.8	(1.4) ‡	21.0	(1.1) ‡
Türkiye	0.10	(0.02) †	1.11	(0.02) †	24.2	(0.9)	32.6	(1.0)	28.1	(0.9)	15.0	(0.9)	18.9	(0.8)	31.2	(1.0)	35.1	(1.0)	14.8	(0.7)
United Kingdom*	-0.21	(0.02) ‡	0.97	(0.02) ‡	22.0	(0.9) ‡	35.3	(1.2) ‡	27.8	(1.2) ‡	14.9	(0.9) ‡	17.7	(1.0) ‡	30.5	(1.0) ‡	38.8	(1.2) ‡	12.9	(0.8) ‡
United States*	-0.11	(0.03) †	1.00	(0.02) †	20.1	(0.8)	33.7	(1.2)	29.0	(1.2)	17.1	(0.9)	19.1	(0.9)	29.8	(1.0)	37.3	(1.1)	13.8	(0.9)
OECD average	0.01	(0.00)	1.00	(0.00)	27.6	(0.2)	34.2	(0.2)	26.8	(0.2)	11.5	(0.1)	15.6	(0.1)	29.5	(0.2)	41.2	(0.2)	13.8	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.24. Experience with learning at home [2/10]

Based on students' reports

		Index of students' experience with learning at home				Percentage of students who reported the following about the time when their school building was closed because of COVID-19:															
						I felt lonely								I enjoyed learning by myself							
		Average		Variability		Strongly disagree		Disagree		Agree		Strongly agree		Strongly disagree		Disagree		Agree		Strongly agree	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	0.58	(0.03) ‡	1.26	(0.03) ‡	34.0	(1.5) ‡	30.4	(1.4) ‡	24.6	(1.1) ‡	10.9	(1.0) ‡	16.3	(1.1) ‡	27.4	(1.3) ‡	39.6	(1.6) ‡	16.6	(1.2) ‡
	Argentina	0.10	(0.03) ‡	1.03	(0.02) ‡	19.4	(1.2) ‡	29.4	(1.5) ‡	34.8	(1.5) ‡	16.4	(1.0) ‡	14.1	(0.9) ‡	29.6	(1.2) ‡	43.8	(1.1) ‡	12.6	(1.0) ‡
	Baku (Azerbaijan)	0.52	(0.03) ‡	1.17	(0.03) ‡	17.6	(1.3) ‡	36.7	(1.6) ‡	30.7	(1.5) ‡	15.0	(1.2) ‡	11.3	(1.0) ‡	20.6	(1.3) ‡	49.0	(1.5) ‡	19.1	(1.2) ‡
	Brazil	-0.17	(0.02) ‡	1.01	(0.02) ‡	14.7	(0.8) †	33.5	(0.9) †	35.4	(1.0) †	16.4	(0.8) †	22.6	(0.8) †	38.0	(0.9) †	30.8	(0.9) †	8.7	(0.5) †
	Brunei Darussalam	m	m	m	m	17.0	(0.8) †	35.1	(1.0) †	31.8	(1.2) †	16.1	(1.0) †	10.2	(0.7) †	30.5	(1.1) †	45.6	(1.0) †	13.7	(0.9) †
	Bulgaria	0.22	(0.02) ‡	1.09	(0.02) ‡	27.6	(1.2) †	32.0	(1.2) †	28.6	(1.3) †	11.8	(0.7) †	14.9	(1.0) †	28.6	(1.1) †	41.6	(1.2) †	14.9	(0.9) †
	Cambodia	m	m	m	m	19.2	(0.7) †	37.3	(1.0) †	35.5	(1.3) †	8.0	(0.5) †	9.1	(0.6) †	32.1	(1.0) †	49.9	(0.9) †	8.9	(0.7) †
	Croatia	0.03	(0.02) †	1.00	(0.02) †	29.9	(0.9) †	41.4	(1.1) †	22.3	(0.7) †	6.3	(0.6) †	15.3	(0.9) †	31.9	(1.1) †	42.2	(1.3) †	10.6	(0.8) †
	Cyprus	0.05	(0.03) ‡	1.10	(0.02) ‡	24.9	(1.2) ‡	31.0	(1.4) ‡	30.2	(1.4) ‡	13.9	(1.1) ‡	15.7	(1.0) ‡	27.5	(1.2) ‡	40.6	(1.5) ‡	16.2	(1.1) ‡
	Dominican Republic	0.40	(0.04) ‡	1.21	(0.03) ‡	23.3	(1.4) ‡	31.0	(1.8) ‡	30.3	(1.7) ‡	15.5	(1.3) ‡	15.0	(1.2) ‡	24.9	(1.8) ‡	42.3	(1.7) ‡	17.8	(1.3) ‡
	El Salvador	0.43	(0.03) ‡	1.04	(0.02) ‡	15.8	(1.0) †	31.1	(1.5) †	37.2	(1.4) †	16.0	(1.0) †	9.5	(0.9) †	25.9	(1.2) †	50.9	(1.4) †	13.6	(0.9) †
	Georgia	0.33	(0.03) ‡	1.06	(0.02) ‡	25.5	(1.2) †	43.5	(1.3) †	21.7	(1.1) †	9.2	(0.7) †	9.2	(0.7) †	25.9	(1.1) †	49.0	(1.3) †	15.9	(0.9) †
	Guatemala	0.45	(0.03) ‡	1.03	(0.03) ‡	25.4	(1.0) ‡	31.8	(1.1) ‡	28.6	(1.3) ‡	14.1	(1.0) ‡	14.3	(1.0) ‡	30.1	(1.3) ‡	41.3	(1.2) ‡	14.4	(0.9) ‡
	Hong Kong (China)*	0.18	(0.02) †	0.93	(0.02) †	19.1	(0.7)	41.5	(1.2)	31.1	(1.0)	8.3	(0.6)	6.5	(0.6)	27.0	(1.0)	50.6	(1.3)	15.9	(1.0)
	Indonesia	0.40	(0.02) †	0.88	(0.02) †	13.2	(0.5)	36.3	(1.0)	39.4	(1.1)	11.1	(0.8)	7.2	(0.6)	31.7	(1.0)	51.4	(1.1)	9.7	(0.7)
	Jamaica*	0.19	(0.03) ‡	0.97	(0.02) ‡	20.3	(1.6) ‡	35.9	(1.7) ‡	28.3	(1.8) ‡	15.5	(1.6) ‡	14.5	(1.3) ‡	27.3	(1.8) ‡	43.2	(2.0) ‡	15.1	(1.3) ‡
	Jordan	0.09	(0.03) ‡	1.17	(0.02) ‡	26.7	(1.0) †	29.1	(1.0) †	29.4	(1.0) †	14.8	(0.9) †	23.0	(1.1) †	32.6	(1.0) †	32.2	(1.1) †	12.2	(0.8) †
	Kazakhstan	0.41	(0.01) †	1.04	(0.01) †	34.7	(0.7)	44.1	(0.7)	16.2	(0.5)	5.0	(0.3)	9.6	(0.4)	26.3	(0.7)	51.8	(0.8)	12.3	(0.5)
	Kosovo	0.25	(0.02) ‡	1.13	(0.02) ‡	31.1	(1.3) †	35.8	(1.3) †	22.5	(1.2) †	10.6	(0.7) †	17.5	(1.0) †	30.0	(1.2) †	38.5	(1.3) †	14.1	(1.1) †
	Macao (China)	m	m	m	m	25.8	(1.0)	41.0	(1.1)	26.4	(1.1)	6.8	(0.5)	9.6	(0.6)	31.6	(1.1)	45.4	(1.2)	13.4	(0.7)
	Malaysia	0.17	(0.02) †	0.90	(0.02) †	17.0	(0.9) †	40.7	(1.1) †	31.8	(1.0) †	10.5	(0.7) †	11.7	(0.9) †	34.2	(1.1) †	44.2	(1.2) †	9.9	(0.7) †
	Malta	0.00	(0.03) †	0.99	(0.02) †	22.4	(1.0) †	33.8	(1.4) †	27.7	(1.3) †	16.0	(1.1) †	15.7	(1.1) †	30.6	(1.4) †	40.0	(1.5) †	13.8	(1.0) †
	Moldova	0.27	(0.02) †	0.93	(0.01) †	20.8	(0.9)	41.3	(0.8)	29.5	(0.9)	8.4	(0.6)	11.4	(0.7)	32.7	(1.0)	45.7	(1.1)	10.2	(0.7)
	Mongolia	0.18	(0.02) †	1.06	(0.02) †	21.1	(0.8)	29.0	(0.9)	36.5	(0.9)	13.3	(0.7)	14.5	(0.7)	32.3	(1.1)	42.0	(1.1)	11.2	(0.7)
	Montenegro	0.14	(0.02) †	1.08	(0.02) †	32.5	(1.1) †	37.2	(1.1) †	22.1	(1.1) †	8.3	(0.8) †	16.3	(0.9) †	31.3	(1.0) †	39.7	(0.9) †	12.7	(0.7) †
	Morocco	0.04	(0.03) ‡	1.04	(0.02) ‡	25.3	(1.2) ‡	33.0	(1.0) ‡	29.2	(1.1) ‡	12.5	(0.8) ‡	20.6	(1.1) ‡	30.2	(1.2) ‡	37.6	(1.4) ‡	11.6	(0.9) ‡
	North Macedonia	0.32	(0.02) ‡	1.11	(0.02) ‡	27.2	(1.1) †	36.9	(1.3) †	25.4	(1.1) †	10.6	(0.8) †	12.5	(0.9) †	26.0	(1.2) †	46.0	(1.2) †	15.5	(0.9) †
	Palestinian Authority	0.11	(0.02) †	1.09	(0.02) †	27.2	(1.0) †	34.8	(1.2) †	27.5	(1.0) †	10.5	(0.7) †	20.5	(1.0) †	32.4	(1.2) †	34.9	(1.0) †	12.2	(0.6) †
	Panama*	0.33	(0.05) ‡	1.03	(0.04) ‡	21.4	(2.0) ‡	28.6	(2.2) ‡	30.0	(2.0) ‡	20.0	(2.1) ‡	12.3	(1.6) ‡	25.2	(2.2) ‡	46.6	(2.5) ‡	15.9	(1.6) ‡
	Paraguay	0.24	(0.02) †	0.96	(0.02) †	22.5	(0.9) †	34.0	(1.0) †	30.0	(1.1) †	13.5	(0.7) †	16.2	(0.9) †	36.7	(1.2) †	36.9	(1.0) †	10.2	(0.6) †
	Peru	0.29	(0.02) ‡	0.94	(0.02) ‡	11.6	(0.8) ‡	30.3	(1.2) ‡	42.7	(1.3) ‡	15.4	(1.1) ‡	9.6	(0.8) ‡	32.8	(1.3) ‡	48.2	(1.3) ‡	9.5	(0.7) ‡
	Philippines	0.51	(0.02) †	0.88	(0.02) †	12.8	(0.8) †	39.2	(1.0) †	38.4	(1.2) †	9.6	(0.8) †	6.0	(0.4) †	18.5	(0.9) †	59.3	(1.2) †	16.2	(1.1) †
	Qatar	0.25	(0.03) ‡	1.11	(0.02) ‡	23.7	(1.1) †	32.2	(1.2) †	28.1	(1.3) †	16.0	(1.1) †	15.3	(0.9) †	28.1	(1.3) †	40.3	(1.2) †	16.3	(1.0) †
	Romania	0.18	(0.02) †	1.04	(0.02) †	24.9	(1.0) †	35.9	(1.1) †	27.7	(1.0) †	11.5	(0.8) †	11.0	(0.8) †	26.1	(0.9) †	49.2	(1.0) †	13.7	(0.8) †
	Saudi Arabia	0.42	(0.03) †	1.20	(0.02) †	31.0	(1.1) †	32.3	(1.1) †	25.5	(1.1) †	11.1	(0.8) †	14.8	(1.1) †	24.5	(1.0) †	40.1	(1.1) †	20.6	(1.0) †
	Serbia	0.00	(0.02) †	1.05	(0.02) †	30.5	(1.1) †	39.8	(1.1) †	21.3	(1.1) †	8.4	(0.7) †	17.7	(0.9) †	33.7	(1.2) †	36.2	(1.1) †	12.4	(0.8) †
	Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chinese Taipei	0.17	(0.02) †	0.97	(0.02) †	29.5	(1.2)	36.6	(1.6)	25.7	(1.2)	8.3	(0.8)	9.0	(0.9)	31.1	(1.4)	42.7	(1.3)	17.2	(0.9)
	Thailand	0.39	(0.02) †	1.00	(0.02) †	23.2	(1.0)	43.7	(1.2)	26.1	(1.1)	7.0	(0.6)	7.0	(0.6)	21.2	(0.9)	57.9	(1.1)	13.9	(0.6)
	Ukrainian regions (18 of 27)	0.25	(0.04) ‡	1.01	(0.03) ‡	23.2	(1.7) †	42.6	(1.9) †	27.8	(1.5) †	6.3	(0.8) †	12.2	(1.6) †	35.6	(1.9) †	40.1	(1.8) †	12.2	(1.2) †
	United Arab Emirates	0.43	(0.01) †	1.14	(0.01) †	23.4	(0.5) †	31.8	(0.6) †	30.0	(0.5) †	14.8	(0.4) †	12.5	(0.4) †	25.1	(0.5) †	43.4	(0.6) †	19.1	(0.4) †
	Uruguay	0.03	(0.03) ‡	1.02	(0.02) ‡	21.8	(1.1) ‡	32.8	(1.4) ‡	30.7	(1.4) ‡	14.7	(0.9) ‡	17.0	(1.2) ‡	32.4	(1.6) ‡	38.8	(1.5) ‡	11.7	(1.1) ‡
	Uzbekistan	0.47	(0.04) ‡	1.27	(0.02) ‡	31.7	(1.5) ‡	31.9	(1.3) ‡	24.0	(1.3) ‡	12.4	(1.1) ‡	13.8	(1.1) ‡	23.3	(1.2) ‡	42.0	(1.6) ‡	20.9	(1.5) ‡
	Viet Nam	0.56	(0.02)	0.86	(0.02)	23.2	(0.7)	46.9	(0.7)	25.0	(0.6)	5.0	(0.4)	7.5	(0.4)	33.1	(0.7)	51.8	(0.7)	7.7	(0.5)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.24. Experience with learning at home [3/10]

Based on students' reports

		Percentage of students who reported the following about the time when their school building was closed because of COVID-19:															
		My teachers were available when I needed help								I felt anxious about school work							
		Strongly disagree		Disagree		Agree		Strongly agree		Strongly disagree		Disagree		Agree		Strongly agree	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	7.7	(0.3)	20.8	(0.6)	59.7	(0.8)	11.9	(0.5)	12.9	(0.5)	38.7	(0.8)	34.0	(0.8)	14.3	(0.6)
	Austria	10.0	(0.7) †	21.6	(1.0) †	50.7	(1.2) †	17.7	(1.0) †	24.2	(1.1) †	36.0	(1.2) †	28.3	(1.1) †	11.5	(0.8) †
	Belgium	8.7	(0.6) †	21.9	(1.0) †	59.7	(1.1) †	9.7	(0.7) †	20.3	(1.1) †	37.2	(1.1) †	30.6	(1.2) †	11.9	(0.8) †
	Canada*	7.1	(0.4) †	20.2	(0.7) †	59.5	(0.9) †	13.2	(0.6) †	15.2	(0.6) †	31.7	(0.8) †	35.0	(0.8) †	18.0	(0.6) †
	Chile	10.2	(0.9) ‡	22.4	(1.1) ‡	54.7	(1.3) ‡	12.7	(0.8) ‡	10.8	(0.7) ‡	20.9	(1.2) ‡	36.8	(1.3) ‡	31.5	(1.2) ‡
	Colombia	7.4	(0.7) †	20.4	(0.8) †	58.4	(1.0) †	13.8	(0.9) †	8.6	(0.7) †	29.2	(1.3) †	42.2	(1.1) †	20.0	(1.2) †
	Costa Rica	10.2	(0.7)	20.2	(1.0)	53.0	(1.2)	16.6	(1.0)	13.0	(0.8)	23.3	(1.0)	36.8	(1.4)	26.9	(1.3)
	Czech Republic	8.7	(0.5) †	23.3	(0.8) †	60.0	(1.0) †	8.0	(0.6) †	11.9	(0.8) †	39.4	(0.9) †	36.0	(1.0) †	12.6	(0.8) †
	Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	5.8	(0.6)	18.1	(1.0)	65.0	(1.2)	11.1	(0.8)	16.2	(0.8)	43.1	(1.2)	32.4	(0.9)	8.3	(0.6)
	Finland	7.3	(0.6) †	19.7	(0.8) †	59.2	(1.1) †	13.8	(0.7) †	24.0	(0.9) †	40.1	(1.0) †	25.7	(0.8) †	10.2	(0.7) †
	France	14.9	(0.9) †	21.9	(1.0) †	53.1	(1.2) †	10.1	(0.8) †	32.3	(1.0) †	33.2	(1.2) †	23.2	(1.0) †	11.2	(0.7) †
	Germany	6.6	(0.6) ‡	20.4	(1.0) ‡	52.0	(1.1) ‡	21.0	(1.1) ‡	24.4	(0.9) ‡	35.6	(1.0) ‡	28.7	(1.0) ‡	11.2	(0.7) ‡
	Greece	16.8	(0.9)	30.5	(1.1)	44.0	(1.2)	8.7	(0.8)	13.0	(0.8) †	36.8	(1.1) †	39.5	(1.2) †	10.6	(0.7) †
	Hungary	8.6	(0.6) †	20.1	(0.8) †	58.7	(1.1) †	12.5	(0.8) †	22.2	(1.0) †	43.6	(1.1) †	28.6	(1.0) †	5.7	(0.5) †
	Iceland	12.8	(1.2) †	25.0	(1.4) †	53.0	(1.8) †	9.2	(1.0) †	23.3	(1.5) †	33.2	(1.8) †	32.4	(1.8) †	11.1	(1.0) †
	Ireland*	9.7	(0.7)	22.5	(0.9)	60.4	(1.0)	7.3	(0.5)	14.5	(0.7)	42.3	(1.1)	31.3	(1.1)	11.9	(0.7)
	Israel	16.7	(0.8)	24.4	(0.9)	48.0	(1.1)	10.9	(0.6)	24.8	(1.0)	29.5	(1.1)	28.7	(0.9)	17.1	(0.8)
	Italy	11.8	(0.7)	25.0	(1.1)	55.1	(1.0)	8.1	(0.5)	17.3	(0.9)	33.0	(1.1)	34.0	(1.1)	15.7	(0.8)
	Japan	41.9	(1.5)	19.0	(0.9)	30.5	(1.1)	8.7	(0.8)	26.7	(1.0)	21.4	(0.8)	36.4	(1.1)	15.5	(0.9)
	Korea	18.3	(1.2)	11.7	(1.0)	52.1	(1.2)	17.9	(1.0)	34.1	(0.9)	28.9	(1.2)	29.5	(1.0)	7.5	(0.9)
	Latvia*	6.3	(0.6) †	19.6	(0.9) †	60.6	(1.2) †	13.4	(1.0) †	11.4	(0.8) †	36.1	(1.2) †	37.4	(1.2) †	15.1	(0.7) †
	Lithuania	8.6	(0.7) †	19.8	(0.9) †	57.8	(1.1) †	13.8	(0.8) †	17.2	(1.0) †	35.6	(1.3) †	38.1	(1.1) †	9.1	(0.6) †
	Mexico	10.2	(0.8) †	24.4	(1.3) †	52.7	(1.5) †	12.7	(0.8) †	11.6	(0.9) †	25.7	(1.1) †	39.4	(1.2) †	23.3	(1.1) †
	Netherlands*	6.4	(0.5) †	19.6	(1.0) †	64.9	(1.3) †	9.1	(0.8) †	20.7	(0.8) †	43.8	(0.9) †	28.5	(0.9) †	6.9	(0.6) †
	New Zealand*	6.3	(0.6) †	21.1	(1.1) †	63.2	(1.3) †	9.4	(0.7) †	12.5	(0.8) †	37.9	(1.1) †	36.6	(1.1) †	13.0	(0.8) †
	Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Poland	15.6	(0.8)	32.7	(1.0)	45.4	(1.3)	6.3	(0.6)	17.9	(0.9)	37.9	(1.2)	32.8	(1.1)	11.4	(0.7)
	Portugal	5.9	(0.5) †	19.0	(0.8) †	60.0	(1.0) †	15.1	(1.0) †	13.7	(0.9) †	37.8	(1.2) †	39.0	(1.2) †	9.5	(0.6) †
	Slovak Republic	9.9	(0.7) †	24.1	(1.1) †	55.9	(1.2) †	10.0	(0.8) †	15.0	(1.1) †	42.3	(1.4) †	32.9	(1.2) †	9.8	(0.7) †
	Slovenia	8.6	(0.7)	25.9	(1.1)	57.1	(1.1)	8.4	(0.7)	13.8	(0.9)	38.7	(1.1)	39.0	(1.2)	8.5	(0.7)
	Spain	12.0	(0.6) †	26.4	(0.8) †	51.3	(0.9) †	10.2	(0.5) †	22.0	(0.5) †	34.3	(0.6) †	29.9	(0.7) †	13.8	(0.5) †
	Sweden	7.7	(0.7) †	17.8	(1.0) †	58.2	(1.3) †	16.4	(1.0) †	21.4	(0.9) †	41.9	(1.3) †	29.6	(1.1) †	7.2	(0.6) †
	Switzerland	9.0	(0.6) ‡	18.0	(0.9) ‡	50.7	(1.3) ‡	22.4	(1.2) ‡	38.1	(1.5) ‡	37.3	(1.5) ‡	19.8	(1.1) ‡	4.8	(0.6) ‡
	Türkiye	15.1	(0.8)	22.6	(0.8)	49.3	(1.2)	13.0	(0.7)	12.6	(0.8)	24.7	(0.9)	42.7	(0.9)	20.0	(0.9)
	United Kingdom*	12.2	(0.9) †	29.6	(1.1) †	50.5	(1.3) †	7.7	(0.7) †	15.9	(1.0) ‡	37.8	(1.1) ‡	32.3	(1.3) ‡	14.1	(0.8) ‡
	United States*	7.6	(0.7)	20.2	(1.0)	61.6	(1.4)	10.6	(0.9)	12.0	(0.8)	35.6	(1.1)	36.8	(1.1)	15.6	(0.7)
	OECD average	10.9	(0.1)	22.0	(0.2)	55.0	(0.2)	12.0	(0.1)	18.4	(0.2)	35.0	(0.2)	33.3	(0.2)	13.3	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.24. Experience with learning at home [4/10]

Based on students' reports

	Percentage of students who reported the following about the time when their school building was closed because of COVID-19:															
	My teachers were available when I needed help								I felt anxious about school work							
	Strongly disagree		Disagree		Agree		Strongly agree		Strongly disagree		Disagree		Agree		Strongly agree	
Partners	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Albania	7.9	(0.8) ‡	15.8	(1.0) ‡	47.7	(1.5) ‡	28.6	(1.3) ‡	21.4	(1.5) ‡	30.3	(1.3) ‡	33.2	(1.4) ‡	15.1	(1.3) ‡
Argentina	12.0	(0.9) ‡	27.7	(1.2) ‡	49.3	(1.4) ‡	11.1	(0.8) ‡	12.7	(0.9) ‡	22.5	(1.0) ‡	41.1	(1.3) ‡	23.7	(1.3) ‡
Baku (Azerbaijan)	7.3	(0.9) ‡	21.1	(1.3) ‡	50.5	(1.6) ‡	21.2	(1.3) ‡	13.0	(1.2) ‡	31.6	(1.6) ‡	39.3	(1.5) ‡	16.1	(1.2) ‡
Brazil	10.4	(0.7) †	28.4	(0.9) †	50.3	(0.9) †	10.9	(0.7) †	13.8	(0.7) †	34.0	(1.0) †	40.4	(1.0) †	11.8	(0.6) †
Brunei Darussalam	3.3	(0.4) †	15.0	(0.9) †	70.3	(1.1) †	11.4	(0.8) †	5.4	(0.5) †	26.4	(0.9) †	47.5	(1.2) †	20.6	(1.1) †
Bulgaria	10.9	(0.7) †	24.6	(1.0) †	49.5	(1.1) †	14.9	(1.0) †	15.5	(1.0) †	34.7	(1.1) †	39.3	(1.2) †	10.6	(0.9) †
Cambodia	7.1	(0.5) †	20.8	(1.0) †	61.3	(1.3) †	10.8	(0.7) †	18.2	(1.0) †	56.8	(1.2) †	21.1	(0.9) †	3.8	(0.4) †
Croatia	8.1	(0.7) †	21.9	(1.0) †	59.3	(1.2) †	10.7	(0.7) †	19.1	(1.0) †	41.4	(1.1) †	31.1	(1.1) †	8.4	(0.7) †
Cyprus	11.5	(0.9) ‡	25.6	(1.1) ‡	50.6	(1.3) ‡	12.4	(1.0) ‡	14.9	(1.0) ‡	36.6	(1.3) ‡	34.8	(1.4) ‡	13.7	(0.9) ‡
Dominican Republic	12.4	(1.4) ‡	21.1	(1.6) ‡	50.0	(2.0) ‡	16.5	(1.4) ‡	14.2	(1.2) ‡	26.8	(1.8) ‡	39.6	(1.6) ‡	19.5	(1.4) ‡
El Salvador	7.7	(0.8) †	21.0	(1.3) †	54.6	(1.4) †	16.6	(1.1) †	9.9	(0.8) †	27.4	(1.4) †	44.8	(1.6) †	17.9	(1.1) †
Georgia	10.8	(0.8) ‡	23.0	(1.0) ‡	51.0	(1.4) ‡	15.2	(1.0) ‡	15.2	(1.0) ‡	42.5	(1.3) ‡	32.7	(1.4) ‡	9.5	(0.9) ‡
Guatemala	10.4	(0.8) ‡	16.6	(0.9) ‡	52.4	(1.3) ‡	20.6	(0.9) ‡	16.2	(1.0) ‡	26.9	(1.2) ‡	36.1	(1.1) ‡	20.7	(1.0) ‡
Hong Kong (China)*	7.7	(0.6)	22.0	(1.0)	62.1	(1.1)	8.2	(0.6)	12.5	(0.7)	38.5	(1.1)	39.7	(1.2)	9.3	(0.7)
Indonesia	5.5	(0.4)	14.9	(0.8)	69.4	(1.0)	10.2	(0.7)	6.4	(0.4)	30.9	(1.0)	53.8	(1.0)	8.9	(0.5)
Jamaica*	9.0	(1.0) ‡	26.8	(1.9) ‡	55.0	(2.1) ‡	9.1	(1.1) ‡	11.0	(1.0) ‡	33.8	(1.6) ‡	38.8	(1.9) ‡	16.4	(1.5) ‡
Jordan	18.0	(0.8) †	31.0	(0.9) †	38.7	(1.2) †	12.4	(0.9) †	15.8	(0.9) †	28.7	(1.2) †	42.6	(1.2) †	12.9	(0.8) †
Kazakhstan	8.4	(0.4)	19.5	(0.6)	55.8	(0.8)	16.2	(0.6)	18.4	(0.5)	47.7	(0.7)	28.3	(0.8)	5.6	(0.4)
Kosovo	13.6	(0.9) †	26.5	(1.3) †	45.3	(1.2) †	14.6	(1.0) †	21.2	(1.2) †	37.1	(1.2) †	31.5	(1.3) †	10.2	(0.8) †
Macao (China)	10.5	(0.7)	25.1	(1.2)	55.8	(1.4)	8.6	(0.7)	11.9	(0.7)	35.9	(1.1)	42.6	(1.0)	9.6	(0.7)
Malaysia	8.1	(0.5) †	24.0	(1.1) †	57.7	(1.2) †	10.1	(0.6) †	7.5	(0.6) †	26.4	(1.1) †	53.7	(1.1) †	12.4	(0.7) †
Malta	9.0	(0.8) †	21.5	(1.2) †	56.7	(1.4) †	12.9	(1.1) †	12.5	(1.0) †	31.6	(1.4) †	38.8	(1.6) †	17.1	(1.0) †
Moldova	6.9	(0.5) †	23.8	(1.1) †	56.2	(1.1) †	13.0	(0.6) †	12.5	(0.8)	43.0	(1.2)	37.8	(1.1)	6.7	(0.6)
Mongolia	16.3	(0.8)	29.4	(1.0)	45.4	(1.0)	8.9	(0.6)	10.8	(0.7)	22.2	(0.8)	53.2	(1.0)	13.8	(0.6)
Montenegro	11.2	(0.7) †	23.4	(1.0) †	50.8	(1.5) †	14.6	(0.8) †	18.8	(0.9) †	35.6	(1.1) †	34.4	(1.1) †	11.2	(0.9) †
Morocco	19.5	(1.2) ‡	32.4	(1.3) ‡	38.3	(1.4) ‡	9.8	(0.9) ‡	17.7	(1.0) ‡	32.2	(1.5) ‡	39.6	(1.5) ‡	10.5	(1.0) ‡
North Macedonia	10.3	(0.8) †	24.0	(1.0) †	51.0	(1.3) †	14.8	(0.8) †	15.5	(1.0) †	34.8	(1.2) †	38.6	(1.2) †	11.1	(0.7) †
Palestinian Authority	14.0	(0.8) †	30.9	(1.1) †	44.6	(1.1) †	10.5	(0.8) †	13.7	(0.8) †	31.2	(1.2) †	44.0	(1.1) †	11.2	(0.8) †
Panama*	14.1	(2.3) ‡	22.3	(2.0) ‡	47.9	(2.7) ‡	15.7	(1.8) ‡	15.0	(1.7) ‡	22.2	(2.4) ‡	37.8	(2.5) ‡	25.0	(2.5) ‡
Paraguay	9.6	(0.6) †	20.3	(0.8) †	51.8	(0.9) †	18.3	(1.0) †	14.4	(0.7) †	29.0	(1.1) †	36.8	(1.0) †	19.8	(0.8) †
Peru	6.5	(0.7) ‡	25.7	(1.4) ‡	56.3	(1.5) ‡	11.6	(1.0) ‡	10.0	(1.0) ‡	28.5	(1.1) ‡	43.5	(1.3) ‡	18.0	(1.1) ‡
Philippines	5.4	(0.6) †	13.1	(0.8) †	69.7	(1.2) †	11.7	(0.9) †	6.7	(0.6) †	34.0	(1.1) †	48.0	(1.1) †	11.2	(1.0) †
Qatar	9.7	(0.7) †	23.0	(1.2) †	52.7	(1.4) †	14.7	(1.0) †	12.7	(1.0) †	31.0	(1.2) †	40.9	(1.5) †	15.4	(1.0) †
Romania	10.6	(0.7) †	26.0	(1.0) †	51.9	(1.3) †	11.6	(0.8) †	16.9	(0.8) †	40.1	(1.0) †	34.5	(1.1) †	8.5	(0.6) †
Saudi Arabia	12.9	(1.0) †	25.9	(1.0) †	45.8	(1.4) †	15.4	(1.0) †	17.9	(0.8) †	33.6	(1.4) †	38.2	(1.4) †	10.3	(0.8) †
Serbia	11.9	(0.7) †	25.5	(1.2) †	50.4	(1.2) †	12.3	(0.9) †	19.3	(1.0) †	33.8	(1.1) †	36.4	(1.2) †	10.4	(0.8) †
Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chinese Taipei	9.8	(0.7)	19.8	(1.2)	57.8	(1.2)	12.6	(1.0)	13.6	(1.0)	26.7	(1.2)	46.6	(1.4)	13.1	(0.9)
Thailand	7.5	(0.5)	20.6	(0.9)	61.0	(1.0)	10.8	(0.6)	9.2	(0.7)	28.5	(1.0)	50.5	(1.1)	11.8	(0.7)
Ukrainian regions (18 of 27)	8.6	(0.9) †	21.8	(1.8) †	55.1	(2.0) †	14.6	(1.4) †	12.9	(1.2) †	35.9	(1.6) †	42.0	(1.7) †	9.1	(1.0) †
United Arab Emirates	7.5	(0.3) †	18.8	(0.7) †	54.7	(0.8) †	18.9	(0.4) †	13.1	(0.4) †	32.9	(0.7) †	39.0	(0.7) †	15.0	(0.5) †
Uruguay	11.4	(1.1) ‡	25.2	(1.2) ‡	53.9	(1.5) ‡	9.5	(0.8) ‡	12.5	(1.0) ‡	24.8	(1.3) ‡	39.1	(1.6) ‡	23.6	(1.3) ‡
Uzbekistan	13.6	(1.0) ‡	23.7	(1.3) ‡	41.8	(1.4) ‡	20.9	(1.2) ‡	18.5	(1.1) ‡	32.2	(1.3) ‡	32.2	(1.3) ‡	17.1	(1.2) ‡
Viet Nam	4.1	(0.3)	10.2	(0.5)	66.7	(0.8)	19.0	(0.6)	11.6	(0.5)	41.8	(0.9)	39.4	(0.8)	7.2	(0.4)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.24. Experience with learning at home [5/10]

Based on students' reports

	Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
	Motivating myself to do school work								Focusing on school work without reminders							
	Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																
Australia*	13.3	(0.5)	32.3	(0.8)	41.8	(0.8)	12.5	(0.5)	10.2	(0.4)	29.1	(0.7)	45.7	(0.7)	15.0	(0.5)
Austria	10.4	(0.6) †	25.8	(0.9) †	41.6	(1.0) †	22.3	(1.0) †	9.6	(0.7) †	20.7	(0.9) †	44.0	(1.1) †	25.7	(1.0) †
Belgium	15.3	(0.8) †	32.8	(0.9) †	40.9	(0.9) †	11.0	(0.6) †	12.3	(0.7) †	29.0	(1.0) †	45.9	(1.0) †	12.9	(0.8) †
Canada*	17.2	(0.6) †	31.4	(0.7) †	38.9	(0.7) †	12.5	(0.5) †	12.4	(0.5) †	27.4	(0.7) †	43.7	(0.7) †	16.5	(0.6) †
Chile	11.3	(0.8) †	25.4	(1.3) †	45.7	(1.7) †	17.6	(1.0) †	10.8	(0.8) †	23.5	(1.0) †	46.1	(1.4) †	19.6	(1.2) †
Colombia	3.1	(0.4) †	14.5	(0.8) †	62.1	(1.2) †	20.3	(0.9) †	3.8	(0.4) †	13.3	(0.9) †	61.4	(1.0) †	21.5	(0.9) †
Costa Rica	9.0	(0.5)	21.4	(0.8)	49.4	(1.0)	20.2	(0.8)	7.8	(0.6)	20.7	(0.8)	48.7	(1.1)	22.9	(1.0)
Czech Republic	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Estonia	10.2	(0.6)	33.6	(1.1)	43.1	(1.1)	13.2	(0.7)	7.6	(0.5)	30.4	(1.1)	46.4	(0.9)	15.6	(0.6)
Finland	8.7	(0.6) †	27.8	(0.9) †	46.2	(0.8) †	17.2	(0.8) †	6.9	(0.5) †	23.7	(0.8) †	49.3	(0.9) †	20.1	(0.8) †
France	10.9	(0.7) †	24.0	(0.9) †	47.2	(1.1) †	17.9	(0.7) †	9.8	(0.7) †	21.7	(1.0) †	48.8	(1.1) †	19.7	(0.8) †
Germany	13.3	(0.9) ‡	27.4	(1.2) ‡	40.1	(1.2) ‡	19.2	(1.0) ‡	10.9	(0.8) ‡	23.6	(1.1) ‡	40.1	(1.3) ‡	25.5	(1.1) ‡
Greece	14.4	(0.6)	33.8	(0.8)	31.7	(1.0)	20.1	(0.8)	13.4	(0.7)	35.3	(0.9)	30.8	(0.9)	20.5	(0.8)
Hungary	8.6	(0.6) †	29.7	(0.9) †	44.9	(1.0) †	16.8	(0.9) †	8.6	(0.7) †	28.3	(1.0) †	45.2	(1.2) †	17.8	(0.9) †
Iceland	7.6	(0.7) †	18.7	(1.2) †	55.5	(1.6) †	18.3	(1.3) †	7.2	(0.8) †	22.3	(1.4) †	53.3	(1.8) †	17.1	(1.3) †
Ireland*	16.7	(0.7)	35.3	(0.9)	38.5	(0.9)	9.4	(0.6)	12.4	(0.6)	30.0	(0.9)	45.0	(1.0)	12.7	(0.7)
Israel	21.5	(1.0)	30.3	(1.2)	30.9	(1.0)	17.4	(0.9)	18.1	(0.9)	29.4	(1.1)	33.3	(1.0)	19.2	(0.8)
Italy	10.7	(0.6)	31.0	(0.7)	46.4	(1.0)	11.9	(0.5)	6.2	(0.4)	19.6	(0.8)	54.4	(1.0)	19.8	(0.8)
Japan	26.1	(1.0)	40.0	(1.2)	25.0	(0.9)	8.9	(0.6)	24.5	(1.0)	39.0	(1.0)	27.1	(1.0)	9.4	(0.5)
Korea	14.7	(0.9)	28.3	(1.0)	40.8	(1.2)	16.1	(0.9)	15.4	(0.9)	30.2	(1.5)	38.2	(1.3)	16.2	(1.4)
Latvia*	14.5	(0.8) †	34.5	(1.2) †	40.0	(1.2) †	11.1	(0.7) †	8.3	(0.6) †	32.8	(1.0) †	44.0	(1.1) †	14.8	(0.8) †
Lithuania	8.5	(0.5) †	28.7	(1.1) †	45.1	(1.2) †	17.7	(0.8) †	7.8	(0.5) †	26.4	(0.8) †	47.6	(1.0) †	18.2	(0.8) †
Mexico	7.0	(0.6) †	20.8	(0.8) †	46.5	(1.0) †	25.8	(0.9) †	6.8	(0.6) †	19.8	(1.1) †	45.8	(1.2) †	27.5	(1.2) †
Netherlands*	16.3	(0.6) †	33.6	(1.1) †	41.6	(1.1) †	8.5	(0.6) †	10.8	(0.7) †	29.8	(1.0) †	49.3	(1.0) †	10.2	(0.7) †
New Zealand*	16.1	(0.9) †	32.6	(1.2) †	41.1	(1.3) †	10.2	(0.7) †	12.0	(0.8) †	29.2	(1.0) †	45.7	(1.1) †	13.0	(0.9) †
Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Poland	17.9	(0.8)	38.0	(0.9)	33.4	(1.0)	10.7	(0.7)	13.7	(0.6)	35.8	(1.1)	37.3	(1.0)	13.2	(0.7)
Portugal	7.2	(0.5) †	27.1	(0.9) †	51.1	(1.0) †	14.5	(0.7) †	7.2	(0.5) †	25.4	(0.8) †	51.7	(0.9) †	15.8	(0.8) †
Slovak Republic	11.4	(0.8) †	28.7	(0.9) †	47.4	(1.2) †	12.5	(0.8) †	9.0	(0.6) †	26.7	(1.0) †	49.7	(1.1) †	14.6	(0.8) †
Slovenia	14.0	(0.8)	33.3	(1.0)	42.3	(1.1)	10.3	(0.7)	9.4	(0.6)	30.3	(1.1)	47.6	(1.3)	12.7	(0.7)
Spain	9.9	(0.4) †	27.1	(0.6) †	47.5	(0.7) †	15.5	(0.5) †	6.2	(0.3) †	20.0	(0.6) †	50.0	(0.7) †	23.8	(0.5) †
Sweden	9.7	(0.8) †	30.5	(1.1) †	42.4	(1.3) †	17.5	(0.8) †	8.5	(0.6) †	25.3	(1.0) †	45.9	(1.1) †	20.3	(0.8) †
Switzerland	8.8	(0.8) ‡	26.4	(1.3) ‡	44.4	(1.2) ‡	20.4	(1.0) ‡	6.6	(0.7) ‡	23.4	(1.1) ‡	47.9	(1.0) ‡	22.2	(1.0) ‡
Türkiye	12.8	(0.6)	25.7	(0.8)	45.3	(1.0)	16.3	(0.7)	12.3	(0.7)	25.6	(0.8)	45.3	(0.7)	16.7	(0.6)
United Kingdom*	20.3	(1.0) †	32.7	(1.1) †	38.0	(1.0) †	9.0	(0.6) †	15.3	(1.0) †	30.9	(1.2) †	43.1	(1.2) †	10.7	(0.8) †
United States*	15.1	(0.7)	30.3	(1.2)	40.1	(1.2)	14.5	(0.8)	13.0	(0.8)	28.6	(1.0)	43.4	(1.2)	15.0	(0.8)
OECD average	12.7	(0.1)	29.2	(0.2)	42.9	(0.2)	15.2	(0.1)	10.4	(0.1)	26.7	(0.2)	45.3	(0.2)	17.5	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.24. Experience with learning at home [6/10]

Based on students' reports

	Percentage of students who reported the following about the time when their school building was closed because of COVID-19:															
	I was motivated to learn								I fell behind in my school work							
	Strongly disagree		Disagree		Agree		Strongly agree		Strongly disagree		Disagree		Agree		Strongly agree	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																
Albania	10.8	(1.0) ‡	24.1	(1.1) ‡	43.1	(1.5) ‡	22.0	(1.3) ‡	19.2	(1.5) ‡	31.9	(1.5) ‡	34.5	(1.5) ‡	14.4	(1.1) ‡
Argentina	16.8	(1.1) ‡	36.3	(1.1) ‡	38.0	(1.3) ‡	8.9	(0.8) ‡	10.4	(0.7) ‡	26.5	(1.1) ‡	41.1	(1.4) ‡	22.0	(1.5) ‡
Baku (Azerbaijan)	8.5	(0.9) ‡	25.2	(1.3) ‡	47.7	(1.7) ‡	18.6	(1.2) ‡	11.1	(1.1) ‡	34.0	(1.6) ‡	38.6	(1.5) ‡	16.4	(1.4) ‡
Brazil	17.8	(0.8) †	35.9	(1.1) †	39.0	(1.1) †	7.3	(0.5) †	10.4	(0.6) †	32.8	(0.9) †	44.2	(1.0) †	12.6	(0.7) †
Brunei Darussalam	17.0	(0.8) †	36.9	(1.1) †	40.4	(1.2) †	5.6	(0.6) †	7.3	(0.7) †	31.7	(1.2) †	43.1	(1.3) †	17.9	(0.9) †
Bulgaria	18.0	(1.1) †	33.1	(1.3) †	37.3	(1.4) †	11.7	(0.8) †	16.9	(0.8) †	38.9	(1.2) †	33.7	(1.3) †	10.5	(0.8) †
Cambodia	4.1	(0.4) †	13.9	(0.7) †	68.5	(1.1) †	13.5	(0.9) †	8.6	(0.6) †	35.8	(1.1) †	49.4	(1.1) †	6.3	(0.7) †
Croatia	21.7	(0.9) †	43.3	(1.1) †	30.0	(1.1) †	5.0	(0.4) †	17.9	(0.9) †	44.8	(1.2) †	30.3	(1.1) †	7.0	(0.6) †
Cyprus	18.9	(1.0) ‡	37.8	(1.4) ‡	33.8	(1.5) ‡	9.5	(0.8) ‡	13.2	(0.8) ‡	32.8	(1.4) ‡	38.2	(1.4) ‡	15.7	(1.0) ‡
Dominican Republic	13.2	(1.3) ‡	22.0	(1.3) ‡	47.1	(2.0) ‡	17.7	(1.4) ‡	15.6	(1.3) ‡	25.5	(1.6) ‡	40.8	(1.5) ‡	18.1	(1.5) ‡
El Salvador	7.8	(0.9) †	24.9	(1.6) †	51.9	(1.5) †	15.4	(1.3) †	10.6	(0.9) †	26.3	(1.4) †	46.8	(1.4) †	16.3	(1.1) †
Georgia	10.3	(0.7) †	32.5	(1.2) †	43.8	(1.2) †	13.5	(1.0) †	14.6	(1.0) ‡	41.6	(1.3) ‡	33.7	(1.2) ‡	10.1	(0.8) ‡
Guatemala	10.6	(0.8) ‡	22.1	(1.0) ‡	48.9	(1.3) ‡	18.4	(1.0) ‡	17.9	(0.9) ‡	29.2	(1.2) ‡	36.5	(1.2) ‡	16.4	(0.9) ‡
Hong Kong (China)*	14.0	(0.9)	39.5	(1.2)	39.8	(1.2)	6.7	(0.6)	7.3	(0.7)	28.6	(1.0)	48.3	(1.2)	15.7	(0.9)
Indonesia	6.0	(0.5)	22.6	(0.9)	62.2	(1.2)	9.2	(0.7)	9.8	(0.6)	42.4	(0.9)	40.8	(0.9)	6.9	(0.5)
Jamaica*	18.0	(1.6) ‡	33.3	(2.1) ‡	37.6	(2.0) ‡	11.2	(1.1) ‡	10.6	(1.4) ‡	25.4	(1.9) ‡	40.8	(1.8) ‡	23.1	(2.0) ‡
Jordan	13.9	(0.9) †	29.3	(1.1) †	41.9	(1.2) †	15.0	(0.9) †	14.6	(0.8) †	30.4	(1.2) †	40.8	(1.2) †	14.3	(1.0) †
Kazakhstan	8.7	(0.4)	24.4	(0.7)	54.3	(0.8)	12.6	(0.5)	18.5	(0.7)	49.5	(0.8)	26.2	(0.7)	5.8	(0.4)
Kosovo	12.0	(1.0) †	31.6	(1.2) †	40.8	(1.4) †	15.6	(1.0) †	19.3	(1.2) †	38.6	(1.5) †	32.7	(1.5) †	9.4	(0.9) †
Macao (China)	14.4	(0.9)	44.2	(0.9)	35.6	(1.0)	5.8	(0.5)	11.0	(0.7)	34.6	(1.0)	42.0	(1.1)	12.4	(0.8)
Malaysia	9.9	(0.7) †	31.7	(1.1) †	50.2	(1.1) †	8.2	(0.6) †	8.5	(0.7) †	34.9	(1.2) †	46.3	(1.1) †	10.3	(0.6) †
Malta	24.9	(1.4) †	39.0	(1.5) †	28.8	(1.3) †	7.3	(0.7) †	10.2	(1.0) †	30.0	(1.3) †	37.9	(1.5) †	21.9	(1.1) †
Moldova	9.1	(0.7)	30.4	(1.1)	49.8	(1.1)	10.8	(0.8)	13.7	(0.8)	43.6	(1.1)	35.5	(1.1)	7.2	(0.7)
Mongolia	8.2	(0.6)	19.8	(0.9)	55.8	(1.0)	16.3	(0.8)	10.3	(0.7)	27.8	(1.0)	49.3	(1.2)	12.6	(0.7)
Montenegro	16.5	(0.8) †	35.9	(1.3) †	38.2	(1.5) †	9.4	(0.6) †	18.7	(1.0) †	41.3	(1.3) †	30.6	(1.1) †	9.3	(0.8) †
Morocco	14.5	(0.8) ‡	27.8	(1.3) ‡	45.6	(1.4) ‡	12.1	(0.9) ‡	16.5	(1.0) ‡	37.2	(1.1) ‡	36.5	(1.2) ‡	9.8	(0.9) ‡
North Macedonia	13.4	(0.9) †	33.8	(1.2) †	40.6	(1.4) †	12.3	(1.0) †	15.1	(0.8) †	35.5	(1.0) †	37.8	(1.1) †	11.6	(0.8) †
Palestinian Authority	14.9	(1.0) †	30.4	(1.1) †	42.1	(1.2) †	12.6	(0.7) †	15.1	(0.8) †	35.9	(1.1) †	38.9	(1.0) †	10.1	(0.7) †
Panama*	11.7	(1.6) ‡	24.4	(2.0) ‡	47.2	(2.5) ‡	16.8	(1.7) ‡	16.0	(2.1) ‡	33.4	(2.4) ‡	37.3	(2.5) ‡	13.3	(1.4) ‡
Paraguay	12.8	(0.7) †	30.3	(1.2) †	44.4	(1.1) †	12.5	(0.7) †	14.3	(1.0) †	29.1	(1.0) †	39.6	(1.1) †	16.9	(0.9) †
Peru	8.5	(0.7) ‡	30.5	(1.3) ‡	48.2	(1.4) ‡	12.7	(1.0) ‡	10.2	(0.9) ‡	30.8	(1.3) ‡	45.0	(1.2) ‡	14.0	(1.1) ‡
Philippines	5.6	(0.5) †	20.7	(1.1) †	62.0	(1.1) †	11.8	(0.7) †	7.9	(0.6) †	36.7	(0.9) †	47.2	(1.1) †	8.2	(0.6) †
Qatar	18.4	(1.1) †	34.1	(1.4) †	35.9	(1.3) †	11.6	(0.8) †	14.5	(0.9) †	33.1	(1.3) †	36.7	(1.3) †	15.7	(0.9) †
Romania	15.3	(0.8) †	33.9	(1.0) †	40.2	(1.1) †	10.6	(0.8) †	12.7	(0.8) †	38.9	(1.3) †	35.8	(1.1) †	12.5	(0.8) †
Saudi Arabia	13.7	(0.9) †	27.6	(1.0) †	41.8	(1.3) †	16.9	(1.1) †	25.9	(1.0) †	37.1	(1.1) †	28.2	(1.2) †	8.8	(0.7) †
Serbia	21.7	(1.0) †	39.7	(1.2) †	31.3	(1.3) †	7.2	(0.7) †	18.3	(0.7) †	44.2	(1.2) †	30.4	(1.1) †	7.0	(0.6) †
Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chinese Taipei	15.0	(1.0)	40.9	(1.3)	37.0	(1.2)	7.1	(0.7)	14.5	(1.0)	38.4	(1.3)	36.9	(1.2)	10.2	(0.7)
Thailand	7.2	(0.6)	26.3	(1.0)	56.3	(1.0)	10.1	(0.6)	8.8	(0.6)	36.0	(1.0)	47.6	(1.0)	7.6	(0.6)
Ukrainian regions (18 of 27)	10.3	(1.1) †	35.0	(1.3) †	45.0	(1.8) †	9.6	(1.1) †	14.9	(1.2) †	45.5	(1.9) †	31.2	(2.0) †	8.4	(1.1) †
United Arab Emirates	15.3	(0.4) †	32.2	(0.7) †	38.7	(0.7) †	13.8	(0.5) †	15.0	(0.5) †	34.9	(0.6) †	34.6	(0.6) †	15.4	(0.5) †
Uruguay	18.6	(1.1) ‡	35.1	(1.6) ‡	38.7	(1.6) ‡	7.7	(0.8) ‡	10.1	(0.9) ‡	22.5	(1.3) ‡	44.5	(1.6) ‡	22.9	(1.3) ‡
Uzbekistan	8.5	(0.7) ‡	24.3	(1.4) ‡	45.1	(1.4) ‡	22.1	(1.2) ‡	18.2	(1.1) ‡	35.8	(1.3) ‡	32.8	(1.3) ‡	13.3	(1.1) ‡
Viet Nam	4.9	(0.3)	28.6	(0.8)	56.7	(0.7)	9.9	(0.5)	10.2	(0.5)	41.6	(0.8)	41.4	(0.8)	6.9	(0.4)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.24. Experience with learning at home [7/10]

Based on students' reports

		Percentage of students who reported the following about the time when their school building was closed because of COVID-19:															
		I improved my skills in using digital devices for learning purposes								My teachers were well prepared to provide instruction remotely							
		Strongly disagree		Disagree		Agree		Strongly agree		Strongly disagree		Disagree		Agree		Strongly agree	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	10.0	(0.5)	29.7	(0.8)	51.2	(0.7)	9.1	(0.5)	9.6	(0.4)	27.7	(0.8)	52.7	(0.9)	10.0	(0.6)
	Austria	13.7	(0.8) †	24.8	(1.1) †	43.0	(1.2) †	18.5	(1.0) †	17.0	(0.8) †	32.5	(1.0) †	39.8	(1.0) †	10.6	(0.8) †
	Belgium	12.4	(0.7) †	29.9	(1.1) †	49.3	(1.4) †	8.4	(0.6) †	21.1	(1.0) †	37.4	(0.9) †	35.8	(1.1) †	5.7	(0.6) †
	Canada*	12.0	(0.5) †	26.2	(0.8) †	49.6	(0.9) †	12.2	(0.5) †	13.6	(0.5) †	30.8	(0.6) †	46.7	(0.7) †	8.8	(0.4) †
	Chile	7.8	(0.6) ‡	20.4	(1.2) ‡	51.1	(1.6) ‡	20.7	(1.0) ‡	13.0	(1.0) ‡	33.4	(1.2) ‡	43.7	(1.4) ‡	9.9	(0.8) ‡
	Colombia	4.5	(0.5) †	16.1	(0.9) †	60.7	(1.3) †	18.6	(1.0) †	7.9	(0.6) †	27.9	(1.2) †	53.2	(1.3) †	11.0	(0.8) †
	Costa Rica	6.9	(0.6)	16.6	(0.9)	51.2	(1.2)	25.3	(1.2)	15.7	(0.9)	33.4	(1.1)	40.7	(1.1)	10.2	(0.6)
	Czech Republic	7.9	(0.5) †	26.8	(0.9) †	53.8	(1.0) †	11.4	(0.8) †	11.3	(0.7) †	36.5	(1.0) †	45.6	(1.1) †	6.6	(0.6) †
	Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	8.2	(0.6)	21.0	(0.9)	59.3	(1.1)	11.5	(0.7)	10.1	(0.7)	36.7	(1.1)	47.3	(1.2)	5.9	(0.5)
	Finland	9.3	(0.5) †	23.9	(0.8) †	54.9	(0.8) †	11.9	(0.6) †	9.8	(0.7) †	35.3	(1.0) †	47.2	(1.0) †	7.7	(0.5) †
	France	13.1	(1.0) †	22.7	(1.1) †	49.9	(1.2) †	14.3	(0.9) †	28.9	(1.0) †	34.3	(1.1) †	29.6	(1.0) †	7.2	(0.6) †
	Germany	14.1	(0.9) ‡	25.3	(1.2) ‡	44.9	(1.3) ‡	15.6	(0.8) ‡	24.1	(1.3) ‡	36.5	(1.3) ‡	30.7	(1.2) ‡	8.8	(0.8) ‡
	Greece	9.1	(0.7)	26.1	(1.1)	51.8	(1.1)	13.0	(0.7)	22.6	(1.0)	37.6	(1.1)	32.4	(1.0)	7.4	(0.6)
	Hungary	10.2	(0.7) †	24.9	(1.0) †	53.2	(1.0) †	11.6	(0.7) †	15.1	(0.9) †	34.8	(1.1) †	42.1	(1.2) †	7.9	(0.6) †
	Iceland	15.5	(1.2) ‡	31.8	(1.4) ‡	45.0	(1.5) ‡	7.7	(0.9) ‡	15.4	(1.2) †	34.4	(1.7) †	43.6	(1.8) †	6.7	(0.9) †
	Ireland*	10.3	(0.6)	27.0	(0.8)	53.6	(1.0)	9.1	(0.6)	12.4	(0.7)	32.5	(1.1)	48.5	(1.2)	6.6	(0.5)
	Israel	16.0	(0.7)	23.2	(0.8)	45.7	(1.0)	15.2	(0.9)	21.9	(1.0)	34.9	(1.0)	34.2	(1.1)	9.0	(0.6)
	Italy	7.3	(0.5)	17.1	(0.8)	59.7	(1.0)	15.9	(0.7)	20.0	(0.8)	38.7	(0.9)	36.0	(1.0)	5.3	(0.5)
	Japan	32.7	(1.2)	24.8	(1.1)	32.4	(1.2)	10.1	(0.7)	36.5	(1.4)	17.0	(0.9)	31.7	(1.3)	14.9	(1.0)
	Korea	34.6	(1.2)	34.7	(1.1)	26.3	(0.9)	4.4	(0.5)	22.2	(1.2)	24.6	(1.2)	42.6	(1.1)	10.6	(1.0)
	Latvia*	7.9	(0.6) †	21.1	(1.0) †	55.6	(1.2) †	15.4	(0.7) †	8.9	(0.7) †	36.5	(1.2) †	47.3	(1.3) †	7.2	(0.6) †
	Lithuania	9.8	(0.7) †	20.6	(0.8) †	53.4	(1.1) †	16.2	(0.9) †	11.3	(0.8) †	33.3	(1.0) †	45.0	(1.2) †	10.4	(0.7) †
	Mexico	5.3	(0.5) †	17.8	(1.3) †	56.3	(1.4) †	20.6	(1.1) †	10.2	(0.8) †	30.0	(1.5) †	46.5	(1.5) †	13.2	(1.1) †
	Netherlands*	13.3	(0.8) †	34.5	(1.3) †	44.8	(1.3) †	7.5	(0.7) †	20.4	(1.0) †	41.1	(1.5) †	34.1	(1.3) †	4.4	(0.6) †
	New Zealand*	11.2	(0.8) †	38.0	(1.2) †	43.5	(1.2) †	7.4	(0.7) †	8.0	(0.7) †	30.1	(1.1) †	54.2	(1.2) †	7.7	(0.6) †
	Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Poland	11.6	(0.6)	28.2	(1.0)	49.3	(1.3)	10.9	(0.8)	14.4	(0.9)	34.8	(1.0)	43.9	(1.0)	6.9	(0.6)
	Portugal	7.7	(0.6) †	20.1	(0.8) †	58.5	(1.1) †	13.6	(0.8) †	15.1	(0.9) †	41.2	(1.0) †	38.1	(0.9) †	5.5	(0.5) †
	Slovak Republic	10.3	(0.7) †	27.7	(1.2) †	50.7	(1.1) †	11.3	(0.8) †	9.5	(0.7) †	30.2	(1.0) †	50.4	(1.3) †	9.9	(0.7) †
	Slovenia	9.3	(0.6)	23.1	(1.2)	55.4	(1.2)	12.1	(0.8)	11.4	(0.8)	31.0	(0.9)	49.4	(1.1)	8.2	(0.7)
	Spain	8.3	(0.4) †	21.5	(0.6) †	53.9	(0.6) †	16.3	(0.5) †	20.3	(0.6) †	36.5	(0.7) †	36.0	(0.8) †	7.2	(0.4) †
	Sweden	13.1	(1.0) †	33.5	(1.1) †	43.7	(1.1) †	9.7	(0.8) †	10.8	(0.9) †	33.3	(1.2) †	46.7	(1.3) †	9.2	(0.7) †
	Switzerland	12.5	(0.9) ‡	22.7	(1.1) ‡	45.1	(1.4) ‡	19.7	(1.2) ‡	19.6	(0.9) ‡	35.5	(1.5) ‡	34.6	(1.4) ‡	10.4	(0.8) ‡
	Türkiye	10.7	(0.7)	19.5	(0.8)	49.9	(1.0)	19.8	(0.8)	15.5	(0.8)	30.5	(0.9)	41.3	(0.9)	12.7	(0.8)
	United Kingdom*	13.7	(0.8) †	34.6	(1.2) †	43.1	(1.3) †	8.7	(0.7) †	15.8	(0.8) ‡	35.2	(1.2) ‡	41.1	(1.3) ‡	7.9	(0.8) ‡
	United States*	12.5	(0.7)	27.0	(1.0)	48.4	(1.2)	12.1	(0.9)	16.2	(1.0)	33.1	(1.2)	41.6	(1.3)	9.0	(0.9)
	OECD average	11.8	(0.1)	25.2	(0.2)	49.7	(0.2)	13.3	(0.1)	15.9	(0.1)	33.4	(0.2)	42.1	(0.2)	8.6	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.24. Experience with learning at home [8/10]

Based on students' reports

	Percentage of students who reported the following about the time when their school building was closed because of COVID-19:															
	I improved my skills in using digital devices for learning purposes								My teachers were well prepared to provide instruction remotely							
	Strongly disagree		Disagree		Agree		Strongly agree		Strongly disagree		Disagree		Agree		Strongly agree	
Partners	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Albania	9.1	(0.9) ‡	16.8	(1.1) ‡	46.4	(1.5) ‡	27.7	(1.2) ‡	8.2	(0.9) ‡	18.5	(1.1) ‡	44.0	(1.5) ‡	29.3	(1.4) ‡
Argentina	7.6	(0.9) ‡	18.4	(1.1) ‡	55.2	(1.5) ‡	18.7	(1.0) ‡	15.1	(0.8) ‡	32.9	(1.3) ‡	42.0	(1.4) ‡	10.0	(1.0) ‡
Baku (Azerbaijan)	6.4	(0.8) ‡	19.2	(1.3) ‡	54.0	(1.5) ‡	20.4	(1.2) ‡	8.5	(1.0) ‡	23.3	(1.4) ‡	47.7	(1.8) ‡	20.5	(1.3) ‡
Brazil	12.2	(0.6) †	31.4	(1.0) †	45.7	(1.1) †	10.8	(0.6) †	15.0	(0.7) †	38.4	(0.9) †	39.4	(0.9) †	7.2	(0.5) †
Brunei Darussalam	5.8	(0.6) †	25.7	(1.1) †	55.4	(1.4) †	13.1	(0.8) †	3.2	(0.4) †	18.2	(0.9) †	67.6	(1.1) †	10.9	(0.7) †
Bulgaria	10.4	(0.8) †	24.7	(1.1) †	48.8	(1.5) †	16.0	(0.8) †	9.6	(0.7) †	24.8	(1.2) †	47.7	(1.2) †	18.0	(0.9) †
Cambodia	8.6	(0.6) †	29.2	(0.9) †	54.7	(0.9) †	7.5	(0.6) †	4.5	(0.4) †	15.2	(0.9) †	66.3	(1.3) †	14.0	(1.0) †
Croatia	11.0	(0.7) †	26.0	(0.8) †	53.2	(1.1) †	9.9	(0.7) †	11.5	(0.9) †	28.7	(1.2) †	50.9	(1.3) †	9.0	(0.7) †
Cyprus	11.6	(0.8) ‡	27.3	(1.2) ‡	44.4	(1.1) ‡	16.7	(0.9) ‡	16.9	(0.9) ‡	34.1	(1.3) ‡	37.0	(1.3) ‡	12.0	(0.9) ‡
Dominican Republic	10.0	(1.1) ‡	17.5	(1.4) ‡	47.7	(1.7) ‡	24.8	(1.5) ‡	11.9	(1.4) ‡	22.5	(1.5) ‡	45.3	(2.0) ‡	20.2	(1.7) ‡
El Salvador	5.9	(0.7) ‡	15.8	(1.1) ‡	57.2	(1.3) ‡	21.1	(1.0) ‡	7.5	(0.8) †	21.3	(1.3) †	52.9	(1.4) †	18.3	(1.1) †
Georgia	8.1	(0.9) ‡	25.8	(1.2) ‡	50.7	(1.2) ‡	15.4	(1.0) ‡	8.4	(0.7) ‡	24.0	(1.2) ‡	49.7	(1.5) ‡	17.8	(1.1) ‡
Guatemala	7.6	(0.6) ‡	12.0	(0.8) ‡	49.0	(1.4) ‡	31.4	(1.3) ‡	9.0	(0.7) ‡	18.6	(1.1) ‡	48.7	(1.3) ‡	23.8	(1.1) ‡
Hong Kong (China)*	7.9	(0.7)	23.1	(0.9)	58.2	(1.1)	10.7	(0.7)	7.5	(0.7)	26.5	(1.1)	57.5	(1.1)	8.6	(0.6)
Indonesia	4.9	(0.4)	20.4	(0.8)	65.2	(1.0)	9.5	(0.6)	4.7	(0.5)	16.3	(0.9)	66.6	(1.2)	12.5	(0.7)
Jamaica*	6.5	(0.8) ‡	19.7	(1.7) ‡	53.4	(2.2) ‡	20.4	(1.4) ‡	8.3	(1.1) ‡	24.3	(1.5) ‡	51.9	(1.9) ‡	15.4	(1.8) ‡
Jordan	13.5	(0.8) †	24.0	(1.2) †	44.8	(1.4) †	17.7	(1.0) †	14.7	(0.9) †	26.0	(1.1) †	43.9	(1.3) †	15.4	(0.9) †
Kazakhstan	7.1	(0.5)	18.9	(0.5)	60.3	(0.7)	13.7	(0.5)	7.7	(0.4)	20.2	(0.6)	58.0	(0.7)	14.1	(0.5)
Kosovo	10.3	(1.0) †	22.0	(1.2) †	49.7	(1.5) †	18.0	(1.1) †	10.9	(0.9) †	22.6	(1.3) †	47.9	(1.4) †	18.6	(1.0) †
Macao (China)	8.9	(0.7)	30.0	(1.0)	49.9	(1.1)	11.2	(0.7)	7.4	(0.7)	27.0	(1.1)	56.6	(1.2)	9.1	(0.6)
Malaysia	6.2	(0.7) †	20.9	(0.8) †	58.3	(1.2) †	14.6	(0.8) †	6.9	(0.7) †	26.6	(1.0) †	55.2	(1.1) †	11.2	(0.6) †
Malta	11.4	(0.8) †	25.8	(1.3) †	49.6	(1.4) †	13.2	(1.1) †	15.3	(1.1) †	34.8	(1.4) †	40.7	(1.5) †	9.2	(1.0) †
Moldova	6.1	(0.6)	24.6	(1.1)	56.7	(1.3)	12.6	(0.7)	6.9	(0.6) †	26.2	(1.1) †	54.0	(1.1) †	12.8	(0.7) †
Mongolia	10.2	(0.5)	21.0	(0.8)	54.7	(0.9)	14.0	(0.8)	11.9	(0.8)	30.2	(0.9)	46.9	(1.0)	11.1	(0.7)
Montenegro	12.4	(0.9) †	27.7	(1.1) †	45.6	(1.4) †	14.3	(0.8) †	12.0	(0.7) †	25.3	(1.1) †	49.5	(1.2) †	13.2	(0.8) †
Morocco	13.0	(1.0) ‡	27.4	(1.3) ‡	44.7	(1.4) ‡	14.8	(1.2) ‡	14.0	(1.0) ‡	27.1	(1.4) ‡	45.1	(1.6) ‡	13.8	(1.0) ‡
North Macedonia	7.7	(0.7) †	21.1	(1.1) †	53.1	(1.1) †	18.1	(0.9) †	10.3	(0.8) †	27.2	(1.1) †	46.8	(1.2) †	15.7	(0.9) †
Palestinian Authority	11.3	(0.7) †	23.1	(1.0) †	49.8	(1.1) †	15.8	(0.8) †	10.7	(0.7) †	23.4	(1.0) †	49.0	(1.1) †	16.9	(0.8) †
Panama*	7.0	(1.3) ‡	14.7	(2.2) ‡	53.0	(2.8) ‡	25.3	(2.2) ‡	9.8	(1.6) ‡	29.2	(2.7) ‡	45.3	(3.0) ‡	15.7	(2.1) ‡
Paraguay	7.5	(0.6) †	15.3	(0.8) †	53.1	(1.2) †	24.1	(1.2) †	11.2	(0.8) †	26.0	(1.0) †	48.2	(1.0) †	14.7	(0.9) †
Peru	4.1	(0.7) ‡	15.1	(1.2) ‡	57.4	(1.6) ‡	23.4	(1.4) ‡	7.7	(0.6) ‡	33.5	(1.5) ‡	48.1	(1.6) ‡	10.6	(1.0) ‡
Philippines	4.4	(0.4) †	16.8	(1.0) †	65.1	(1.1) †	13.7	(0.9) †	3.9	(0.4) †	13.0	(0.9) †	70.8	(0.9) †	12.3	(0.8) †
Qatar	9.0	(0.8) †	20.8	(1.2) †	49.8	(1.4) †	20.3	(1.1) †	9.3	(0.9) †	19.4	(1.1) †	54.7	(1.3) †	16.6	(1.0) †
Romania	8.4	(0.6) †	21.7	(1.0) †	54.4	(1.1) †	15.5	(0.8) †	13.1	(0.8) †	29.2	(0.9) †	45.8	(1.2) †	11.9	(0.8) †
Saudi Arabia	9.5	(0.7) †	17.9	(1.0) †	49.1	(1.3) †	23.5	(1.1) †	8.9	(0.7) †	18.2	(1.2) †	48.5	(1.1) †	24.4	(1.1) †
Serbia	13.2	(0.8) †	27.0	(0.9) †	48.5	(1.1) †	11.3	(0.8) †	13.4	(0.9) †	31.2	(1.1) †	44.7	(1.2) †	10.7	(0.7) †
Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chinese Taipei	8.8	(0.7)	28.2	(1.1)	50.2	(1.4)	12.8	(0.9)	8.5	(0.8)	23.9	(1.2)	55.1	(1.4)	12.5	(1.0)
Thailand	7.0	(0.6)	21.3	(0.9)	60.5	(1.1)	11.1	(0.7)	6.0	(0.5)	23.3	(0.9)	58.8	(1.1)	11.9	(0.9)
Ukrainian regions (18 of 27)	7.6	(1.0) †	23.2	(1.5) †	57.2	(1.9) †	11.9	(1.0) †	6.8	(0.9) †	24.8	(2.0) †	53.8	(2.2) †	14.6	(1.5) †
United Arab Emirates	7.4	(0.6) †	17.4	(0.6) †	52.0	(0.7) †	23.2	(0.6) †	7.6	(0.4) †	19.1	(0.5) †	53.1	(0.6) †	20.3	(0.5) †
Uruguay	10.1	(0.8) ‡	24.0	(1.5) ‡	52.7	(1.5) ‡	13.2	(0.9) ‡	14.6	(1.0) ‡	34.4	(1.4) ‡	42.4	(1.6) ‡	8.5	(0.8) ‡
Uzbekistan	9.8	(0.9) ‡	24.6	(1.4) ‡	44.1	(1.6) ‡	21.5	(1.3) ‡	10.8	(1.0) ‡	21.9	(1.2) ‡	43.5	(1.4) ‡	23.8	(1.3) ‡
Viet Nam	3.6	(0.3)	14.3	(0.6)	66.8	(0.8)	15.3	(0.6)	2.6	(0.2)	8.7	(0.6)	67.4	(0.8)	21.3	(0.7)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.24. Experience with learning at home [9/10]

Based on students' reports

	Percentage of students who reported the following about the time when their school building was closed because of COVID-19:															
	I was well prepared to learn on my own								I missed sports and other physical activities organised by my school							
	Strongly disagree		Disagree		Agree		Strongly agree		Strongly disagree		Disagree		Agree		Strongly agree	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																
Australia*	11.3	(0.4)	29.2	(0.7)	46.5	(0.6)	13.0	(0.5)	12.8	(0.5)	20.1	(0.6)	40.3	(0.7)	26.7	(0.7)
Austria	15.4	(0.8) †	27.6	(1.0) †	40.1	(1.1) †	16.9	(0.9) †	25.5	(1.0) †	25.9	(0.9) †	32.1	(1.2) †	16.5	(0.9) †
Belgium	13.8	(0.7) †	30.0	(1.2) †	47.4	(1.2) †	8.8	(0.6) †	22.6	(0.9) †	26.8	(1.0) †	33.7	(1.0) †	16.8	(0.8) †
Canada*	14.7	(0.6) †	31.8	(0.7) †	42.6	(0.9) †	11.0	(0.5) †	14.4	(0.5) †	22.0	(0.7) †	35.6	(0.9) †	27.9	(0.7) †
Chile	14.3	(1.0) ‡	31.4	(1.5) ‡	43.3	(1.5) ‡	11.0	(1.1) ‡	15.0	(1.1) ‡	20.9	(1.4) ‡	35.4	(1.4) ‡	28.8	(1.3) ‡
Colombia	7.2	(0.6) †	32.9	(1.2) †	48.8	(1.4) †	11.1	(0.9) †	10.0	(0.7) †	21.2	(0.9) †	45.9	(1.3) †	22.9	(1.0) †
Costa Rica	11.2	(0.7)	32.4	(1.2)	42.9	(1.3)	13.4	(0.8)	15.2	(0.8)	19.4	(0.9)	37.4	(1.2)	27.9	(1.2)
Czech Republic	10.7	(0.6) †	34.5	(0.9) †	46.2	(0.9) †	8.5	(0.5) †	17.6	(0.9) †	35.1	(1.1) †	32.9	(1.0) †	14.3	(0.7) †
Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Estonia	10.3	(0.7)	30.1	(1.0)	48.8	(1.1)	10.8	(0.6)	18.9	(0.7)	30.7	(0.9)	35.5	(1.0)	14.9	(0.8)
Finland	8.4	(0.5) †	27.3	(1.0) †	50.0	(1.0) †	14.3	(0.7) †	20.5	(0.9) †	33.3	(0.9) †	33.8	(1.1) †	12.4	(0.7) †
France	19.9	(0.8) †	28.7	(1.1) †	39.9	(1.3) †	11.6	(0.8) †	30.0	(1.1) †	27.6	(1.1) †	27.5	(0.9) †	14.9	(0.8) †
Germany	18.9	(1.0) ‡	30.7	(1.1) ‡	37.9	(1.3) ‡	12.5	(0.9) ‡	31.6	(1.3) ‡	28.8	(1.2) ‡	26.4	(1.1) ‡	13.2	(0.8) ‡
Greece	13.9	(0.8) †	35.9	(1.1) †	40.0	(1.3) †	10.1	(0.7) †	12.8	(0.8)	22.7	(0.9)	41.9	(1.2)	22.6	(1.0)
Hungary	8.9	(0.6) †	27.8	(1.0) †	50.7	(1.2) †	12.6	(0.7) †	19.4	(0.9) †	27.1	(1.0) †	36.6	(1.2) †	16.9	(0.9) †
Iceland	14.8	(1.3) †	27.3	(1.6) †	46.2	(1.7) †	11.7	(1.2) †	18.2	(1.2) †	24.0	(1.3) †	34.9	(1.4) †	22.9	(1.4) †
Ireland*	13.3	(0.8)	34.5	(1.1)	44.5	(1.2)	7.8	(0.6)	9.6	(0.7)	19.5	(0.8)	40.3	(1.0)	30.6	(1.1)
Israel	18.6	(0.8)	34.7	(1.1)	33.1	(1.1)	13.6	(0.8)	23.2	(0.9)	24.2	(0.9)	30.6	(0.9)	22.0	(1.0)
Italy	10.3	(0.7)	29.2	(0.9)	50.3	(1.0)	10.3	(0.7)	13.5	(0.6)	22.8	(0.9)	40.7	(1.2)	23.0	(0.8)
Japan	24.8	(1.2)	34.5	(1.2)	32.4	(1.2)	8.3	(0.6)	24.2	(1.2)	16.5	(0.8)	31.7	(1.1)	27.5	(1.0)
Korea	24.6	(1.3)	36.5	(1.1)	30.6	(1.1)	8.3	(1.0)	19.6	(1.0)	18.2	(0.9)	33.6	(1.1)	28.5	(1.1)
Latvia*	9.9	(0.7) †	33.0	(1.3) †	47.5	(1.5) †	9.6	(0.7) †	17.0	(0.9) †	29.1	(1.0) †	37.2	(1.0) †	16.7	(1.0) †
Lithuania	11.5	(0.7) †	27.8	(1.0) †	48.1	(1.2) †	12.7	(0.9) †	18.8	(0.8) †	32.8	(1.0) †	34.6	(1.1) †	13.8	(0.8) †
Mexico	10.1	(0.9) †	35.1	(1.3) †	45.0	(1.4) †	9.8	(0.9) †	9.6	(0.8) †	15.7	(0.8) †	47.1	(1.3) †	27.7	(1.0) †
Netherlands*	12.8	(0.8) †	30.8	(1.2) †	48.0	(1.2) †	8.3	(0.8) †	21.2	(0.9) †	32.4	(1.1) †	31.8	(1.1) †	14.6	(0.9) †
New Zealand*	10.2	(0.8) †	31.7	(1.3) †	48.5	(1.5) †	9.6	(0.8) †	14.4	(1.0) †	23.9	(1.2) †	36.7	(1.1) †	25.0	(1.4) †
Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Poland	12.0	(0.7)	34.7	(1.1)	44.4	(1.1)	8.9	(0.6)	18.3	(0.9)	32.9	(1.1)	32.5	(1.2)	16.3	(0.7)
Portugal	10.7	(0.7) †	40.1	(1.1) †	40.5	(1.2) †	8.7	(0.7) †	10.4	(0.6) †	22.1	(1.0) †	41.5	(1.1) †	26.0	(1.0) †
Slovak Republic	9.6	(0.7) †	28.2	(1.2) †	50.2	(1.3) †	12.1	(0.8) †	12.8	(0.7) †	29.0	(1.1) †	40.1	(1.2) †	18.1	(1.1) †
Slovenia	10.5	(0.8)	30.7	(1.1)	48.2	(1.1)	10.6	(0.7)	14.8	(0.9)	26.4	(1.1)	41.4	(1.2)	17.5	(0.9)
Spain	11.2	(0.5) †	31.8	(0.7) †	45.9	(0.7) †	11.1	(0.4) †	14.8	(0.6) †	24.4	(0.7) †	36.0	(0.6) †	24.9	(0.6) †
Sweden	10.7	(0.8) †	29.0	(1.1) †	46.5	(1.3) †	13.8	(0.9) †	21.0	(1.0) †	29.8	(1.2) †	32.5	(1.1) †	16.8	(0.9) †
Switzerland	12.0	(0.7) ‡	25.9	(1.1) ‡	44.5	(1.1) ‡	17.6	(1.0) ‡	26.4	(1.3) ‡	28.3	(1.3) ‡	30.6	(1.2) ‡	14.6	(1.0) ‡
Türkiye	18.3	(0.8)	37.1	(1.1)	33.0	(1.0)	11.5	(0.7)	17.0	(0.8)	20.4	(0.8)	39.3	(0.9)	23.3	(0.8)
United Kingdom*	18.6	(1.0) ‡	39.1	(1.3) ‡	33.9	(1.3) ‡	8.4	(0.7) ‡	15.4	(0.9) ‡	24.2	(1.0) ‡	37.1	(1.1) ‡	23.3	(1.0) ‡
United States*	17.1	(0.8)	36.5	(1.2)	37.8	(1.2)	8.7	(0.8)	15.3	(1.0)	22.9	(0.9)	35.3	(1.1)	26.5	(1.2)
OECD average	13.5	(0.1)	32.0	(0.2)	43.5	(0.2)	11.1	(0.1)	17.8	(0.2)	25.2	(0.2)	36.0	(0.2)	21.0	(0.2)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.24. Experience with learning at home [10/10]

Based on students' reports

	Percentage of students who reported the following about the time when their school building was closed because of COVID-19:															
	I improved my skills in using digital devices for learning purposes								My teachers were well prepared to provide instruction remotely							
	Strongly disagree		Disagree		Agree		Strongly agree		Strongly disagree		Disagree		Agree		Strongly agree	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																
Albania	9.1	(0.9) ‡	16.8	(1.1) ‡	46.4	(1.5) ‡	27.7	(1.2) ‡	8.2	(0.9) ‡	18.5	(1.1) ‡	44.0	(1.5) ‡	29.3	(1.4) ‡
Argentina	7.6	(0.9) ‡	18.4	(1.1) ‡	55.2	(1.5) ‡	18.7	(1.0) ‡	15.1	(0.8) ‡	32.9	(1.3) ‡	42.0	(1.4) ‡	10.0	(1.0) ‡
Baku (Azerbaijan)	6.4	(0.8) ‡	19.2	(1.3) ‡	54.0	(1.5) ‡	20.4	(1.2) ‡	8.5	(1.0) ‡	23.3	(1.4) ‡	47.7	(1.8) ‡	20.5	(1.3) ‡
Brazil	12.2	(0.6) †	31.4	(1.0) †	45.7	(1.1) †	10.8	(0.6) †	15.0	(0.7) †	38.4	(0.9) †	39.4	(0.9) †	7.2	(0.5) †
Brunei Darussalam	5.8	(0.6) †	25.7	(1.1) †	55.4	(1.4) †	13.1	(0.8) †	3.2	(0.4) †	18.2	(0.9) †	67.6	(1.1) †	10.9	(0.7) †
Bulgaria	10.4	(0.8) †	24.7	(1.1) †	48.8	(1.5) †	16.0	(0.8) †	9.6	(0.7) †	24.8	(1.2) †	47.7	(1.2) †	18.0	(0.9) †
Cambodia	8.6	(0.6) †	29.2	(0.9) †	54.7	(0.9) †	7.5	(0.6) †	4.5	(0.4) †	15.2	(0.9) †	66.3	(1.3) †	14.0	(1.0) †
Croatia	11.0	(0.7) †	26.0	(0.8) †	53.2	(1.1) †	9.9	(0.7) †	11.5	(0.9) †	28.7	(1.2) †	50.9	(1.3) †	9.0	(0.7) †
Cyprus	11.6	(0.8) ‡	27.3	(1.2) ‡	44.4	(1.1) ‡	16.7	(0.9) ‡	16.9	(0.9) ‡	34.1	(1.3) ‡	37.0	(1.3) ‡	12.0	(0.9) ‡
Dominican Republic	10.0	(1.1) ‡	17.5	(1.4) ‡	47.7	(1.7) ‡	24.8	(1.5) ‡	11.9	(1.4) ‡	22.5	(1.5) ‡	45.3	(2.0) ‡	20.2	(1.7) ‡
El Salvador	5.9	(0.7) ‡	15.8	(1.1) ‡	57.2	(1.3) ‡	21.1	(1.0) ‡	7.5	(0.8) †	21.3	(1.3) †	52.9	(1.4) †	18.3	(1.1) †
Georgia	8.1	(0.9) ‡	25.8	(1.2) ‡	50.7	(1.2) ‡	15.4	(1.0) ‡	8.4	(0.7) ‡	24.0	(1.2) ‡	49.7	(1.5) ‡	17.8	(1.1) ‡
Guatemala	7.6	(0.6) ‡	12.0	(0.8) ‡	49.0	(1.4) ‡	31.4	(1.3) ‡	9.0	(0.7) ‡	18.6	(1.1) ‡	48.7	(1.3) ‡	23.8	(1.1) ‡
Hong Kong (China)*	7.9	(0.7)	23.1	(0.9)	58.2	(1.1)	10.7	(0.7)	7.5	(0.7)	26.5	(1.1)	57.5	(1.1)	8.6	(0.6)
Indonesia	4.9	(0.4)	20.4	(0.8)	65.2	(1.0)	9.5	(0.6)	4.7	(0.5)	16.3	(0.9)	66.6	(1.2)	12.5	(0.7)
Jamaica*	6.5	(0.8) ‡	19.7	(1.7) ‡	53.4	(2.2) ‡	20.4	(1.4) ‡	8.3	(1.1) ‡	24.3	(1.5) ‡	51.9	(1.9) ‡	15.4	(1.8) ‡
Jordan	13.5	(0.8) †	24.0	(1.2) †	44.8	(1.4) †	17.7	(1.0) †	14.7	(0.9) †	26.0	(1.1) †	43.9	(1.3) †	15.4	(0.9) †
Kazakhstan	7.1	(0.5)	18.9	(0.5)	60.3	(0.7)	13.7	(0.5)	7.7	(0.4)	20.2	(0.6)	58.0	(0.7)	14.1	(0.5)
Kosovo	10.3	(1.0) †	22.0	(1.2) †	49.7	(1.5) †	18.0	(1.1) †	10.9	(0.9) †	22.6	(1.3) †	47.9	(1.4) †	18.6	(1.0) †
Macao (China)	8.9	(0.7)	30.0	(1.0)	49.9	(1.1)	11.2	(0.7)	7.4	(0.7)	27.0	(1.1)	56.6	(1.2)	9.1	(0.6)
Malaysia	6.2	(0.7) †	20.9	(0.8) †	58.3	(1.2) †	14.6	(0.8) †	6.9	(0.7) †	26.6	(1.0) †	55.2	(1.1) †	11.2	(0.6) †
Malta	11.4	(0.8) †	25.8	(1.3) †	49.6	(1.4) †	13.2	(1.1) †	15.3	(1.1) †	34.8	(1.4) †	40.7	(1.5) †	9.2	(1.0) †
Moldova	6.1	(0.6)	24.6	(1.1)	56.7	(1.3)	12.6	(0.7)	6.9	(0.6) †	26.2	(1.1) †	54.0	(1.1) †	12.8	(0.7) †
Mongolia	10.2	(0.5)	21.0	(0.8)	54.7	(0.9)	14.0	(0.8)	11.9	(0.8)	30.2	(0.9)	46.9	(1.0)	11.1	(0.7)
Montenegro	12.4	(0.9) †	27.7	(1.1) †	45.6	(1.4) †	14.3	(0.8) †	12.0	(0.7) †	25.3	(1.1) †	49.5	(1.2) †	13.2	(0.8) †
Morocco	13.0	(1.0) ‡	27.4	(1.3) ‡	44.7	(1.4) ‡	14.8	(1.2) ‡	14.0	(1.0) ‡	27.1	(1.4) ‡	45.1	(1.6) ‡	13.8	(1.0) ‡
North Macedonia	7.7	(0.7) †	21.1	(1.1) †	53.1	(1.1) †	18.1	(0.9) †	10.3	(0.8) †	27.2	(1.1) †	46.8	(1.2) †	15.7	(0.9) †
Palestinian Authority	11.3	(0.7) †	23.1	(1.0) †	49.8	(1.1) †	15.8	(0.8) †	10.7	(0.7) †	23.4	(1.0) †	49.0	(1.1) †	16.9	(0.8) †
Panama*	7.0	(1.3) ‡	14.7	(2.2) ‡	53.0	(2.8) ‡	25.3	(2.2) ‡	9.8	(1.6) ‡	29.2	(2.7) ‡	45.3	(3.0) ‡	15.7	(2.1) ‡
Paraguay	7.5	(0.6) †	15.3	(0.8) †	53.1	(1.2) †	24.1	(1.2) †	11.2	(0.8) †	26.0	(1.0) †	48.2	(1.0) †	14.7	(0.9) †
Peru	4.1	(0.7) ‡	15.1	(1.2) ‡	57.4	(1.6) ‡	23.4	(1.4) ‡	7.7	(0.6) ‡	33.5	(1.5) ‡	48.1	(1.6) ‡	10.6	(1.0) ‡
Philippines	4.4	(0.4) †	16.8	(1.0) †	65.1	(1.1) †	13.7	(0.9) †	3.9	(0.4) †	13.0	(0.9) †	70.8	(0.9) †	12.3	(0.8) †
Qatar	9.0	(0.8) †	20.8	(1.2) †	49.8	(1.4) †	20.3	(1.1) †	9.3	(0.9) †	19.4	(1.1) †	54.7	(1.3) †	16.6	(1.0) †
Romania	8.4	(0.6) †	21.7	(1.0) †	54.4	(1.1) †	15.5	(0.8) †	13.1	(0.8) †	29.2	(0.9) †	45.8	(1.2) †	11.9	(0.8) †
Saudi Arabia	9.5	(0.7) †	17.9	(1.0) †	49.1	(1.3) †	23.5	(1.1) †	8.9	(0.7) †	18.2	(1.2) †	48.5	(1.1) †	24.4	(1.1) †
Serbia	13.2	(0.8) †	27.0	(0.9) †	48.5	(1.1) †	11.3	(0.8) †	13.4	(0.9) †	31.2	(1.1) †	44.7	(1.2) †	10.7	(0.7) †
Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chinese Taipei	8.8	(0.7)	28.2	(1.1)	50.2	(1.4)	12.8	(0.9)	8.5	(0.8)	23.9	(1.2)	55.1	(1.4)	12.5	(1.0)
Thailand	7.0	(0.6)	21.3	(0.9)	60.5	(1.1)	11.1	(0.7)	6.0	(0.5)	23.3	(0.9)	58.8	(1.1)	11.9	(0.9)
Ukrainian regions (18 of 27)	7.6	(1.0) †	23.2	(1.5) †	57.2	(1.9) †	11.9	(1.0) †	6.8	(0.9) †	24.8	(2.0) †	53.8	(2.2) †	14.6	(1.5) †
United Arab Emirates	7.4	(0.6) †	17.4	(0.6) †	52.0	(0.7) †	23.2	(0.6) †	7.6	(0.4) †	19.1	(0.5) †	53.1	(0.6) †	20.3	(0.5) †
Uruguay	10.1	(0.8) ‡	24.0	(1.5) ‡	52.7	(1.5) ‡	13.2	(0.9) ‡	14.6	(1.0) ‡	34.4	(1.4) ‡	42.4	(1.6) ‡	8.5	(0.8) ‡
Uzbekistan	9.8	(0.9) ‡	24.6	(1.4) ‡	44.1	(1.6) ‡	21.5	(1.3) ‡	10.8	(1.0) ‡	21.9	(1.2) ‡	43.5	(1.4) ‡	23.8	(1.3) ‡
Viet Nam	3.6	(0.3)	14.3	(0.6)	66.8	(0.8)	15.3	(0.6)	2.6	(0.2)	8.7	(0.6)	67.4	(0.8)	21.3	(0.7)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.30. Problems with remote learning [1/8]

Based on students' reports

		Index of problems with remote learning				Percentage of students who reported that, when their school building was closed because of COVID-19, they had the following problems when completing their schoolwork:															
						Problems with access to a digital device when they needed it								Problems with Internet access							
		Average		Variability		Never		A few times		About once or twice a week		Every day or almost every day		Never		A few times		About once or twice a week		Every day or almost every day	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	0.19	(0.01)	0.95	(0.01)	41.7	(0.9)	39.9	(0.7)	14.1	(0.5)	4.3	(0.3)	29.6	(0.7)	47.7	(0.8)	16.8	(0.5)	5.9	(0.4)
	Austria	0.02	(0.02) †	0.97	(0.01) †	52.7	(1.3) †	33.6	(1.1) †	9.9	(0.7) †	3.8	(0.5) †	30.0	(1.0) †	47.2	(1.1) †	17.1	(0.8) †	5.7	(0.5) †
	Belgium	-0.11	(0.02) †	1.00	(0.01) †	49.6	(1.1) †	34.2	(0.9) †	11.8	(0.6) †	4.4	(0.4) †	41.3	(1.1) †	42.0	(1.0) †	13.0	(0.7) †	3.7	(0.4) †
	Canada*	0.09	(0.01) †	1.00	(0.01) †	52.6	(0.7) †	32.4	(0.6) †	11.2	(0.5) †	3.8	(0.3) †	35.2	(0.7) †	43.0	(0.7) †	16.3	(0.6) †	5.5	(0.3) †
	Chile	0.32	(0.02) †	0.97	(0.02) †	31.1	(1.0) †	41.8	(1.2) †	21.9	(1.1) †	5.1	(0.5) †	18.2	(1.2) †	45.9	(1.3) †	27.0	(1.1) †	8.8	(0.7) †
	Colombia	0.25	(0.02) †	1.01	(0.02) †	30.4	(1.1) †	46.7	(1.2) †	13.9	(0.9) †	9.0	(0.7) †	16.5	(0.9) †	51.2	(1.1) †	18.3	(1.0) †	14.0	(0.9) †
	Costa Rica	0.19	(0.02)	0.95	(0.02)	33.2	(1.1)	44.2	(1.1)	15.4	(0.8)	7.3	(0.6)	20.0	(0.8)	45.5	(1.0)	21.5	(0.8)	13.0	(0.6)
	Czech Republic	0.06	(0.01)	0.95	(0.01)	50.9	(1.1) †	31.6	(0.8) †	13.5	(0.7) †	3.9	(0.4) †	25.8	(0.9) †	50.5	(1.0) †	18.2	(0.8) †	5.5	(0.4) †
	Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	-0.04	(0.02)	0.88	(0.01)	39.5	(1.0)	45.6	(1.1)	12.3	(0.6)	2.6	(0.3)	30.0	(0.9)	52.8	(1.1)	14.1	(0.6)	3.1	(0.3)
	Finland	-0.20	(0.02) †	1.04	(0.01) †	57.0	(1.0) †	29.7	(0.8) †	10.3	(0.7) †	3.0	(0.3) †	34.0	(1.0) †	45.7	(0.9) †	16.0	(0.9) †	4.4	(0.4) †
	France	-0.24	(0.02) †	0.98	(0.01) †	67.5	(1.1) †	21.2	(0.9) †	7.6	(0.6) †	3.7	(0.4) †	52.5	(1.1) †	34.6	(1.0) †	8.9	(0.7) †	4.0	(0.4) †
	Germany	-0.01	(0.02) †	0.89	(0.01) †	51.6	(1.2) ‡	34.6	(1.1) ‡	10.3	(0.8) ‡	3.5	(0.4) ‡	32.9	(0.9) ‡	46.6	(0.8) ‡	15.3	(0.8) ‡	5.2	(0.5) ‡
	Greece	0.24	(0.02)	0.95	(0.01)	26.0	(1.0)	45.1	(0.8)	21.5	(0.9)	7.4	(0.6)	20.4	(0.8)	44.5	(1.1)	25.2	(0.9)	9.9	(0.6)
	Hungary	-0.27	(0.02) †	1.06	(0.01) †	74.2	(1.2) †	14.5	(0.9) †	7.1	(0.5) †	4.3	(0.5) †	34.8	(1.0) †	48.0	(1.2) †	12.6	(0.7) †	4.6	(0.5) †
	Iceland	-0.36	(0.03) †	1.19	(0.02) †	54.4	(1.5) †	32.8	(1.3) †	8.6	(1.0) †	4.2	(0.6) †	55.4	(1.6) †	33.3	(1.5) †	8.1	(0.8) †	3.2	(0.5) †
	Ireland*	0.12	(0.01)	0.90	(0.01)	46.0	(1.1)	38.6	(0.9)	11.9	(0.5)	3.5	(0.3)	26.2	(0.9)	51.9	(0.9)	16.4	(0.6)	5.6	(0.5)
	Israel	0.23	(0.02)	0.93	(0.01)	40.4	(1.2)	39.5	(1.1)	13.2	(0.7)	7.0	(0.5)	12.5	(0.7)	47.2	(1.2)	25.8	(0.9)	14.5	(0.8)
	Italy	0.23	(0.02)	0.84	(0.01)	19.6	(0.6)	53.8	(1.2)	20.7	(0.9)	5.9	(0.4)	14.5	(0.7)	54.4	(0.9)	24.1	(0.7)	7.0	(0.5)
	Japan	-0.65	(0.02)	1.01	(0.01)	80.7	(0.9)	13.6	(0.7)	3.3	(0.4)	2.4	(0.4)	70.1	(1.3)	21.3	(1.0)	5.7	(0.6)	2.8	(0.4)
	Korea	-0.44	(0.02)	1.18	(0.01)	55.2	(1.4)	16.9	(0.8)	16.7	(0.9)	11.2	(0.8)	46.7	(1.2)	27.2	(1.3)	19.4	(1.2)	6.6	(0.8)
	Latvia*	0.17	(0.02) †	0.90	(0.01) †	37.0	(1.1) †	43.0	(1.1) †	16.4	(0.8) †	3.7	(0.5) †	28.7	(1.0) †	50.1	(0.9) †	16.7	(0.8) †	4.4	(0.5) †
	Lithuania	-0.12	(0.02)	1.03	(0.01)	65.1	(1.1) †	21.7	(0.8) †	10.1	(0.7) †	3.0	(0.3) †	31.9	(1.1) †	48.5	(1.1) †	15.8	(0.8) †	3.8	(0.4) †
	Mexico	0.26	(0.02) †	0.96	(0.01) †	27.6	(1.1) †	49.3	(1.1) †	16.9	(1.0) †	6.3	(0.5) †	18.6	(1.2) †	48.8	(1.3) †	21.9	(1.1) †	10.7	(0.9) †
	Netherlands*	-0.02	(0.02)	0.93	(0.01)	35.0	(1.1)	44.8	(1.0)	15.7	(0.8)	4.5	(0.4)	31.6	(1.0)	46.7	(1.2)	17.1	(1.0)	4.5	(0.4)
	New Zealand*	0.03	(0.02) †	0.91	(0.01) †	60.4	(1.3) †	28.7	(1.1) †	8.1	(0.7) †	2.8	(0.4) †	47.9	(1.2) †	38.7	(1.1) †	10.3	(0.7) †	3.1	(0.4) †
	Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Poland	-0.02	(0.02)	0.97	(0.01)	54.0	(0.9)	32.6	(0.8)	10.2	(0.6)	3.2	(0.3)	23.7	(1.0)	55.7	(1.1)	16.3	(0.8)	4.3	(0.4)
	Portugal	-0.19	(0.02)	1.01	(0.01)	41.6	(1.0)	41.3	(1.0)	13.2	(0.7)	3.8	(0.4)	36.1	(0.9)	45.9	(0.8)	13.2	(0.6)	4.9	(0.4)
	Slovak Republic	0.07	(0.03) †	1.05	(0.01) †	44.4	(1.2) †	36.3	(1.1) †	13.4	(0.8) †	5.9	(0.5) †	30.4	(1.1) †	46.4	(1.1) †	17.4	(1.0) †	5.8	(0.5) †
	Slovenia	-0.06	(0.02)	0.96	(0.01)	45.3	(1.2)	40.7	(1.1)	11.8	(0.7)	2.2	(0.3)	29.8	(1.0)	51.1	(1.1)	15.7	(0.8)	3.5	(0.4)
	Spain	-0.05	(0.01)	0.95	(0.01)	42.6	(0.7)	41.9	(0.7)	11.4	(0.4)	4.1	(0.2)	40.2	(0.8)	43.3	(0.6)	12.5	(0.4)	4.0	(0.3)
	Sweden	-0.08	(0.02) †	0.95	(0.01) †	53.0	(1.0) †	34.5	(1.0) †	9.0	(0.6) †	3.5	(0.4) †	42.0	(1.3) †	43.6	(1.2) †	11.3	(0.7) †	3.1	(0.4) †
	Switzerland	-0.19	(0.02) †	0.98	(0.01) †	53.6	(1.3) ‡	33.0	(1.1) ‡	10.0	(0.8) ‡	3.4	(0.4) ‡	53.6	(1.5) ‡	33.6	(1.2) ‡	9.3	(0.7) ‡	3.5	(0.5) ‡
	Türkiye	0.18	(0.02)	1.09	(0.01)	39.2	(1.1)	36.1	(0.9)	14.4	(0.7)	10.3	(0.6)	26.1	(0.8)	43.6	(0.9)	18.9	(0.7)	11.5	(0.8)
	United Kingdom*	0.08	(0.02) †	0.94	(0.02) †	48.3	(1.3) †	37.2	(1.0) †	10.8	(0.6) †	3.7	(0.4) †	35.2	(1.2) †	47.4	(1.1) †	13.4	(0.7) †	4.0	(0.4) †
	United States*	0.11	(0.02)	0.97	(0.02)	48.9	(1.3)	37.3	(1.0)	9.2	(0.7)	4.6	(0.6)	35.1	(1.4)	45.4	(1.2)	14.7	(0.9)	4.8	(0.6)
	OECD average	-0.01	(0.00)	0.98	(0.00)	47.1	(0.2)	35.7	(0.2)	12.5	(0.1)	4.7	(0.1)	33.1	(0.2)	44.8	(0.2)	16.1	(0.1)	6.0	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.30. Problems with remote learning [2/8]

Based on students' reports

		Index of problems with remote learning				Percentage of students who reported that, when their school building was closed because of COVID-19, they had the following problems when completing their schoolwork:															
						Problems with access to a digital device when they needed it								Problems with Internet access							
		Average		Variability		Never		A few times		About once or twice a week		Every day or almost every day		Never		A few times		About once or twice a week		Every day or almost every day	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	0.48	(0.03) ‡	1.14	(0.02) ‡	28.5	(1.3) ‡	37.7	(1.3) ‡	20.1	(1.1) ‡	13.8	(1.1) ‡	24.7	(1.4) ‡	41.5	(1.4) ‡	21.0	(1.2) ‡	12.8	(0.9) ‡
	Argentina	0.25	(0.02) ‡	1.04	(0.02) ‡	33.8	(1.2) ‡	42.9	(1.2) ‡	14.8	(0.8) ‡	8.5	(0.6) ‡	23.4	(0.9) ‡	45.6	(1.1) ‡	19.9	(1.0) ‡	11.1	(0.8) ‡
	Baku (Azerbaijan)	0.58	(0.02) ‡	1.10	(0.02) ‡	20.9	(1.1) ‡	37.7	(1.6) ‡	27.7	(1.6) ‡	13.6	(1.1) ‡	17.3	(1.0) ‡	39.8	(1.2) ‡	28.2	(1.2) ‡	14.7	(0.9) ‡
	Brazil	0.21	(0.02) †	1.03	(0.01) †	32.9	(0.9) †	46.4	(1.0) †	13.6	(0.7) †	7.0	(0.4) †	27.8	(0.8) †	50.7	(1.0) †	14.0	(0.6) †	7.5	(0.5) †
	Brunei Darussalam	0.49	(0.01) †	0.82	(0.02) †	31.6	(1.1) †	45.0	(1.0) †	16.2	(0.7) †	7.2	(0.5) †	17.3	(0.8) †	51.1	(1.1) †	20.6	(0.8) †	11.0	(0.7) †
	Bulgaria	0.32	(0.02) †	1.08	(0.01) †	31.8	(1.0) †	37.3	(1.1) †	21.3	(1.0) †	9.6	(0.7) †	17.9	(0.9) †	46.3	(1.2) †	26.7	(1.0) †	9.1	(0.7) †
	Cambodia	0.47	(0.02) †	0.89	(0.02) †	30.1	(1.2) †	42.9	(0.9) †	15.8	(0.9) †	11.2	(0.8) †	11.5	(0.6) †	43.8	(1.0) †	22.5	(0.9) †	22.2	(1.0) †
	Croatia	-0.03	(0.02)	1.07	(0.01)	52.5	(1.1)	28.7	(1.0)	14.5	(0.8)	4.3	(0.4)	29.5	(0.9) †	46.7	(0.9) †	18.7	(0.8) †	5.1	(0.5) †
	Cyprus	0.33	(0.02) ‡	1.07	(0.02) ‡	29.7	(1.0) ‡	40.1	(1.2) ‡	20.7	(0.9) ‡	9.4	(0.6) ‡	20.7	(1.0) ‡	45.9	(1.2) ‡	25.3	(1.0) ‡	8.1	(0.6) ‡
	Dominican Republic	0.46	(0.03) ‡	1.03	(0.02) ‡	30.1	(1.4) ‡	39.0	(1.7) ‡	19.4	(1.4) ‡	11.4	(1.1) ‡	21.2	(1.6) ‡	43.0	(1.8) ‡	19.6	(1.5) ‡	16.2	(1.2) ‡
	El Salvador	0.39	(0.02) †	0.97	(0.02) †	23.7	(1.1) †	54.5	(1.1) †	13.2	(0.9) †	8.6	(0.6) †	20.4	(1.2) †	49.2	(1.3) †	16.2	(1.0) †	14.2	(0.8) †
	Georgia	0.18	(0.03) †	1.13	(0.02) †	30.3	(1.1) †	41.6	(1.3) †	17.5	(0.9) †	10.5	(0.7) †	28.3	(1.1) †	44.7	(1.3) †	18.1	(0.9) †	8.9	(0.7) †
	Guatemala	0.10	(0.02) ‡	1.03	(0.02) ‡	33.0	(1.1) ‡	48.3	(1.1) ‡	11.2	(0.7) ‡	7.5	(0.7) ‡	24.6	(1.0) ‡	46.4	(1.3) ‡	17.8	(1.0) ‡	11.3	(0.8) ‡
	Hong Kong (China)*	-0.09	(0.02)	1.07	(0.01)	62.8	(1.1)	22.6	(0.9)	10.7	(0.7)	3.8	(0.4)	46.8	(1.2)	35.2	(1.2)	13.9	(0.8)	4.2	(0.4)
	Indonesia	0.43	(0.01)	0.89	(0.01)	22.8	(0.7)	57.3	(1.0)	12.3	(0.6)	7.7	(0.5)	16.7	(0.7)	59.4	(0.8)	14.6	(0.6)	9.3	(0.5)
	Jamaica*	0.50	(0.02) ‡	0.85	(0.02) ‡	27.0	(1.7) ‡	45.4	(2.0) ‡	16.9	(1.5) ‡	10.6	(1.0) ‡	10.8	(1.2) ‡	52.2	(1.7) ‡	21.8	(1.4) ‡	15.2	(1.4) ‡
	Jordan	0.49	(0.03) †	1.10	(0.02) †	35.1	(1.1) †	34.5	(1.1) †	18.2	(0.8) †	12.2	(0.8) †	23.8	(1.0) †	41.9	(1.1) †	20.8	(0.8) †	13.5	(0.9) †
	Kazakhstan	-0.29	(0.02)	1.19	(0.01)	56.1	(1.0)	25.8	(0.8)	13.6	(0.6)	4.5	(0.3)	41.0	(0.9)	37.0	(0.7)	16.6	(0.6)	5.4	(0.3)
	Kosovo	0.34	(0.02) †	1.03	(0.02) †	31.1	(1.2) †	44.1	(1.2) †	15.7	(0.9) †	9.1	(0.7) †	25.6	(1.1) †	46.4	(1.3) †	19.1	(1.1) †	8.9	(0.7) †
	Macao (China)	-0.25	(0.01)	1.02	(0.01)	73.3	(0.8)	15.6	(0.8)	8.5	(0.5)	2.6	(0.3)	70.1	(1.0)	18.7	(0.8)	9.1	(0.6)	2.0	(0.3)
	Malaysia	0.19	(0.02)	0.96	(0.01)	44.1	(1.2)	39.0	(1.0)	12.0	(0.6)	4.9	(0.5)	19.6	(0.9)	51.9	(1.0)	19.7	(1.0)	8.8	(0.6)
	Malta	0.22	(0.02)	1.00	(0.02)	38.5	(1.4) †	39.7	(1.3) †	15.0	(1.1) †	6.8	(0.7) †	23.5	(1.1) †	51.1	(1.4) †	18.1	(1.1) †	7.3	(0.6) †
	Moldova	0.16	(0.02)	0.97	(0.01)	31.3	(1.0)	46.0	(1.0)	16.5	(0.8)	6.1	(0.6)	22.5	(1.0)	53.0	(1.0)	18.6	(0.9)	5.9	(0.5)
	Mongolia	0.60	(0.02)	1.02	(0.01)	24.8	(1.0)	34.1	(0.9)	23.2	(0.9)	17.9	(0.8)	25.1	(1.0)	38.8	(0.9)	21.3	(0.8)	14.8	(0.9)
	Montenegro	0.19	(0.02) †	1.16	(0.01) †	38.8	(1.2) †	34.4	(1.1) †	18.0	(0.8) †	8.8	(0.6) †	31.1	(1.1) †	42.2	(0.9) †	19.3	(1.2) †	7.3	(0.6) †
	Morocco	0.32	(0.02) ‡	1.06	(0.01) ‡	38.2	(1.2) ‡	37.5	(1.2) ‡	14.6	(0.9) ‡	9.7	(0.7) ‡	29.5	(1.4) ‡	40.1	(1.3) ‡	18.4	(0.9) ‡	12.1	(0.9) ‡
	North Macedonia	0.37	(0.02) †	1.08	(0.01) †	34.1	(0.9) †	36.2	(1.1) †	19.4	(0.8) †	10.2	(0.6) †	22.9	(0.8) †	44.5	(0.9) †	22.9	(0.9) †	9.7	(0.6) †
	Palestinian Authority	0.39	(0.02) †	1.02	(0.01) †	34.4	(1.1) †	38.1	(1.1) †	18.0	(0.8) †	9.5	(0.6) †	22.9	(0.9) †	42.4	(1.0) †	22.1	(0.8) †	12.7	(0.7) †
	Panama*	0.34	(0.04) ‡	1.06	(0.03) ‡	29.1	(2.0) ‡	46.3	(2.4) ‡	14.1	(1.7) ‡	10.4	(1.2) ‡	17.5	(2.0) ‡	51.5	(2.2) ‡	20.9	(2.0) ‡	10.1	(1.2) ‡
	Paraguay	0.09	(0.02) †	0.99	(0.02) †	33.4	(0.9) †	46.2	(1.0) †	14.5	(0.9) †	5.9	(0.5) †	25.4	(1.0) †	46.8	(1.0) †	19.1	(0.8) †	8.8	(0.6) †
	Peru	0.53	(0.02) ‡	0.85	(0.01) ‡	24.4	(1.1) ‡	49.8	(1.2) ‡	18.3	(1.0) ‡	7.5	(0.7) ‡	10.6	(0.8) ‡	47.0	(1.4) ‡	27.6	(1.2) ‡	14.8	(1.0) ‡
	Philippines	0.61	(0.02) †	0.79	(0.01) †	20.7	(0.9) †	54.2	(1.0) †	17.0	(0.8) †	8.1	(0.6) †	13.7	(0.8) †	53.6	(1.0) †	20.6	(0.9) †	12.1	(0.7) †
	Qatar	0.31	(0.02) †	1.04	(0.02) †	35.6	(1.2) †	37.8	(1.3) †	19.1	(0.9) †	7.5	(0.6) †	27.4	(1.1) †	45.2	(1.2) †	19.9	(1.0) †	7.6	(0.7) †
	Romania	0.05	(0.02) †	1.10	(0.01) †	32.0	(0.8) †	43.7	(0.9) †	16.8	(0.8) †	7.5	(0.5) †	23.8	(1.0) †	50.4	(1.1) †	18.8	(0.8) †	7.0	(0.6) †
	Saudi Arabia	0.12	(0.02) †	1.10	(0.01) †	43.9	(1.2) †	33.7	(0.9) †	15.4	(0.8) †	6.9	(0.5) †	28.9	(1.0) †	43.1	(1.2) †	20.5	(0.9) †	7.6	(0.6) †
	Serbia	0.07	(0.02) †	1.11	(0.01) †	47.6	(1.1) †	32.4	(1.0) †	14.2	(0.8) †	5.8	(0.5) †	33.3	(1.0) †	42.8	(1.0) †	17.0	(1.0) †	7.0	(0.6) †
	Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chinese Taipei	-0.56	(0.02)	1.06	(0.01)	81.4	(0.9)	9.9	(0.8)	6.0	(0.4)	2.6	(0.4)	71.4	(1.2)	17.3	(1.0)	8.7	(0.7)	2.6	(0.4)
	Thailand	0.29	(0.02)	1.06	(0.01)	29.1	(1.0)	45.9	(1.0)	17.2	(0.8)	7.8	(0.5)	26.2	(1.1)	48.1	(0.9)	17.4	(0.8)	8.3	(0.6)
	Ukrainian regions (18 of 27)	0.19	(0.03) †	1.04	(0.02) †	33.1	(1.5) †	42.4	(1.5) †	16.7	(1.0) †	7.8	(0.6) †	17.4	(1.3) †	56.0	(2.1) †	20.5	(1.5) †	6.1	(0.7) †
	United Arab Emirates	0.29	(0.01)	1.08	(0.01)	35.2	(0.6) †	38.2	(0.5) †	17.7	(0.4) †	8.9	(0.4) †	22.2	(0.4) †	47.4	(0.6) †	21.7	(0.5) †	8.7	(0.3) †
	Uruguay	0.20	(0.02) ‡	1.04	(0.02) ‡	35.9	(1.3) ‡	41.8	(1.2) ‡	14.5	(0.9) ‡	7.8	(0.7) ‡	31.1	(1.3) ‡	42.9	(1.4) ‡	16.7	(1.0) ‡	9.2	(0.8) ‡
	Uzbekistan	0.34	(0.04) ‡	1.31	(0.02) ‡	34.5	(1.5) ‡	31.3	(1.2) ‡	17.2	(1.2) ‡	17.0	(1.1) ‡	33.0	(1.3) ‡	31.9	(1.4) ‡	20.0	(1.3) ‡	15.1	(1.1) ‡
	Viet Nam	0.40	(0.02)	1.03	(0.02)	17.3	(0.7)	55.5	(0.8)	18.2	(0.6)	9.0	(0.5)	12.6	(0.5)	53.4	(0.8)	19.9	(0.6)	14.1	(0.5)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.30. Problems with remote learning [3/8]

Based on students' reports

		Percentage of students who reported that, when their school building was closed because of COVID-19, they had the following problems when completing their schoolwork:															
		Problems with access to school supplies								Problems with finding a quiet place to study							
		Never		A few times		About once or twice a week		Every day or almost every day		Never		A few times		About once or twice a week		Every day or almost every day	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	61.2	(0.7)	26.3	(0.6)	9.2	(0.5)	3.2	(0.2)	44.4	(0.8)	31.3	(0.7)	15.1	(0.6)	9.2	(0.4)
	Austria	55.8	(1.3) †	30.4	(1.1) †	11.2	(0.7) †	2.7	(0.4) †	54.5	(1.2) †	28.2	(1.0) †	12.2	(0.7) †	5.1	(0.5) †
	Belgium	67.5	(1.2) †	21.1	(0.9) †	9.0	(0.7) †	2.4	(0.3) †	60.5	(1.2) †	24.5	(0.9) †	10.0	(0.7) †	5.0	(0.5) †
	Canada*	66.6	(0.7) †	22.4	(0.5) †	7.8	(0.4) †	3.1	(0.2) †	47.3	(0.7) †	31.0	(0.7) †	13.9	(0.4) †	7.8	(0.4) †
	Chile	54.6	(1.4) †	27.5	(1.3) †	14.4	(0.9) †	3.5	(0.4) †	35.6	(1.3) †	37.2	(1.1) †	18.4	(1.0) †	8.8	(0.7) †
	Colombia	46.7	(1.5) †	35.0	(1.1) †	11.7	(0.7) †	6.6	(0.5) †	35.0	(1.0) †	41.5	(1.0) †	13.2	(0.8) †	10.3	(0.9) †
	Costa Rica	65.7	(1.3)	24.7	(1.0)	6.2	(0.6)	3.3	(0.4)	39.1	(1.1)	37.0	(0.9)	13.7	(0.7)	10.2	(0.6)
	Czech Republic	61.6	(0.9) †	24.3	(0.8) †	10.9	(0.6) †	3.2	(0.3) †	50.1	(0.9) †	30.5	(0.8) †	12.8	(0.7) †	6.7	(0.5) †
	Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	74.5	(1.0)	17.3	(0.9)	6.7	(0.4)	1.5	(0.3)	55.3	(1.0)	29.0	(0.9)	11.1	(0.6)	4.6	(0.4)
	Finland	71.1	(0.8) †	18.7	(0.7) †	8.1	(0.5) †	2.2	(0.3) †	57.4	(1.1) †	27.5	(0.9) †	11.3	(0.6) †	3.7	(0.3) †
	France	81.7	(1.0) †	10.8	(0.7) †	5.4	(0.5) †	2.1	(0.3) †	61.4	(1.0) †	24.3	(0.9) †	8.8	(0.6) †	5.5	(0.4) †
	Germany	60.2	(1.1) ‡	28.8	(1.0) ‡	9.0	(0.5) ‡	2.0	(0.3) ‡	66.5	(1.0) ‡	21.1	(0.8) ‡	8.0	(0.6) ‡	4.4	(0.6) ‡
	Greece	55.7	(1.3)	26.9	(0.9)	12.3	(0.8)	5.1	(0.5)	38.6	(1.1)	33.8	(0.9)	19.1	(0.8)	8.4	(0.6)
	Hungary	76.1	(1.2) †	13.0	(0.7) †	8.4	(0.7) †	2.6	(0.4) †	60.0	(1.0) †	23.3	(0.8) †	11.2	(0.7) †	5.5	(0.5) †
	Iceland	60.4	(1.5) †	27.7	(1.4) †	8.6	(0.9) †	3.3	(0.6) †	57.2	(1.5) †	27.5	(1.2) †	9.4	(0.9) †	5.9	(0.7) †
	Ireland*	69.3	(0.8)	23.1	(0.7)	5.5	(0.4)	2.1	(0.3)	48.6	(1.1)	30.1	(0.9)	12.4	(0.6)	8.8	(0.6)
	Israel	67.6	(1.0)	21.3	(0.9)	7.9	(0.6)	3.2	(0.4)	38.4	(1.3)	35.9	(1.1)	14.1	(0.7)	11.6	(0.6)
	Italy	53.7	(1.1)	31.3	(0.8)	11.9	(0.6)	3.1	(0.3)	46.0	(0.9)	32.9	(0.8)	13.6	(0.6)	7.6	(0.5)
	Japan	90.9	(0.7)	6.7	(0.6)	1.7	(0.3)	0.8	(0.2)	71.6	(0.9)	16.9	(0.8)	5.8	(0.5)	5.6	(0.5)
	Korea	75.1	(1.3)	10.6	(1.0)	9.1	(1.0)	5.3	(0.4)	69.4	(1.0)	14.0	(0.9)	10.9	(0.6)	5.7	(0.5)
	Latvia*	62.1	(1.2) †	24.8	(0.9) †	10.8	(0.8) †	2.3	(0.3) †	49.8	(1.1) †	30.3	(1.0) †	13.3	(0.7) †	6.6	(0.6) †
	Lithuania	67.8	(1.1) †	20.2	(0.8) †	9.9	(0.6) †	2.1	(0.3) †	55.1	(1.2) †	26.3	(1.1) †	13.0	(0.7) †	5.6	(0.5) †
	Mexico	47.8	(1.2) †	35.6	(1.2) †	12.7	(0.8) †	3.9	(0.4) †	35.6	(1.2) †	40.4	(1.2) †	15.6	(0.9) †	8.5	(0.6) †
	Netherlands*	63.2	(1.4)	24.7	(1.0)	9.5	(0.9)	2.6	(0.3)	54.5	(1.2)	28.1	(0.8)	11.9	(0.8)	5.5	(0.4)
	New Zealand*	69.6	(1.1) †	22.5	(1.0) †	6.0	(0.6) †	1.9	(0.4) †	50.2	(1.1) †	31.0	(1.0) †	11.5	(0.7) †	7.2	(0.5) †
	Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Poland	67.9	(1.0)	20.8	(0.7)	8.5	(0.6)	2.8	(0.3)	59.1	(1.0)	24.9	(0.9)	11.2	(0.8)	4.8	(0.4)
	Portugal	75.8	(0.9)	15.7	(0.7)	6.0	(0.6)	2.5	(0.3)	61.7	(1.0)	25.5	(0.8)	9.1	(0.6)	3.7	(0.4)
	Slovak Republic	58.9	(1.4) †	23.7	(1.0) †	13.0	(0.9) †	4.5	(0.5) †	47.4	(1.5) †	30.5	(1.1) †	16.4	(0.9) †	5.8	(0.5) †
	Slovenia	67.3	(1.0)	21.2	(0.9)	9.5	(0.6)	2.0	(0.2)	53.4	(1.0)	30.2	(1.0)	12.0	(0.7)	4.4	(0.4)
	Spain	64.4	(0.6)	25.1	(0.6)	8.1	(0.4)	2.4	(0.2)	56.9	(0.7) †	27.1	(0.6) †	10.5	(0.4) †	5.4	(0.3) †
	Sweden	49.5	(0.9) †	37.7	(0.9) †	10.2	(0.7) †	2.7	(0.4) †	59.1	(1.0) †	27.1	(0.8) †	10.0	(0.6) †	3.7	(0.5) †
	Switzerland	60.5	(1.3) ‡	26.9	(1.2) ‡	9.8	(0.6) ‡	2.8	(0.4) ‡	58.4	(1.3) ‡	26.5	(1.0) ‡	10.7	(0.8) ‡	4.4	(0.5) ‡
	Türkiye	58.1	(1.2)	24.4	(0.9)	11.5	(0.6)	6.0	(0.5)	37.9	(1.0)	33.6	(0.8)	17.2	(0.7)	11.4	(0.6)
	United Kingdom*	65.5	(1.2) †	24.8	(1.1) †	7.2	(0.5) †	2.5	(0.3) †	49.4	(1.2) †	28.3	(1.0) †	12.9	(0.7) †	9.4	(0.7) †
	United States*	68.6	(1.3)	20.9	(1.2)	7.5	(0.6)	3.0	(0.5)	48.2	(1.0)	31.1	(1.0)	12.5	(0.7)	8.2	(0.7)
	OECD average	64.7	(0.2)	23.3	(0.2)	9.0	(0.1)	3.0	(0.1)	51.8	(0.2)	29.1	(0.2)	12.4	(0.1)	6.7	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.30. Problems with remote learning [4/8]

Based on students' reports

		Percentage of students who reported that, when their school building was closed because of COVID-19, they had the following problems when completing their schoolwork:															
		Problems with access to school supplies								Problems with finding a quiet place to study							
		Never		A few times		About once or twice a week		Every day or almost every day		Never		A few times		About once or twice a week		Every day or almost every day	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	31.2	(1.4) ‡	32.6	(1.2) ‡	21.2	(1.0) ‡	15.1	(1.1) ‡	30.2	(1.5) ‡	34.3	(1.4) ‡	22.0	(1.0) ‡	13.5	(1.1) ‡
	Argentina	56.4	(1.3) ‡	27.9	(1.0) ‡	10.5	(0.7) ‡	5.3	(0.4) ‡	37.0	(1.5) ‡	35.2	(1.2) ‡	16.1	(1.2) ‡	11.6	(0.8) ‡
	Baku (Azerbaijan)	36.2	(2.0) ‡	26.1	(1.2) ‡	24.8	(1.5) ‡	12.8	(1.0) ‡	27.2	(1.4) ‡	31.4	(1.4) ‡	26.6	(1.5) ‡	14.8	(1.1) ‡
	Brazil	54.1	(0.9) †	30.4	(0.7) †	10.4	(0.5) †	5.0	(0.5) †	36.7	(1.0) †	39.2	(0.9) †	13.2	(0.6) †	10.8	(0.6) †
	Brunei Darussalam	56.3	(1.0) †	30.7	(1.0) †	10.1	(0.6) †	2.8	(0.4) †	32.9	(1.0) †	34.9	(1.1) †	15.2	(0.9) †	17.0	(0.8) †
	Bulgaria	42.9	(1.5) †	28.5	(0.9) †	20.9	(1.2) †	7.8	(0.7) †	39.7	(1.3) †	29.6	(1.1) †	22.3	(1.0) †	8.4	(0.6) †
	Cambodia	46.6	(1.1) †	30.8	(1.1) †	15.6	(0.6) †	7.1	(0.6) †	25.6	(0.9) †	37.0	(1.1) †	19.1	(1.0) †	18.3	(1.1) †
	Croatia	61.7	(1.2)	21.9	(0.8)	12.7	(0.8)	3.7	(0.4)	51.0	(1.0) †	29.6	(0.9) †	15.0	(0.8) †	4.4	(0.4) †
	Cyprus	46.7	(1.2) ‡	27.3	(1.1) ‡	18.0	(0.9) ‡	8.1	(0.7) ‡	35.5	(1.2) ‡	33.7	(1.2) ‡	20.8	(0.9) ‡	10.0	(0.8) ‡
	Dominican Republic	36.8	(1.7) ‡	35.8	(1.5) ‡	17.6	(1.3) ‡	9.9	(0.9) ‡	30.1	(1.5) ‡	35.7	(1.3) ‡	20.1	(1.2) ‡	14.1	(1.1) ‡
	El Salvador	38.1	(1.5) †	40.9	(1.3) †	13.2	(0.8) †	7.8	(0.7) †	29.3	(1.4) †	44.0	(1.5) †	16.4	(0.9) †	10.3	(0.8) †
	Georgia	46.5	(1.3) †	30.5	(1.1) †	15.5	(1.0) †	7.5	(0.6) †	37.4	(1.3) †	32.7	(1.1) †	18.8	(0.9) †	11.1	(0.9) †
	Guatemala	46.3	(1.2) ‡	35.6	(1.0) ‡	12.4	(0.8) ‡	5.6	(0.5) ‡	44.8	(1.3) ‡	36.5	(1.4) ‡	10.0	(0.7) ‡	8.6	(0.8) ‡
	Hong Kong (China)*	65.9	(0.9)	20.2	(0.8)	10.2	(0.6)	3.8	(0.4)	46.1	(1.0)	28.3	(0.9)	15.5	(0.7)	10.1	(0.6)
	Indonesia	39.0	(1.1)	42.5	(0.9)	12.8	(0.7)	5.6	(0.4)	26.1	(0.8)	50.9	(1.0)	14.3	(0.6)	8.8	(0.6)
	Jamaica*	48.8	(1.8) ‡	32.6	(1.5) ‡	12.0	(1.3) ‡	6.6	(0.8) ‡	30.9	(1.5) ‡	36.3	(1.6) ‡	17.8	(1.2) ‡	15.1	(1.5) ‡
	Jordan	39.6	(1.4) †	29.0	(1.1) †	21.0	(0.9) †	10.5	(0.8) †	26.6	(1.0) †	34.0	(1.0) †	25.2	(1.0) †	14.2	(0.9) †
	Kazakhstan	69.0	(0.9)	15.6	(0.5)	11.0	(0.5)	4.3	(0.3)	60.3	(0.7)	22.0	(0.5)	12.6	(0.5)	5.1	(0.3)
	Kosovo	39.4	(1.3) †	34.5	(1.3) †	18.3	(1.0) †	7.9	(0.6) †	34.6	(1.3) †	35.4	(1.2) †	20.7	(1.1) †	9.3	(0.6) †
	Macao (China)	76.4	(0.8)	14.9	(0.8)	6.2	(0.5)	2.5	(0.3)	60.0	(1.0)	21.3	(0.8)	10.5	(0.6)	8.2	(0.6)
	Malaysia	54.5	(1.3)	31.1	(0.9)	10.8	(0.8)	3.6	(0.4)	36.5	(1.2)	37.2	(1.1)	16.2	(0.8)	10.1	(0.6)
	Malta	60.6	(1.3) †	24.2	(1.2) †	10.9	(0.9) †	4.3	(0.5) †	40.0	(1.3) †	34.3	(1.4) †	15.5	(1.0) †	10.2	(0.8) †
	Moldova	53.6	(1.1)	27.1	(1.0)	14.0	(0.6)	5.3	(0.5)	46.1	(1.0)	31.4	(0.9)	16.2	(0.8)	6.4	(0.5)
	Mongolia	35.7	(1.1)	32.4	(0.9)	19.2	(0.7)	12.7	(0.7)	22.9	(0.9)	35.8	(0.8)	24.9	(0.8)	16.4	(0.7)
	Montenegro	42.7	(1.1) †	33.3	(1.0) †	17.2	(1.0) †	6.8	(0.5) †	36.8	(1.1) †	34.5	(1.2) †	19.4	(0.9) †	9.3	(0.6) †
	Morocco	39.6	(1.5) ‡	35.6	(1.3) ‡	17.0	(1.1) ‡	7.8	(0.6) ‡	29.4	(1.3) ‡	37.6	(1.2) ‡	21.1	(0.9) ‡	12.0	(0.7) ‡
	North Macedonia	43.3	(1.1) †	30.3	(1.3) †	17.7	(0.9) †	8.7	(0.6) †	35.4	(1.0) †	32.5	(1.0) †	22.5	(0.9) †	9.7	(0.7) †
	Palestinian Authority	41.6	(1.2) †	30.8	(1.1) †	20.1	(0.8) †	7.5	(0.6) †	28.7	(1.0) †	37.8	(1.0) †	21.8	(0.9) †	11.6	(0.7) †
	Panama*	40.3	(2.2) ‡	38.5	(2.5) ‡	12.4	(1.6) ‡	8.8	(1.4) ‡	35.4	(2.1) ‡	34.9	(2.1) ‡	17.1	(1.9) ‡	12.6	(1.5) ‡
	Paraguay	62.0	(1.3) †	25.4	(1.0) †	8.5	(0.7) †	4.1	(0.4) †	46.9	(1.2) †	32.4	(1.2) †	13.0	(0.9) †	7.7	(0.5) †
	Peru	39.5	(1.3) ‡	37.9	(1.2) ‡	17.0	(0.8) ‡	5.6	(0.6) ‡	23.9	(1.1) ‡	42.7	(1.4) ‡	20.3	(0.9) ‡	13.1	(0.9) ‡
	Philippines	31.8	(1.1) †	45.5	(0.8) †	17.4	(0.8) †	5.3	(0.4) †	18.3	(1.0) †	46.0	(1.0) †	20.6	(0.9) †	15.1	(0.8) †
	Qatar	48.6	(1.3) †	28.8	(1.1) †	16.0	(0.9) †	6.6	(0.6) †	35.6	(1.3) †	31.5	(1.2) †	21.9	(1.1) †	11.0	(0.8) †
	Romania	57.4	(1.3) †	24.7	(1.0) †	12.9	(0.8) †	5.0	(0.5) †	47.6	(1.3) †	29.5	(1.0) †	15.4	(0.8) †	7.4	(0.6) †
	Saudi Arabia	52.0	(1.1) †	26.9	(0.9) †	15.5	(0.9) †	5.6	(0.5) †	39.6	(1.1) †	33.3	(1.1) †	17.8	(0.9) †	9.3	(0.7) †
	Serbia	49.3	(1.3) †	30.0	(0.9) †	15.7	(0.9) †	5.0	(0.4) †	46.5	(1.2) †	29.7	(1.0) †	17.0	(0.8) †	6.8	(0.5) †
	Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chinese Taipei	79.7	(1.0)	11.6	(0.7)	6.5	(0.6)	2.2	(0.4)	65.5	(1.3)	18.6	(1.1)	10.0	(0.9)	5.9	(0.7)
	Thailand	41.1	(1.2)	37.9	(1.0)	14.3	(0.8)	6.6	(0.5)	31.0	(1.0)	41.7	(1.0)	18.2	(0.8)	9.2	(0.7)
	Ukrainian regions (18 of 27)	49.1	(2.1) †	30.4	(1.6) †	15.1	(1.4) †	5.3	(0.7) †	43.3	(2.0) †	34.1	(1.7) †	15.0	(1.5) †	7.5	(0.8) †
	United Arab Emirates	51.5	(0.6) †	25.9	(0.5) †	15.1	(0.4) †	7.5	(0.3) †	34.5	(0.6) †	33.2	(0.6) †	19.7	(0.4) †	12.5	(0.4) †
	Uruguay	49.7	(1.5) ‡	30.7	(1.3) ‡	14.8	(0.9) ‡	4.8	(0.6) ‡	41.0	(1.2) ‡	34.9	(1.3) ‡	16.2	(0.8) ‡	8.0	(0.8) ‡
	Uzbekistan	44.3	(1.8) ‡	22.9	(1.1) ‡	18.9	(1.1) ‡	13.9	(1.1) ‡	39.5	(1.5) ‡	23.6	(1.0) ‡	20.8	(1.2) ‡	16.1	(0.8) ‡
	Viet Nam	46.0	(1.2)	29.6	(0.8)	11.7	(0.6)	12.7	(0.6)	38.2	(1.0)	34.3	(0.7)	13.7	(0.6)	13.8	(0.7)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.30. Problems with remote learning [5/8]

Based on students' reports

		Percentage of students who reported that, when their school building was closed because of COVID-19, they had the following problems when completing their schoolwork:															
		Problems with finding time to study because they had household responsibilities								Problems with motivating themselves to do school work							
		Never		A few times		About once or twice a week		Every day or almost every day		Never		A few times		About once or twice a week		Every day or almost every day	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	46.3	(0.8)	30.8	(0.7)	16.0	(0.5)	6.9	(0.4)	11.8	(0.4)	28.1	(0.6)	26.0	(0.5)	34.1	(0.8)
	Austria	53.5	(1.3) †	27.3	(0.9) †	13.7	(0.8) †	5.4	(0.5) †	16.7	(0.8) †	33.2	(0.9) †	25.2	(1.0) †	24.9	(1.0) †
	Belgium	58.6	(1.1) †	25.0	(1.0) †	10.8	(0.6) †	5.6	(0.5) †	16.3	(0.7) †	31.0	(0.8) †	23.1	(0.9) †	29.6	(0.9) †
	Canada*	50.0	(0.8) †	28.5	(0.7) †	13.9	(0.5) †	7.6	(0.4) †	14.1	(0.4) †	26.0	(0.7) †	24.1	(0.6) †	35.7	(0.7) †
	Chile	41.8	(1.3) †	33.9	(1.1) †	18.7	(1.0) †	5.6	(0.6) †	16.7	(0.9) †	33.7	(1.2) †	28.4	(1.0) †	21.2	(1.0) †
	Colombia	43.5	(1.2) †	36.3	(1.0) †	12.4	(0.6) †	7.8	(0.6) †	26.0	(0.9) †	41.6	(1.0) †	17.4	(0.8) †	15.0	(0.8) †
	Costa Rica	44.8	(1.2)	33.8	(1.0)	13.3	(0.7)	8.1	(0.6)	26.2	(0.9)	36.7	(1.1)	18.6	(0.9)	18.5	(1.0)
	Czech Republic	47.3	(0.8) †	30.9	(0.8) †	16.5	(0.7) †	5.3	(0.4) †	17.8	(0.7) †	38.1	(0.9) †	20.9	(0.8) †	23.3	(0.7) †
	Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	63.1	(1.0)	23.5	(0.8)	11.0	(0.7)	2.4	(0.2)	17.6	(0.8)	37.0	(0.9)	23.5	(0.7)	21.9	(0.8)
	Finland	65.8	(1.0) †	20.6	(0.8) †	10.6	(0.6) †	3.0	(0.3) †	23.0	(0.8) †	35.2	(0.9) †	22.5	(0.7) †	19.2	(0.8) †
	France	64.5	(1.1) †	21.1	(0.8) †	10.2	(0.7) †	4.2	(0.4) †	20.6	(0.9) †	30.4	(1.0) †	21.5	(0.9) †	27.6	(1.0) †
	Germany	58.3	(1.2) ‡	25.0	(1.1) ‡	12.1	(0.7) ‡	4.5	(0.5) ‡	14.5	(0.8) ‡	30.2	(1.0) ‡	25.4	(0.9) ‡	30.0	(1.2) ‡
	Greece	49.4	(1.1)	30.0	(1.0)	15.3	(0.8)	5.3	(0.5)	23.8	(0.8)	30.1	(0.9)	24.0	(1.0)	22.1	(0.7)
	Hungary	57.8	(1.2) †	24.4	(1.0) †	14.1	(0.8) †	3.7	(0.4) †	26.0	(1.0) †	31.5	(0.9) †	24.0	(0.9) †	18.5	(0.9) †
	Iceland	55.9	(1.7) †	28.9	(1.5) †	9.9	(1.1) †	5.2	(0.8) †	38.2	(1.5) †	37.4	(1.4) †	15.1	(1.1) †	9.2	(0.9) †
	Ireland*	49.0	(1.0)	30.9	(0.9)	12.9	(0.6)	7.2	(0.4)	11.4	(0.6)	29.6	(0.9)	22.6	(0.8)	36.4	(0.9)
	Israel	49.3	(1.1)	30.6	(0.9)	12.7	(0.7)	7.4	(0.5)	19.0	(1.0)	28.2	(0.7)	22.2	(0.8)	30.6	(1.0)
	Italy	45.7	(1.0)	34.6	(0.9)	13.4	(0.6)	6.3	(0.5)	17.1	(0.8)	35.7	(0.9)	23.5	(0.9)	23.7	(1.0)
	Japan	88.9	(0.7)	7.6	(0.6)	2.2	(0.3)	1.4	(0.2)	19.2	(0.9)	24.7	(0.9)	17.3	(1.1)	38.7	(1.0)
	Korea	77.6	(0.9)	10.5	(0.6)	8.6	(0.7)	3.3	(0.5)	48.6	(1.3)	22.4	(1.1)	17.6	(1.1)	11.4	(0.6)
	Latvia*	47.7	(1.1) †	30.8	(1.0) †	16.1	(0.8) †	5.4	(0.5) †	13.5	(0.8) †	30.9	(1.1) †	26.5	(1.1) †	29.1	(1.0) †
	Lithuania	56.5	(1.0) †	25.3	(0.9) †	14.0	(0.7) †	4.2	(0.4) †	23.1	(0.9) †	34.1	(0.8) †	24.0	(0.8) †	18.7	(0.8) †
	Mexico	37.9	(1.2) †	37.0	(1.1) †	17.4	(0.9) †	7.7	(0.6) †	24.6	(1.2) †	38.7	(1.3) †	20.6	(0.9) †	16.1	(0.8) †
	Netherlands*	64.6	(1.2)	22.2	(1.0)	9.5	(0.7)	3.7	(0.4)	14.8	(0.8) †	28.5	(0.9) †	24.8	(0.9) †	31.9	(1.0) †
	New Zealand*	49.7	(1.0) †	31.5	(1.0) †	12.3	(0.7) †	6.5	(0.6) †	12.0	(0.9) †	29.5	(1.1) †	22.7	(0.9) †	35.8	(1.2) †
	Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Poland	53.8	(1.0)	27.5	(0.9)	14.2	(0.7)	4.5	(0.5)	19.9	(1.0)	30.3	(1.0)	21.9	(0.7)	27.9	(0.9)
	Portugal	59.6	(0.9)	25.1	(0.9)	10.2	(0.6)	5.1	(0.4)	26.1	(0.9)	37.2	(1.1)	19.9	(0.8)	16.8	(0.7)
	Slovak Republic	46.0	(1.4) †	29.6	(1.0) †	17.7	(1.1) †	6.7	(0.6) †	22.2	(1.0) †	34.0	(0.9) †	24.5	(1.0) †	19.3	(0.8) †
	Slovenia	55.5	(1.2)	28.3	(0.9)	12.4	(0.7)	3.8	(0.4)	16.8	(0.7)	33.0	(1.2)	25.6	(1.0)	24.6	(1.0)
	Spain	56.0	(0.7)	28.3	(0.6)	11.7	(0.4)	3.9	(0.3)	21.3	(0.5)	35.0	(0.6)	21.9	(0.6)	21.9	(0.5)
	Sweden	65.9	(1.0) †	22.3	(0.8) †	8.0	(0.6) †	3.7	(0.5) †	18.7	(1.0) †	38.9	(1.1) †	21.1	(0.9) †	21.3	(1.0) †
	Switzerland	61.2	(1.2) ‡	24.1	(1.0) ‡	10.7	(0.8) ‡	4.1	(0.4) ‡	19.2	(0.9) ‡	36.1	(1.1) ‡	24.4	(1.1) ‡	20.3	(0.9) ‡
	Türkiye	43.4	(1.1)	31.2	(1.0)	16.7	(0.6)	8.7	(0.6)	24.9	(0.8)	33.8	(0.8)	22.9	(0.8)	18.4	(0.7)
	United Kingdom*	60.1	(1.2) †	23.5	(0.9) †	11.1	(0.7) †	5.3	(0.4) †	12.7	(0.7) †	26.3	(0.9) †	23.0	(0.9) †	38.1	(1.2) †
	United States*	51.2	(1.5)	27.5	(1.3)	13.6	(0.8)	7.7	(0.7)	15.4	(0.8)	26.6	(1.1)	21.6	(1.0)	36.4	(1.3)
	OECD average	54.9	(0.2)	27.1	(0.2)	12.7	(0.1)	5.4	(0.1)	20.3	(0.1)	32.4	(0.2)	22.5	(0.2)	24.8	(0.2)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.30. Problems with remote learning [6/8]

Based on students' reports

	Percentage of students who reported that, when their school building was closed because of COVID-19, they had the following problems when completing their schoolwork:															
	Problems with finding time to study because they had household responsibilities								Problems with motivating themselves to do school work							
	Never		A few times		About once or twice a week		Every day or almost every day		Never		A few times		About once or twice a week		Every day or almost every day	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																
Albania	33.4	(1.3) ‡	31.9	(1.3) ‡	21.3	(1.2) ‡	13.4	(0.9) ‡	27.2	(1.5) ‡	33.4	(1.3) ‡	23.2	(1.1) ‡	16.1	(0.9) ‡
Argentina	40.6	(1.4) ‡	33.6	(1.1) ‡	16.7	(0.8) ‡	9.1	(0.8) ‡	21.9	(1.2) ‡	32.0	(1.2) ‡	23.0	(1.0) ‡	23.1	(0.7) ‡
Baku (Azerbaijan)	32.1	(1.5) ‡	27.0	(1.2) ‡	26.5	(1.4) ‡	14.4	(1.0) ‡	23.3	(1.3) ‡	29.2	(1.3) ‡	27.9	(1.5) ‡	19.7	(1.3) ‡
Brazil	41.8	(1.0) †	35.0	(0.9) †	14.5	(0.6) †	8.7	(0.5) †	21.9	(0.9) †	38.5	(0.9) †	18.5	(0.6) †	21.1	(0.7) †
Brunei Darussalam	31.6	(1.0) †	37.1	(1.0) †	18.0	(0.7) †	13.3	(0.7) †	10.4	(0.6) †	32.4	(0.9) †	24.2	(0.7) †	32.9	(0.8) †
Bulgaria	36.7	(1.1) †	31.1	(1.0) †	23.3	(1.0) †	9.0	(0.6) †	22.9	(0.8) †	31.8	(1.0) †	27.1	(1.1) †	18.2	(0.8) †
Cambodia	39.3	(1.1) †	31.4	(1.1) †	17.5	(0.6) †	11.8	(0.6) †	25.8	(1.0) †	35.4	(1.1) †	20.3	(0.8) †	18.5	(1.0) †
Croatia	53.3	(1.1)	26.0	(0.9)	15.6	(0.8)	5.1	(0.5)	25.0	(1.0)	33.4	(1.0)	23.5	(0.9)	18.2	(0.9)
Cyprus	42.7	(1.2) ‡	27.5	(1.1) ‡	21.4	(1.0) ‡	8.5	(0.6) ‡	21.0	(0.9) ‡	31.9	(1.1) ‡	25.9	(1.1) ‡	21.2	(1.0) ‡
Dominican Republic	31.8	(1.7) ‡	34.8	(1.8) ‡	20.7	(1.4) ‡	12.7	(1.2) ‡	23.8	(1.6) ‡	37.9	(1.2) ‡	22.0	(1.2) ‡	16.3	(1.1) ‡
El Salvador	32.9	(1.5) †	41.2	(1.3) †	16.3	(0.9) †	9.7	(0.8) †	23.7	(1.2) †	43.3	(1.4) †	19.1	(1.1) †	13.9	(0.8) †
Georgia	44.4	(1.3) †	30.1	(0.8) †	16.2	(1.0) †	9.3	(0.7) †	26.6	(1.2) †	34.4	(1.1) †	23.9	(1.1) †	15.1	(0.8) †
Guatemala	45.9	(1.3) ‡	34.6	(1.1) ‡	11.8	(0.8) ‡	7.7	(0.7) ‡	36.2	(1.2) ‡	35.6	(1.3) ‡	14.7	(0.8) ‡	13.5	(1.0) ‡
Hong Kong (China)*	63.0	(1.1)	22.0	(0.9)	10.8	(0.6)	4.2	(0.4)	28.6	(1.0)	32.9	(0.9)	22.4	(0.9)	16.2	(0.9)
Indonesia	23.5	(0.9)	49.7	(0.9)	16.6	(0.8)	10.2	(0.6)	19.2	(0.8)	51.3	(0.9)	16.9	(0.8)	12.6	(0.7)
Jamaica*	32.8	(1.7) ‡	36.1	(1.6) ‡	17.7	(1.2) ‡	13.3	(1.2) ‡	12.2	(1.0) ‡	40.7	(1.9) ‡	21.1	(1.6) ‡	26.0	(1.6) ‡
Jordan	31.5	(1.2) †	31.6	(1.1) †	24.8	(1.0) †	12.1	(0.9) †	24.8	(1.0) †	31.2	(1.1) †	25.9	(0.9) †	18.2	(0.9) †
Kazakhstan	57.6	(0.8)	23.1	(0.6)	14.4	(0.6)	4.9	(0.4)	43.1	(0.8)	30.0	(0.6)	17.5	(0.5)	9.5	(0.4)
Kosovo	37.5	(1.1) †	33.9	(1.2) †	18.7	(1.0) †	10.0	(0.7) †	27.7	(1.2) †	37.9	(1.3) †	21.6	(1.1) †	12.9	(0.9) †
Macao (China)	73.7	(0.7)	15.3	(0.8)	7.7	(0.6)	3.2	(0.4)	31.1	(0.8)	28.4	(0.9)	20.3	(0.8)	20.1	(0.7)
Malaysia	52.1	(1.3)	28.5	(1.0)	13.5	(0.8)	5.9	(0.5)	23.4	(0.9)	40.5	(0.9)	19.0	(0.6)	17.2	(1.0)
Malta	44.9	(1.3) †	30.0	(1.0) †	16.3	(0.9) †	8.8	(0.8) †	15.3	(1.0) †	28.3	(1.2) †	24.3	(1.2) †	32.1	(1.2) †
Moldova	45.4	(1.1)	32.4	(1.1)	16.5	(0.9)	5.7	(0.4)	33.9	(1.0)	36.2	(1.0)	19.8	(0.9)	10.2	(0.6)
Mongolia	23.5	(0.8)	35.9	(1.0)	27.4	(0.9)	13.3	(0.6)	22.1	(0.7)	35.9	(0.8)	27.1	(0.7)	14.9	(0.6)
Montenegro	40.1	(0.9) †	30.8	(0.9) †	19.7	(0.8) †	9.3	(0.6) †	27.0	(1.0) †	33.8	(1.0) †	22.5	(1.0) †	16.7	(0.9) †
Morocco	35.4	(1.3) ‡	33.7	(1.1) ‡	21.1	(1.2) ‡	9.9	(0.7) ‡	26.1	(1.0) ‡	36.8	(1.3) ‡	24.0	(1.2) ‡	13.1	(0.9) ‡
North Macedonia	34.2	(1.0) †	33.4	(0.9) †	21.9	(0.9) †	10.5	(0.7) †	24.8	(0.9) †	35.3	(1.0) †	24.5	(1.0) †	15.5	(0.7) †
Palestinian Authority	32.2	(1.2) †	35.4	(1.1) †	22.4	(0.9) †	10.0	(0.5) †	26.5	(0.8) †	35.7	(1.0) †	23.4	(0.9) †	14.4	(0.7) †
Panama*	40.6	(2.4) ‡	33.0	(2.1) ‡	16.0	(1.9) ‡	10.4	(1.3) ‡	23.8	(1.9) ‡	35.5	(2.3) ‡	22.4	(1.9) ‡	18.2	(2.0) ‡
Paraguay	47.0	(1.1) †	31.4	(1.0) †	14.0	(0.8) †	7.6	(0.5) †	34.5	(1.1) †	34.2	(1.0) †	17.6	(0.7) †	13.7	(0.6) †
Peru	28.9	(1.2) ‡	41.1	(1.2) ‡	19.5	(1.1) ‡	10.5	(0.7) ‡	19.1	(0.9) ‡	41.3	(1.2) ‡	23.5	(1.0) ‡	16.2	(0.9) ‡
Philippines	17.7	(0.8) †	45.7	(1.0) †	22.2	(0.8) †	14.5	(0.6) †	12.6	(0.7) †	45.7	(1.5) †	22.9	(0.8) †	18.8	(1.3) †
Qatar	40.3	(1.3) †	30.8	(1.2) †	19.9	(1.0) †	9.0	(0.7) †	21.0	(1.0) †	31.2	(1.1) †	26.0	(1.0) †	21.8	(1.1) †
Romania	47.8	(1.3) †	30.0	(1.0) †	15.5	(0.9) †	6.6	(0.6) †	35.0	(1.1) †	33.6	(0.9) †	19.6	(0.7) †	11.8	(0.6) †
Saudi Arabia	42.0	(1.2) †	31.1	(1.1) †	19.0	(1.0) †	7.9	(0.6) †	36.6	(1.0) †	29.8	(1.0) †	21.5	(1.1) †	12.2	(0.7) †
Serbia	48.7	(1.3) †	28.1	(0.9) †	16.7	(1.0) †	6.5	(0.5) †	26.1	(1.0) †	34.1	(0.8) †	23.1	(0.9) †	16.7	(0.9) †
Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Chinese Taipei	75.6	(1.0)	13.8	(1.1)	7.8	(0.7)	2.7	(0.4)	44.2	(1.2)	26.2	(1.2)	16.2	(0.9)	13.4	(1.0)
Thailand	31.1	(1.0)	41.1	(0.9)	18.5	(0.9)	9.2	(0.6)	28.0	(1.0)	39.9	(0.9)	20.9	(0.9)	11.1	(0.7)
Ukrainian regions (18 of 27)	37.5	(1.7) †	38.5	(1.5) †	18.5	(1.4) †	5.5	(0.6) †	29.8	(1.9) †	34.5	(1.4) †	23.0	(1.5) †	12.7	(1.1) †
United Arab Emirates	43.2	(0.6) †	28.4	(0.6) †	18.9	(0.5) †	9.5	(0.4) †	20.0	(0.4) †	31.3	(0.5) †	25.7	(0.5) †	23.0	(0.5) †
Uruguay	46.5	(1.2) ‡	30.3	(1.2) ‡	15.8	(0.9) ‡	7.4	(0.7) ‡	20.3	(1.0) ‡	30.8	(1.2) ‡	27.1	(1.2) ‡	21.8	(1.2) ‡
Uzbekistan	36.0	(1.4) ‡	26.2	(1.3) ‡	21.9	(1.2) ‡	15.8	(1.0) ‡	34.8	(1.7) ‡	26.0	(1.4) ‡	22.7	(1.2) ‡	16.5	(1.1) ‡
Viet Nam	41.4	(1.1)	32.8	(0.7)	13.7	(0.5)	12.1	(0.6)	22.7	(0.6)	38.1	(0.8)	19.9	(0.7)	19.3	(0.8)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.30. Problems with remote learning [7/8]

Based on students' reports

		Percentage of students who reported that, when their school building was closed because of COVID-19, they had the following problems when completing their schoolwork:															
		Problems with understanding their school assignments								Problems with finding someone who could help them with their school work							
		Never		A few times		About once or twice a week		Every day or almost every day		Never		A few times		About once or twice a week		Every day or almost every day	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	18.9	(0.6)	41.2	(0.7)	26.2	(0.6)	13.7	(0.5)	34.1	(0.7)	34.7	(0.7)	20.2	(0.7)	11.1	(0.4)
	Austria	23.3	(1.1) †	42.8	(1.0) †	24.1	(1.0) †	9.8	(0.7) †	44.6	(1.3) †	30.5	(1.1) †	16.3	(0.8) †	8.6	(0.6) †
	Belgium	22.3	(0.9) †	43.5	(1.0) †	23.7	(0.9) †	10.4	(0.6) †	47.4	(1.0) †	30.5	(0.7) †	13.9	(0.6) †	8.2	(0.5) †
	Canada*	19.7	(0.5) †	38.7	(0.9) †	26.5	(0.7) †	15.2	(0.5) †	40.1	(0.7) †	31.3	(0.7) †	17.1	(0.6) †	11.5	(0.5) †
	Chile	15.5	(0.9) †	36.7	(1.0) †	30.9	(1.1) †	16.9	(0.9) †	25.6	(1.0) †	37.8	(1.1) †	23.6	(1.2) †	12.9	(0.8) †
	Colombia	18.8	(0.9) †	50.2	(1.1) †	18.8	(0.8) †	12.3	(0.7) †	32.8	(1.1) †	40.5	(1.1) †	14.4	(0.8) †	12.3	(0.9) †
	Costa Rica	20.5	(0.8)	44.5	(0.8)	21.9	(0.9)	13.1	(0.7)	37.7	(1.1)	37.1	(1.0)	13.5	(0.7)	11.7	(0.6)
	Czech Republic	20.4	(0.6) †	44.2	(0.8) †	24.7	(0.7) †	10.7	(0.6) †	46.0	(0.8) †	31.2	(0.8) †	15.1	(0.7) †	7.7	(0.5) †
	Denmark*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	18.0	(0.9)	45.5	(1.1)	26.5	(0.8)	10.0	(0.5)	45.5	(1.0)	33.7	(0.9)	15.0	(0.7)	5.8	(0.6)
	Finland	26.7	(0.8) †	41.5	(0.9) †	23.2	(0.8) †	8.5	(0.5) †	51.2	(0.8) †	29.4	(0.7) †	14.0	(0.7) †	5.4	(0.4) †
	France	26.1	(1.0) †	41.3	(1.1) †	21.6	(0.8) †	11.1	(0.6) †	53.6	(1.1) †	24.9	(0.9) †	11.7	(0.8) †	9.8	(0.6) †
	Germany	19.7	(1.0) ‡	45.8	(1.2) ‡	24.8	(1.0) ‡	9.7	(0.8) ‡	46.3	(1.1) ‡	30.5	(1.2) ‡	14.6	(0.8) ‡	8.7	(0.7) ‡
	Greece	21.0	(0.8)	41.4	(1.1)	26.4	(0.9)	11.2	(0.6)	38.3	(1.1)	32.7	(1.0)	19.5	(0.9)	9.5	(0.6)
	Hungary	37.0	(1.1) †	38.3	(1.1) †	18.1	(0.8) †	6.6	(0.5) †	55.5	(1.2) †	23.9	(1.0) †	14.1	(0.8) †	6.6	(0.6) †
	Iceland	40.1	(1.5) †	38.9	(1.5) †	14.2	(1.0) †	6.8	(0.8) †	49.9	(1.7) †	32.1	(1.6) †	11.7	(1.1) †	6.3	(0.8) †
	Ireland*	18.0	(0.7)	43.2	(0.8)	26.4	(0.9)	12.5	(0.6)	43.1	(0.9)	31.8	(0.8)	14.8	(0.7)	10.3	(0.5)
	Israel	20.8	(0.9)	40.7	(0.9)	21.9	(0.7)	16.6	(0.7)	38.2	(1.0)	35.1	(1.0)	15.3	(0.6)	11.3	(0.6)
	Italy	19.9	(0.8)	49.3	(1.1)	20.7	(0.8)	10.1	(0.6)	44.6	(0.9)	32.6	(0.8)	14.0	(0.7)	8.9	(0.5)
	Japan	38.4	(1.1)	35.1	(1.0)	17.5	(0.9)	9.1	(0.8)	60.8	(1.0)	19.6	(0.7)	9.6	(0.6)	10.0	(0.6)
	Korea	51.9	(0.8)	23.5	(0.9)	17.6	(0.7)	7.0	(0.8)	61.6	(1.3)	19.4	(1.1)	12.7	(1.0)	6.3	(0.7)
	Latvia*	12.4	(0.6) †	42.4	(0.9) †	31.6	(1.0) †	13.5	(0.7) †	36.4	(0.9) †	35.7	(1.0) †	18.1	(0.8) †	9.8	(0.7) †
	Lithuania	22.8	(0.8) †	40.8	(1.0) †	26.8	(0.9) †	9.7	(0.6) †	45.6	(1.0) †	31.4	(1.0) †	15.7	(0.9) †	7.2	(0.5) †
	Mexico	18.3	(0.8) †	45.8	(1.1) †	23.3	(0.9) †	12.7	(0.7) †	32.0	(1.1) †	39.7	(1.3) †	17.8	(0.8) †	10.5	(0.7) †
	Netherlands*	25.0	(1.0)	44.7	(0.9)	22.2	(0.9)	8.1	(0.6)	52.8	(1.1) †	29.1	(0.9) †	12.7	(0.7) †	5.4	(0.5) †
	New Zealand*	17.8	(1.0) †	42.2	(1.2) †	28.0	(1.2) †	11.9	(0.7) †	37.6	(1.3) †	34.5	(1.2) †	18.0	(0.9) †	9.9	(0.7) †
	Norway	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Poland	20.2	(0.9)	41.8	(1.1)	26.1	(0.9)	11.9	(0.7)	46.6	(0.9)	29.8	(0.8)	15.0	(0.7)	8.6	(0.5)
	Portugal	28.4	(1.0)	47.2	(1.0)	17.9	(0.9)	6.5	(0.5)	53.1	(1.1)	30.3	(1.0)	11.2	(0.7)	5.5	(0.4)
	Slovak Republic	21.7	(1.0) †	42.4	(1.2) †	24.0	(1.1) †	11.9	(0.8) †	43.0	(1.3) †	30.2	(1.0) †	17.2	(1.0) †	9.7	(0.7) †
	Slovenia	24.6	(0.9)	45.0	(1.1)	21.9	(0.9)	8.5	(0.5)	47.2	(1.2)	32.8	(1.2)	14.4	(0.6)	5.6	(0.5)
	Spain	21.0	(0.6) †	45.4	(0.6) †	23.2	(0.6) †	10.4	(0.5) †	46.0	(0.6)	32.4	(0.5)	13.5	(0.4)	8.1	(0.3)
	Sweden	20.1	(1.0) †	47.7	(1.1) †	22.2	(0.9) †	10.0	(0.6) †	40.8	(1.2) †	36.8	(1.2) †	15.2	(0.8) †	7.2	(0.6) †
	Switzerland	28.8	(1.0) ‡	44.5	(1.2) ‡	20.4	(1.1) ‡	6.2	(0.5) ‡	53.9	(1.2) ‡	29.2	(1.0) ‡	12.1	(0.8) ‡	4.8	(0.4) ‡
	Türkiye	28.0	(0.8)	39.7	(0.9)	20.7	(0.8)	11.5	(0.6)	35.6	(0.9)	32.3	(0.8)	18.7	(0.8)	13.5	(0.6)
	United Kingdom*	19.9	(0.9) †	41.2	(1.3) †	25.3	(1.0) †	13.6	(0.8) †	36.5	(1.1) †	33.8	(1.1) †	18.0	(0.9) †	11.7	(0.7) †
	United States*	17.3	(1.0)	38.9	(1.3)	25.3	(1.1)	18.5	(1.1)	41.2	(1.2)	30.6	(1.1)	15.0	(0.8)	13.2	(0.8)
	OECD average	23.5	(0.2)	42.2	(0.2)	23.3	(0.2)	11.0	(0.1)	44.1	(0.2)	31.7	(0.2)	15.2	(0.1)	9.0	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.2.30. Problems with remote learning [8/8]

Based on students' reports

		Percentage of students who reported that, when their school building was closed because of COVID-19, they had the following problems when completing their schoolwork:															
		Problems with understanding their school assignments								Problems with finding someone who could help them with their school work							
		Never		A few times		About once or twice a week		Every day or almost every day		Never		A few times		About once or twice a week		Every day or almost every day	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	20.3	(1.3) ‡	38.1	(1.2) ‡	24.8	(1.1) ‡	16.8	(1.0) ‡	29.8	(1.7) ‡	31.6	(1.4) ‡	20.7	(1.0) ‡	17.9	(1.1) ‡
	Argentina	19.0	(0.9) ‡	39.9	(1.4) ‡	25.3	(1.0) ‡	15.8	(0.9) ‡	32.8	(1.2) ‡	36.2	(1.1) ‡	16.1	(0.9) ‡	14.9	(0.9) ‡
	Baku (Azerbaijan)	19.2	(1.5) ‡	34.6	(1.7) ‡	27.6	(1.4) ‡	18.7	(1.0) ‡	27.5	(1.2) ‡	28.2	(1.4) ‡	24.4	(1.3) ‡	19.9	(1.1) ‡
	Brazil	19.4	(0.9) †	42.6	(0.9) †	21.3	(0.7) †	16.7	(0.8) †	33.6	(1.0) †	36.4	(0.8) †	15.9	(0.8) †	14.1	(0.6) †
	Brunei Darussalam	7.9	(0.6) †	40.2	(1.2) †	29.1	(0.9) †	22.8	(0.9) †	20.7	(0.8) †	39.4	(1.0) †	21.7	(0.8) †	18.2	(0.8) †
	Bulgaria	21.2	(0.9) †	35.2	(1.3) †	31.0	(1.2) †	12.6	(0.8) †	37.3	(1.2) †	27.8	(1.3) †	22.5	(1.1) †	12.3	(0.7) †
	Cambodia	20.2	(0.7) †	40.4	(1.1) †	22.6	(0.9) †	16.8	(0.8) †	25.1	(0.8) †	38.3	(0.8) †	21.3	(0.8) †	15.3	(0.8) †
	Croatia	23.2	(0.9) †	40.6	(1.1) †	26.7	(1.1) †	9.6	(0.6) †	44.9	(1.0)	30.4	(0.9)	17.7	(0.8)	7.1	(0.5)
	Cyprus	21.0	(1.0) ‡	36.3	(1.3) ‡	28.6	(1.1) ‡	14.1	(0.8) ‡	33.1	(1.2) ‡	30.2	(1.0) ‡	21.8	(1.0) ‡	15.0	(0.9) ‡
	Dominican Republic	21.4	(1.1) ‡	39.2	(1.6) ‡	23.4	(1.5) ‡	16.0	(1.1) ‡	32.4	(1.5) ‡	31.9	(1.3) ‡	19.1	(1.3) ‡	16.6	(1.3) ‡
	El Salvador	19.1	(1.1) †	49.1	(1.3) †	18.8	(1.2) †	13.0	(0.9) †	26.8	(1.3) †	42.1	(1.3) †	16.9	(1.0) †	14.2	(0.9) †
	Georgia	28.3	(1.1) †	39.9	(1.0) †	20.6	(1.0) †	11.1	(0.8) †	37.7	(1.3) †	32.6	(1.1) †	17.0	(1.0) †	12.7	(0.8) †
	Guatemala	27.0	(1.0) ‡	44.2	(1.2) ‡	16.7	(1.0) ‡	12.1	(0.8) ‡	39.8	(1.1) ‡	36.8	(1.0) ‡	11.9	(0.8) ‡	11.6	(0.8) ‡
	Hong Kong (China)*	24.8	(1.0)	39.5	(1.0)	25.5	(0.9)	10.2	(0.7)	38.1	(0.9)	31.7	(0.8)	18.7	(0.8)	11.5	(0.6)
	Indonesia	13.1	(0.7)	53.7	(0.8)	18.9	(0.8)	14.3	(0.7)	21.9	(0.7)	50.6	(1.0)	16.6	(0.7)	10.9	(0.6)
	Jamaica*	9.3	(0.9) ‡	48.1	(1.7) ‡	25.6	(1.5) ‡	17.0	(1.5) ‡	25.6	(1.7) ‡	37.6	(1.6) ‡	18.5	(1.4) ‡	18.3	(1.5) ‡
	Jordan	20.4	(0.7) †	34.2	(1.1) †	27.1	(0.9) †	18.3	(0.8) †	27.2	(1.0) †	28.6	(1.1) †	24.3	(1.1) †	20.0	(1.0) †
	Kazakhstan	35.5	(0.6)	34.5	(0.7)	20.9	(0.6)	9.1	(0.4)	54.4	(0.8)	23.3	(0.7)	14.7	(0.4)	7.6	(0.3)
	Kosovo	21.8	(1.0) †	42.1	(1.1) †	22.6	(1.0) †	13.5	(0.8) †	32.3	(1.1) †	34.4	(1.2) †	20.0	(1.0) †	13.4	(0.8) †
	Macao (China)	34.5	(1.0)	31.7	(1.0)	21.3	(0.9)	12.6	(0.7)	46.2	(1.0)	25.6	(0.9)	17.2	(0.8)	11.0	(0.7)
	Malaysia	16.9	(0.8)	44.7	(0.8)	24.2	(0.7)	14.2	(0.7)	26.2	(1.0)	41.6	(1.0)	20.2	(0.9)	12.0	(0.7)
	Malta	18.8	(1.1) †	41.7	(1.4) †	24.8	(1.2) †	14.7	(1.0) †	37.0	(1.3) †	34.6	(1.3) †	17.3	(1.0) †	11.1	(0.8) †
	Moldova	22.2	(0.9)	43.7	(1.0)	24.4	(0.8)	9.7	(0.6)	38.0	(1.1)	35.2	(0.9)	18.2	(0.8)	8.6	(0.5)
	Mongolia	15.8	(0.6)	37.0	(0.9)	31.1	(0.9)	16.1	(0.7)	24.2	(0.8)	36.0	(0.9)	25.4	(0.9)	14.4	(0.7)
	Montenegro	23.7	(0.9) †	39.6	(1.1) †	24.8	(0.9) †	11.9	(0.8) †	34.1	(1.0) †	32.9	(1.0) †	20.2	(1.1) †	12.7	(0.9) †
	Morocco	23.0	(1.0) ‡	37.6	(1.2) ‡	25.9	(1.1) ‡	13.6	(1.0) ‡	29.1	(1.0) ‡	32.1	(1.1) ‡	21.6	(1.1) ‡	17.2	(1.0) ‡
	North Macedonia	22.4	(1.0) †	37.9	(1.1) †	26.5	(1.0) †	13.2	(0.8) †	32.3	(1.1) †	32.0	(1.0) †	22.6	(0.8) †	13.1	(0.6) †
	Palestinian Authority	22.5	(0.8) †	39.7	(1.0) †	25.1	(0.8) †	12.6	(0.7) †	31.1	(1.0) †	32.6	(1.1) †	22.3	(0.9) †	14.0	(0.7) †
	Panama*	20.7	(1.9) ‡	40.7	(2.2) ‡	22.5	(2.0) ‡	16.1	(2.0) ‡	32.4	(2.4) ‡	32.7	(1.9) ‡	18.2	(2.0) ‡	16.6	(1.6) ‡
	Paraguay	24.5	(1.0) †	39.8	(1.1) †	20.9	(0.9) †	14.8	(0.7) †	37.7	(1.1) †	33.8	(1.1) †	15.4	(0.8) †	13.2	(0.7) †
	Peru	14.1	(0.8) ‡	45.5	(1.0) ‡	26.4	(1.2) ‡	14.0	(0.8) ‡	21.6	(1.0) ‡	42.7	(1.2) ‡	21.2	(0.8) ‡	14.4	(0.9) ‡
	Philippines	12.1	(0.7) †	47.2	(1.0) †	25.9	(0.8) †	14.8	(0.7) †	17.1	(0.8) †	48.5	(1.2) †	20.8	(0.8) †	13.6	(0.7) †
	Qatar	18.2	(1.0) †	39.5	(1.0) †	28.8	(1.1) †	13.5	(0.9) †	32.6	(1.2) †	32.3	(1.3) †	21.9	(1.1) †	13.2	(0.9) †
	Romania	27.4	(1.1) †	41.5	(0.8) †	21.8	(1.0) †	9.4	(0.7) †	42.8	(1.1) †	31.2	(1.0) †	16.4	(0.9) †	9.6	(0.8) †
	Saudi Arabia	34.2	(1.3) †	35.3	(1.2) †	20.0	(0.9) †	10.5	(0.8) †	42.1	(1.3) †	29.1	(0.9) †	17.2	(0.9) †	11.6	(0.7) †
	Serbia	23.4	(1.0) †	38.7	(1.2) †	25.5	(0.9) †	12.4	(0.7) †	38.4	(1.0) †	31.4	(1.0) †	19.6	(0.9) †	10.5	(0.6) †
	Singapore	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chinese Taipei	46.2	(0.9)	28.1	(1.2)	20.1	(1.0)	5.6	(0.5)	54.3	(1.4)	23.8	(1.2)	14.4	(0.9)	7.5	(0.5)
	Thailand	25.3	(0.9)	43.9	(1.0)	20.0	(0.9)	10.8	(0.7)	31.7	(1.1)	40.5	(1.2)	18.5	(0.8)	9.4	(0.8)
	Ukrainian regions (18 of 27)	21.7	(1.6) †	43.6	(1.6) †	23.7	(1.3) †	11.0	(0.9) †	35.7	(1.9) †	35.9	(1.6) †	18.6	(1.1) †	9.9	(1.1) †
	United Arab Emirates	21.5	(0.5) †	38.8	(0.6) †	26.2	(0.5) †	13.5	(0.4) †	33.7	(0.6) †	32.4	(0.5) †	20.4	(0.5) †	13.5	(0.4) †
	Uruguay	16.4	(0.8) ‡	41.7	(1.3) ‡	24.8	(1.2) ‡	17.1	(1.0) ‡	37.5	(1.1) ‡	33.0	(1.3) ‡	16.4	(1.0) ‡	13.1	(1.0) ‡
	Uzbekistan	32.6	(1.6) ‡	27.2	(1.3) ‡	21.1	(1.1) ‡	19.0	(1.1) ‡	33.6	(1.7) ‡	24.9	(1.1) ‡	20.8	(1.1) ‡	20.7	(1.4) ‡
	Viet Nam	17.6	(0.6)	39.2	(0.8)	21.3	(0.8)	21.9	(0.7)	34.8	(0.9)	36.5	(0.8)	15.7	(0.6)	13.0	(0.7)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.1. Teacher support in mathematics [1/4]

Based on students' reports

		Index of teacher support				Percentage of students who reported that the following happens in their mathematics lessons:															
						The teacher shows an interest in every student's learning								The teacher gives extra help when students need it							
		Average		Variability		Every lesson		Most lessons		Some lessons		Never or hardly ever		Every lesson		Most lessons		Some lessons		Never or hardly ever	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	0.13	(0.01)	1.08	(0.01)	32.7	(0.5)	35.8	(0.5)	25.0	(0.5)	6.5	(0.3)	42.1	(0.5)	34.7	(0.5)	18.7	(0.4)	4.5	(0.2)
	Austria	-0.39	(0.03)	1.23	(0.01)	27.0	(0.8)	29.7	(0.7)	25.1	(0.7)	18.3	(0.7)	35.2	(0.8)	26.2	(0.5)	24.4	(0.6)	14.2	(0.6)
	Belgium	-0.21	(0.02)	1.10	(0.01)	23.1	(0.7)	31.8	(0.6)	31.4	(0.6)	13.7	(0.7)	34.5	(1.0)	32.5	(0.6)	24.9	(0.7)	8.1	(0.5)
	Canada*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	0.40	(0.03)	1.11	(0.02)	48.6	(1.0)	29.6	(0.7)	16.8	(0.6)	5.0	(0.4)	48.8	(1.0)	29.3	(0.8)	17.4	(0.6)	4.6	(0.4)
	Colombia	0.52	(0.03)	1.07	(0.01)	55.7	(1.1)	26.0	(0.7)	14.6	(0.6)	3.6	(0.3)	53.7	(1.1)	27.5	(0.7)	15.1	(0.6)	3.7	(0.3)
	Costa Rica	0.56	(0.02)	1.07	(0.01)	63.1	(1.0)	21.7	(0.7)	12.0	(0.6)	3.2	(0.2)	55.3	(0.9)	23.4	(0.5)	15.5	(0.5)	5.9	(0.4)
	Czech Republic	-0.50	(0.03)	1.12	(0.01)	19.1	(0.7)	29.8	(0.6)	33.9	(0.7)	17.2	(0.7)	27.8	(0.9)	31.9	(0.6)	28.4	(0.8)	11.8	(0.6)
	Denmark*	0.00	(0.02)	0.97	(0.01)	24.7	(0.9)	40.6	(0.8)	26.6	(0.9)	8.2	(0.4)	32.0	(0.8)	39.7	(0.7)	22.1	(0.7)	6.2	(0.5)
	Estonia	-0.19	(0.02)	1.02	(0.01)	19.4	(0.7)	32.7	(0.7)	34.3	(0.8)	13.6	(0.5)	37.0	(0.9)	33.8	(0.7)	24.1	(0.7)	5.2	(0.3)
	Finland	0.00	(0.02)	1.02	(0.01)	22.9	(0.7)	36.2	(0.6)	31.3	(0.6)	9.6	(0.4)	42.5	(0.8)	35.1	(0.5)	18.6	(0.6)	3.8	(0.3)
	France	-0.26	(0.02)	1.16	(0.01)	23.0	(0.7)	28.7	(0.6)	30.7	(0.7)	17.7	(0.6)	32.3	(0.6)	30.1	(0.7)	26.1	(0.6)	11.5	(0.5)
	Germany	-0.15	(0.02)	1.12	(0.01)	28.2	(0.7)	32.2	(0.6)	26.8	(0.7)	12.9	(0.5)	41.9	(0.9)	31.2	(0.7)	19.4	(0.6)	7.5	(0.5)
	Greece	-0.40	(0.02)	1.09	(0.01)	19.7	(0.8)	26.1	(0.6)	33.8	(0.7)	20.4	(0.7)	26.7	(0.8)	30.5	(0.7)	31.0	(0.8)	11.9	(0.5)
	Hungary	-0.22	(0.03)	1.11	(0.01)	27.3	(0.9)	34.4	(0.6)	26.6	(0.8)	11.7	(0.5)	33.5	(1.0)	33.8	(0.6)	24.4	(0.7)	8.4	(0.4)
	Iceland	0.17	(0.02)	1.04	(0.01)	32.4	(0.8)	41.6	(1.0)	20.1	(0.8)	5.9	(0.4)	37.3	(0.9)	38.2	(0.8)	18.8	(0.8)	5.8	(0.5)
	Ireland*	0.07	(0.02)	1.11	(0.01)	32.9	(0.8)	32.6	(0.7)	25.6	(0.8)	8.9	(0.4)	42.7	(1.0)	31.2	(0.6)	19.7	(0.7)	6.4	(0.4)
	Israel	0.09	(0.02)	1.15	(0.01)	36.3	(0.9)	27.4	(0.7)	24.9	(0.7)	11.3	(0.5)	40.7	(0.9)	28.3	(0.7)	22.7	(0.7)	8.3	(0.5)
	Italy	-0.16	(0.02)	1.11	(0.01)	29.3	(0.6)	32.7	(0.7)	25.9	(0.7)	12.2	(0.5)	30.0	(0.7)	33.9	(0.6)	26.3	(0.7)	9.7	(0.4)
	Japan	0.24	(0.03)	1.02	(0.01)	30.9	(1.0)	43.4	(0.7)	19.2	(0.7)	6.5	(0.4)	46.4	(1.1)	37.2	(0.8)	12.5	(0.5)	3.9	(0.3)
	Korea	0.07	(0.03)	1.00	(0.02)	30.6	(0.8)	41.4	(0.8)	22.1	(0.9)	6.0	(0.4)	36.1	(0.9)	39.4	(1.0)	19.5	(1.0)	5.0	(0.5)
	Latvia*	-0.22	(0.02)	1.00	(0.01)	19.2	(0.7)	30.6	(0.7)	34.5	(0.7)	15.7	(0.6)	35.1	(1.0)	35.7	(0.7)	23.3	(0.7)	5.9	(0.4)
	Lithuania	-0.19	(0.02)	1.06	(0.01)	21.0	(0.7)	29.6	(0.6)	35.5	(0.6)	14.0	(0.5)	30.8	(0.8)	35.8	(0.7)	26.7	(0.7)	6.7	(0.3)
	Mexico	0.44	(0.02)	1.10	(0.01)	50.9	(1.0)	26.5	(0.7)	17.8	(0.6)	4.8	(0.3)	52.7	(1.0)	26.6	(0.8)	16.7	(0.7)	4.0	(0.3)
	Netherlands*	-0.36	(0.02)	0.99	(0.01)	17.5	(0.7)	36.7	(0.8)	32.7	(0.9)	13.1	(0.6)	28.6	(0.9)	39.3	(0.7)	25.5	(0.7)	6.6	(0.4)
	New Zealand*	0.08	(0.02)	1.10	(0.01)	31.4	(0.8)	34.6	(0.9)	26.2	(0.9)	7.8	(0.5)	43.7	(0.8)	31.5	(0.7)	19.6	(0.8)	5.2	(0.4)
	Norway	-0.17	(0.02)	1.10	(0.01)	23.5	(0.7)	37.3	(0.7)	29.4	(0.8)	9.9	(0.5)	28.7	(0.8)	37.3	(0.6)	25.8	(0.6)	8.2	(0.4)
	Poland	-0.69	(0.03)	1.16	(0.01)	17.4	(0.7)	29.0	(0.7)	33.4	(0.7)	20.3	(0.8)	16.9	(0.6)	24.6	(0.7)	32.6	(0.6)	26.0	(0.9)
	Portugal	0.33	(0.02)	1.11	(0.01)	43.9	(0.7)	30.8	(0.6)	19.7	(0.6)	5.7	(0.3)	49.7	(0.8)	29.2	(0.6)	16.9	(0.5)	4.1	(0.3)
	Slovak Republic	-0.21	(0.03)	1.17	(0.01)	30.5	(0.9)	31.5	(0.8)	25.5	(0.7)	12.5	(0.6)	35.7	(1.0)	30.7	(0.8)	24.4	(0.7)	9.2	(0.5)
	Slovenia	-0.41	(0.02)	1.12	(0.01)	22.5	(0.7)	30.2	(0.8)	31.8	(0.8)	15.5	(0.5)	29.0	(0.6)	32.4	(0.8)	27.8	(0.7)	10.8	(0.4)
	Spain	0.06	(0.02)	1.14	(0.01)	39.5	(0.7)	29.1	(0.4)	23.5	(0.5)	7.9	(0.3)	37.6	(0.6)	30.1	(0.4)	23.6	(0.4)	8.7	(0.4)
	Sweden	0.19	(0.02)	1.07	(0.01)	37.9	(0.8)	35.0	(0.6)	19.7	(0.7)	7.4	(0.4)	43.5	(0.9)	32.7	(0.6)	18.4	(0.7)	5.4	(0.4)
	Switzerland	-0.13	(0.02)	1.10	(0.01)	25.1	(0.7)	34.4	(0.8)	27.5	(0.7)	13.0	(0.5)	39.8	(0.9)	30.7	(0.8)	20.8	(0.7)	8.7	(0.5)
	Türkiye	-0.24	(0.02)	1.13	(0.01)	27.7	(0.8)	30.0	(0.7)	30.1	(0.7)	12.2	(0.6)	25.4	(0.8)	30.4	(0.6)	30.6	(0.6)	13.6	(0.6)
	United Kingdom*	0.26	(0.02)	1.07	(0.01)	36.8	(0.7)	33.9	(0.8)	22.6	(0.7)	6.7	(0.4)	49.2	(0.9)	30.1	(0.7)	16.7	(0.5)	4.0	(0.3)
	United States*	0.25	(0.03)	1.12	(0.01)	40.4	(1.2)	31.3	(0.8)	21.4	(0.8)	6.8	(0.5)	51.0	(1.0)	28.6	(0.7)	15.7	(0.7)	4.7	(0.4)
	OECD average	-0.03	(0.00)	1.09	(0.00)	30.9	(0.1)	32.4	(0.1)	26.1	(0.1)	10.7	(0.1)	38.2	(0.1)	32.0	(0.1)	22.1	(0.1)	7.7	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.1. Teacher support in mathematics [2/4]

Based on students' reports

		Index of teacher support				Percentage of students who reported that the following happens in their mathematics lessons:															
						The teacher shows an interest in every student's learning								The teacher gives extra help when students need it							
		Average		Variability		Every lesson		Most lessons		Some lessons		Never or hardly ever		Every lesson		Most lessons		Some lessons		Never or hardly ever	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	0.41	(0.02) †	1.25	(0.02) †	56.7	(1.0) †	18.8	(0.7) †	15.7	(0.6) †	8.8	(0.5) †	53.4	(0.9) †	22.3	(0.8) †	17.0	(0.6) †	7.3	(0.5) †
	Argentina	0.31	(0.03) †	1.13	(0.01) †	50.6	(1.0) †	26.8	(0.6) †	17.3	(0.7) †	5.3	(0.3) †	45.8	(1.0) †	28.2	(0.7) †	19.2	(0.7) †	6.8	(0.5) †
	Baku (Azerbaijan)	0.39	(0.02) †	1.24	(0.02) †	54.8	(1.0) †	20.2	(0.7) †	16.7	(0.7) †	8.3	(0.5) †	53.1	(0.9) †	21.7	(0.7) †	18.0	(0.6) †	7.2	(0.4) †
	Brazil	0.28	(0.02)	1.10	(0.01)	47.4	(0.7)	27.1	(0.6)	20.2	(0.5)	5.3	(0.3)	43.0	(0.8)	28.8	(0.6)	22.1	(0.6)	6.1	(0.3)
	Brunei Darussalam	0.28	(0.01)	0.91	(0.01)	30.1	(0.7)	35.3	(0.7)	30.8	(0.6)	3.9	(0.3)	48.3	(0.7)	33.4	(0.6)	16.9	(0.5)	1.4	(0.1)
	Bulgaria	-0.01	(0.03)	1.25	(0.01)	38.5	(1.0)	25.7	(0.7)	23.0	(0.7)	12.8	(0.7)	37.2	(1.1)	28.6	(0.7)	23.4	(0.7)	10.8	(0.7)
	Cambodia	0.43	(0.02)	0.98	(0.01)	50.5	(0.8)	23.4	(0.7)	20.2	(0.6)	5.9	(0.3)	56.4	(0.9)	24.2	(0.7)	16.0	(0.6)	3.4	(0.4)
	Croatia	-0.21	(0.02)	1.17	(0.01)	31.4	(0.7)	32.8	(0.7)	25.4	(0.7)	10.3	(0.6)	35.6	(0.9)	31.4	(0.6)	24.0	(0.7)	9.0	(0.5)
	Cyprus	-0.22	(0.02) †	1.16	(0.01) †	29.8	(0.6) †	28.4	(0.7) †	28.5	(0.7) †	13.3	(0.5) †	29.0	(0.7) †	31.6	(0.6) †	30.2	(0.7) †	9.3	(0.4) †
	Dominican Republic	0.66	(0.03) †	1.08	(0.02) †	66.9	(1.1) †	18.2	(0.7) †	10.9	(0.6) †	4.0	(0.3) †	60.0	(1.1) †	22.9	(0.6) †	13.2	(0.7) †	3.9	(0.4) †
	El Salvador	0.59	(0.02)	1.13	(0.02)	61.2	(1.0)	20.8	(0.7)	13.3	(0.6)	4.6	(0.4)	58.6	(1.0)	22.4	(0.7)	15.0	(0.6)	4.1	(0.3)
	Georgia	0.25	(0.03) †	1.12	(0.01) †	50.6	(1.1)	25.6	(0.6)	17.2	(0.7)	6.6	(0.4)	42.4	(1.0) †	27.3	(0.7) †	22.9	(0.8) †	7.4	(0.4) †
	Guatemala	0.92	(0.02)	0.94	(0.02)	73.2	(1.0)	16.0	(0.6)	7.7	(0.5)	3.1	(0.4)	71.7	(1.0)	16.7	(0.6)	9.1	(0.5)	2.5	(0.3)
	Hong Kong (China)*	0.12	(0.02)	1.10	(0.02)	31.3	(0.7)	39.2	(0.8)	25.3	(0.6)	4.2	(0.4)	38.3	(0.9)	37.5	(0.8)	20.9	(0.6)	3.3	(0.3)
	Indonesia	0.08	(0.02)	1.05	(0.01)	34.0	(0.7)	22.9	(0.5)	34.5	(0.6)	8.6	(0.4)	36.6	(0.7)	27.2	(0.5)	30.7	(0.6)	5.5	(0.4)
	Jamaica*	0.33	(0.03) †	1.12	(0.02) †	53.0	(1.3) †	21.3	(0.9) †	20.9	(1.0) †	4.8	(0.5) †	48.3	(1.1) †	23.4	(1.0) †	22.5	(1.0) †	5.8	(0.6) †
	Jordan	0.23	(0.02)	1.20	(0.01)	49.2	(0.9)	23.1	(0.7)	18.2	(0.6)	9.5	(0.5)	45.3	(0.8)	27.8	(0.7)	19.9	(0.6)	7.0	(0.4)
	Kazakhstan	0.46	(0.01)	1.09	(0.01)	50.8	(0.6)	26.0	(0.4)	17.8	(0.4)	5.4	(0.2)	55.2	(0.6)	26.7	(0.4)	14.3	(0.3)	3.9	(0.2)
	Kosovo	0.19	(0.02)	1.16	(0.01)	44.7	(0.8)	21.5	(0.6)	22.1	(0.6)	11.6	(0.5)	46.2	(0.9)	25.2	(0.8)	20.9	(0.7)	7.8	(0.4)
	Macao (China)	0.00	(0.01)	0.94	(0.01)	27.7	(0.7)	38.0	(0.7)	29.8	(0.7)	4.5	(0.3)	36.1	(0.8)	37.5	(0.7)	23.1	(0.7)	3.2	(0.3)
	Malaysia	0.33	(0.02)	1.01	(0.01)	39.7	(0.7)	30.8	(0.7)	24.3	(0.7)	5.3	(0.3)	48.5	(0.8)	31.1	(0.6)	16.9	(0.6)	3.5	(0.3)
	Malta	0.13	(0.02)	1.14	(0.01)	37.5	(0.8)	29.7	(0.8)	23.9	(0.8)	8.8	(0.6)	41.8	(0.8)	30.9	(0.8)	20.0	(0.8)	7.4	(0.5)
	Moldova	0.13	(0.02)	1.13	(0.01)	40.4	(0.8)	29.0	(0.7)	22.0	(0.7)	8.6	(0.4)	40.7	(0.8)	30.2	(0.5)	22.0	(0.7)	7.1	(0.4)
	Mongolia	-0.19	(0.02)	1.11	(0.01)	29.0	(0.7)	27.1	(0.6)	33.2	(0.7)	10.7	(0.5)	27.8	(0.6)	31.1	(0.6)	33.2	(0.7)	7.9	(0.4)
	Montenegro	-0.13	(0.02)	1.25	(0.01)	35.0	(0.8)	27.4	(0.7)	25.0	(0.7)	12.6	(0.5)	34.4	(0.7)	30.4	(0.7)	25.4	(0.6)	9.7	(0.4)
	Morocco	0.06	(0.03) †	1.21	(0.01) †	45.8	(1.1) †	21.4	(0.7) †	20.3	(0.7) †	12.4	(0.6) †	41.3	(1.0) †	25.8	(0.7) †	22.2	(0.8) †	10.7	(0.5) †
	North Macedonia	0.22	(0.02)	1.23	(0.01)	48.4	(0.7)	23.6	(0.6)	20.4	(0.6)	7.6	(0.4)	47.6	(0.8)	24.7	(0.6)	20.0	(0.6)	7.7	(0.4)
	Palestinian Authority	0.32	(0.02)	1.19	(0.01)	51.3	(0.9)	21.3	(0.6)	18.3	(0.6)	9.1	(0.5)	49.6	(0.9)	25.2	(0.6)	18.6	(0.6)	6.7	(0.4)
	Panama*	0.48	(0.03) †	1.09	(0.02) †	56.1	(1.1) †	24.1	(0.8) †	15.6	(0.9) †	4.2	(0.5) †	54.2	(1.3) †	25.7	(0.9) †	16.1	(0.9) †	4.0	(0.5) †
	Paraguay	0.76	(0.02)	0.99	(0.02)	67.0	(0.9)	19.9	(0.6)	10.1	(0.5)	3.0	(0.3)	64.9	(1.0)	21.2	(0.7)	9.9	(0.5)	3.9	(0.4)
	Peru	0.50	(0.02)	1.00	(0.01)	53.8	(0.9)	28.1	(0.7)	15.8	(0.6)	2.3	(0.2)	52.7	(0.9)	29.3	(0.7)	15.8	(0.6)	2.3	(0.2)
	Philippines	0.50	(0.02)	1.02	(0.01)	54.3	(0.6)	25.1	(0.6)	16.2	(0.5)	4.4	(0.3)	55.1	(0.8)	25.9	(0.6)	16.2	(0.6)	2.8	(0.3)
	Qatar	0.33	(0.02)	1.20	(0.01)	47.8	(0.9)	25.6	(0.7)	18.0	(0.7)	8.5	(0.5)	51.5	(0.8)	26.1	(0.6)	16.5	(0.6)	6.0	(0.4)
	Romania	-0.16	(0.03)	1.21	(0.01)	31.4	(0.9)	26.0	(0.6)	27.6	(0.8)	15.1	(0.6)	33.8	(0.9)	27.4	(0.5)	26.8	(0.7)	12.1	(0.6)
	Saudi Arabia	0.49	(0.02)	1.20	(0.01)	55.9	(0.8)	20.5	(0.6)	15.8	(0.5)	7.8	(0.5)	56.4	(0.8)	20.7	(0.6)	16.7	(0.5)	6.2	(0.3)
	Serbia	-0.18	(0.03)	1.24	(0.01)	33.3	(0.9)	27.2	(0.6)	26.0	(0.7)	13.5	(0.6)	36.0	(0.9)	30.4	(0.6)	24.2	(0.7)	9.4	(0.5)
	Singapore	0.38	(0.01)	0.98	(0.01)	37.9	(0.6)	38.7	(0.6)	19.8	(0.5)	3.6	(0.2)	51.2	(0.6)	34.7	(0.7)	12.2	(0.4)	1.9	(0.2)
	Chinese Taipei	0.24	(0.02)	0.99	(0.01)	34.7	(0.8)	37.8	(0.8)	23.6	(0.7)	3.9	(0.3)	45.3	(0.8)	36.8	(0.8)	15.1	(0.6)	2.7	(0.3)
	Thailand	0.34	(0.02)	1.13	(0.01)	49.1	(0.9)	26.6	(0.6)	20.1	(0.6)	4.2	(0.3)	48.2	(0.8)	27.6	(0.6)	20.3	(0.6)	3.9	(0.3)
	Ukrainian regions (18 of 27)	-0.03	(0.04)	1.07	(0.02)	30.4	(1.5)	36.4	(1.2)	25.2	(1.2)	8.0	(0.5)	31.3	(1.6)	38.7	(1.1)	23.3	(1.1)	6.6	(0.5)
	United Arab Emirates	0.23	(0.01)	1.19	(0.01)	42.6	(0.4)	27.7	(0.3)	20.7	(0.4)	9.0	(0.2)	46.7	(0.4)	28.3	(0.4)	18.5	(0.3)	6.6	(0.2)
	Uruguay	0.13	(0.03)	1.14	(0.01)	38.7	(0.9)	29.5	(0.7)	24.1	(0.7)	7.6	(0.5)	39.5	(0.9)	31.7	(0.5)	22.3	(0.7)	6.5	(0.5)
	Uzbekistan	0.39	(0.02)	1.19	(0.01)	53.7	(0.8)	24.0	(0.6)	14.5	(0.6)	7.8	(0.4)	51.4	(0.8)	27.2	(0.6)	15.1	(0.5)	6.3	(0.4)
	Viet Nam	0.45	(0.02)	1.02	(0.01)	46.2	(0.9)	30.4	(0.7)	18.7	(0.7)	4.7	(0.4)	52.6	(0.8)	30.5	(0.7)	14.2	(0.6)	2.7	(0.3)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.1. Teacher support in mathematics [3/4]

Based on students' reports

		Percentage of students who reported that the following happens in their mathematics lessons:															
		The teacher helps students with their learning								The teacher continues teaching until students understand							
		Every lesson		Most lessons		Some lessons		Never or hardly ever		Every lesson		Most lessons		Some lessons		Never or hardly ever	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	44.7	(0.5)	35.1	(0.5)	16.5	(0.3)	3.8	(0.2)	36.4	(0.5)	32.3	(0.5)	23.0	(0.4)	8.3	(0.3)
	Austria	26.0	(0.8)	25.1	(0.7)	27.1	(0.7)	21.8	(0.7)	29.1	(0.8)	23.9	(0.6)	25.3	(0.6)	21.7	(0.8)
	Belgium	31.7	(0.8)	30.0	(0.5)	26.3	(0.7)	12.0	(0.5)	31.9	(0.9)	29.2	(0.6)	26.9	(0.6)	12.0	(0.5)
	Canada*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	52.7	(1.0)	30.3	(0.7)	14.2	(0.6)	2.8	(0.4)	49.6	(1.1)	26.7	(0.7)	17.3	(0.7)	6.3	(0.5)
	Colombia	58.0	(1.1)	26.7	(0.7)	12.9	(0.5)	2.4	(0.2)	52.9	(1.2)	25.1	(0.7)	17.0	(0.6)	5.1	(0.4)
	Costa Rica	62.1	(0.9)	22.4	(0.7)	12.6	(0.6)	2.9	(0.3)	57.8	(0.9)	21.3	(0.6)	14.4	(0.6)	6.4	(0.4)
	Czech Republic	23.9	(0.8)	30.2	(0.5)	31.6	(0.6)	14.4	(0.7)	19.7	(0.7)	25.3	(0.7)	32.0	(0.7)	22.9	(0.9)
	Denmark*	40.6	(1.0)	40.5	(0.8)	16.4	(0.6)	2.5	(0.2)	32.9	(1.0)	37.3	(0.8)	22.8	(0.8)	7.1	(0.4)
	Estonia	35.9	(0.9)	34.7	(0.7)	23.7	(0.7)	5.7	(0.4)	25.4	(0.8)	31.4	(0.7)	29.7	(0.7)	13.5	(0.5)
	Finland	42.3	(0.9)	35.9	(0.6)	17.9	(0.6)	3.8	(0.3)	29.3	(0.8)	35.5	(0.6)	26.9	(0.6)	8.2	(0.4)
	France	35.5	(0.7)	30.6	(0.7)	22.8	(0.5)	11.1	(0.5)	31.6	(0.8)	27.3	(0.7)	24.9	(0.5)	16.2	(0.5)
	Germany	33.6	(0.8)	29.9	(0.7)	24.6	(0.7)	11.8	(0.6)	30.6	(0.8)	28.1	(0.6)	25.7	(0.6)	15.6	(0.6)
	Greece	31.4	(0.8)	32.2	(0.6)	28.3	(0.8)	8.1	(0.4)	23.5	(0.7)	27.5	(0.7)	31.3	(0.8)	17.8	(0.7)
	Hungary	29.7	(0.9)	33.5	(0.6)	25.3	(0.7)	11.5	(0.6)	27.1	(0.9)	28.4	(0.7)	28.5	(0.7)	15.9	(0.7)
	Iceland	46.0	(0.9)	37.0	(0.9)	13.8	(0.7)	3.1	(0.3)	39.3	(0.9)	35.3	(0.9)	19.5	(0.8)	5.9	(0.5)
	Ireland*	45.8	(0.9)	31.9	(0.7)	17.6	(0.6)	4.7	(0.3)	35.1	(0.8)	28.7	(0.7)	24.9	(0.6)	11.3	(0.6)
	Israel	44.2	(0.9)	28.0	(0.7)	21.1	(0.6)	6.7	(0.4)	46.2	(0.9)	25.5	(0.6)	19.7	(0.7)	8.6	(0.4)
	Italy	32.8	(0.8)	35.8	(0.7)	23.8	(0.7)	7.6	(0.3)	29.8	(0.8)	30.5	(0.6)	26.7	(0.6)	13.0	(0.6)
	Japan	47.9	(1.1)	37.4	(0.8)	10.9	(0.6)	3.9	(0.3)	40.0	(1.1)	38.8	(0.7)	15.2	(0.7)	5.9	(0.4)
	Korea	44.2	(1.2)	38.4	(0.8)	13.7	(1.1)	3.7	(0.4)	29.7	(0.9)	35.1	(0.8)	27.0	(0.9)	8.3	(0.6)
	Latvia*	37.7	(1.1)	35.3	(0.7)	21.6	(0.8)	5.5	(0.4)	24.7	(0.9)	30.4	(0.8)	30.4	(0.8)	14.5	(0.7)
	Lithuania	35.9	(0.8)	34.8	(0.7)	23.7	(0.6)	5.7	(0.3)	29.6	(0.8)	29.4	(0.6)	29.8	(0.6)	11.2	(0.5)
	Mexico	56.0	(0.9)	27.0	(0.7)	14.0	(0.7)	3.0	(0.3)	51.9	(0.9)	24.7	(0.7)	17.6	(0.6)	5.8	(0.4)
	Netherlands*	19.8	(0.8)	35.2	(0.7)	31.6	(0.7)	13.4	(0.7)	21.7	(0.9)	33.7	(0.7)	32.2	(0.8)	12.5	(0.6)
	New Zealand*	45.3	(0.8)	32.8	(0.7)	18.0	(0.7)	3.9	(0.3)	34.1	(0.8)	30.4	(0.7)	24.6	(0.7)	10.9	(0.6)
	Norway	32.4	(0.9)	38.3	(0.7)	22.8	(0.6)	6.4	(0.4)	26.7	(0.8)	33.3	(0.6)	28.9	(0.7)	11.0	(0.5)
	Poland	20.2	(0.7)	30.0	(0.7)	32.2	(0.6)	17.6	(0.8)	19.4	(0.7)	24.9	(0.7)	32.8	(0.7)	23.0	(0.8)
	Portugal	51.2	(0.8)	29.6	(0.6)	15.4	(0.6)	3.8	(0.3)	46.1	(0.9)	28.6	(0.6)	19.7	(0.7)	5.6	(0.3)
	Slovak Republic	31.6	(1.0)	29.7	(0.7)	26.4	(0.7)	12.3	(0.6)	28.5	(0.8)	25.6	(0.7)	28.8	(0.6)	17.1	(0.7)
	Slovenia	23.5	(0.7)	28.4	(0.8)	30.5	(0.7)	17.6	(0.6)	22.7	(0.7)	28.8	(0.7)	30.9	(0.7)	17.6	(0.5)
	Spain	41.8	(0.7)	31.6	(0.4)	21.1	(0.4)	5.4	(0.2)	38.1	(0.7)	27.0	(0.4)	24.6	(0.4)	10.3	(0.4)
	Sweden	45.4	(0.9)	33.7	(0.6)	16.3	(0.6)	4.6	(0.3)	41.2	(0.9)	31.6	(0.7)	19.6	(0.6)	7.7	(0.4)
	Switzerland	36.7	(0.8)	30.6	(0.7)	22.1	(0.7)	10.6	(0.6)	33.9	(0.9)	28.6	(0.8)	24.1	(0.5)	13.3	(0.7)
	Türkiye	31.5	(0.7)	34.3	(0.6)	25.6	(0.7)	8.6	(0.5)	30.1	(0.8)	30.9	(0.6)	27.6	(0.7)	11.4	(0.5)
	United Kingdom*	52.5	(0.9)	29.6	(0.6)	15.0	(0.5)	3.0	(0.3)	42.4	(0.8)	29.6	(0.6)	20.1	(0.7)	7.9	(0.5)
	United States*	53.7	(1.0)	27.8	(0.8)	14.2	(0.7)	4.3	(0.3)	41.3	(1.0)	27.0	(0.7)	22.2	(0.9)	9.5	(0.5)
	OECD average	39.6	(0.1)	32.1	(0.1)	20.9	(0.1)	7.5	(0.1)	34.2	(0.1)	29.4	(0.1)	24.8	(0.1)	11.6	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.1. Teacher support in mathematics [4/4]

Based on students' reports

		Percentage of students who reported that the following happens in their mathematics lessons:															
		The teacher helps students with their learning								The teacher continues teaching until students understand							
		Every lesson		Most lessons		Some lessons		Never or hardly ever		Every lesson		Most lessons		Some lessons		Never or hardly ever	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	57.3	(1.1) †	19.0	(0.7) †	17.1	(0.7) †	6.6	(0.5) †	55.2	(1.0) †	18.5	(0.7) †	16.7	(0.6) †	9.6	(0.5) †
	Argentina	51.0	(1.0) †	27.9	(0.7) †	16.8	(0.6) †	4.3	(0.4) †	47.7	(1.0) †	24.8	(0.6) †	19.3	(0.6) †	8.2	(0.5) †
	Baku (Azerbaijan)	58.7	(0.9) †	18.5	(0.7) †	16.7	(0.6) †	6.1	(0.4) †	54.0	(0.9) †	18.8	(0.6) †	17.5	(0.6) †	9.8	(0.5) †
	Brazil	49.2	(0.8)	29.8	(0.7)	17.4	(0.5)	3.6	(0.3)	47.2	(0.7)	26.1	(0.5)	20.0	(0.5)	6.8	(0.3)
	Brunei Darussalam	52.4	(0.7)	32.1	(0.6)	14.3	(0.4)	1.2	(0.1)	48.5	(0.7)	30.3	(0.6)	18.4	(0.6)	2.8	(0.2)
	Bulgaria	40.6	(1.2)	28.0	(0.7)	22.1	(0.8)	9.2	(0.6)	40.9	(1.2)	23.5	(0.6)	22.0	(0.8)	13.5	(0.6)
	Cambodia	53.3	(0.9)	25.0	(0.8)	17.9	(0.7)	3.8	(0.4)	60.9	(0.8)	20.3	(0.7)	14.9	(0.7)	3.9	(0.3)
	Croatia	30.5	(0.8)	28.9	(0.6)	27.0	(0.7)	13.6	(0.7)	27.1	(0.8)	26.1	(0.7)	29.3	(0.6)	17.5	(0.7)
	Cyprus	31.8	(0.7) †	30.4	(0.7) †	29.3	(0.6) †	8.4	(0.5) †	29.1	(0.6) †	26.4	(0.7) †	30.5	(0.7) †	14.0	(0.5) †
	Dominican Republic	64.1	(1.1) †	20.9	(0.7) †	11.7	(0.6) †	3.3	(0.3) †	61.2	(1.1) †	19.6	(0.7) †	13.2	(0.7) †	6.1	(0.5) †
	El Salvador	61.8	(1.0)	22.0	(0.7)	12.8	(0.5)	3.4	(0.3)	57.7	(1.1)	20.8	(0.7)	15.1	(0.7)	6.5	(0.5)
	Georgia	50.5	(1.0)	26.5	(0.7)	17.8	(0.7)	5.2	(0.3)	47.0	(1.0)	24.0	(0.6)	19.7	(0.7)	9.4	(0.5)
	Guatemala	77.2	(1.0)	15.2	(0.7)	6.0	(0.5)	1.7	(0.3)	74.0	(1.0)	14.2	(0.5)	8.6	(0.6)	3.2	(0.4)
	Hong Kong (China)*	40.3	(0.9)	37.9	(0.8)	18.9	(0.7)	2.8	(0.3)	32.6	(0.8)	35.4	(0.7)	26.7	(0.7)	5.3	(0.4)
	Indonesia	47.6	(0.8)	25.7	(0.6)	22.5	(0.6)	4.2	(0.3)	46.8	(0.8)	25.5	(0.5)	22.6	(0.6)	5.1	(0.4)
	Jamaica*	54.6	(1.2) †	22.5	(0.8) †	19.0	(1.0) †	4.0	(0.5) †	48.1	(1.4) †	21.6	(0.9) †	23.1	(0.9) †	7.2	(0.7) †
	Jordan	48.6	(0.8)	24.6	(0.6)	19.7	(0.6)	7.1	(0.4)	48.6	(0.9)	21.6	(0.7)	18.7	(0.6)	11.1	(0.4)
	Kazakhstan	56.8	(0.6)	26.2	(0.4)	13.8	(0.4)	3.3	(0.1)	53.9	(0.6)	25.0	(0.4)	15.5	(0.4)	5.6	(0.2)
	Kosovo	51.1	(0.9)	21.9	(0.7)	21.0	(0.7)	6.0	(0.4)	50.5	(0.8)	20.3	(0.7)	18.6	(0.5)	10.6	(0.5)
	Macao (China)	38.2	(0.8)	38.2	(0.7)	21.3	(0.7)	2.3	(0.2)	27.4	(0.7)	33.8	(0.7)	32.7	(0.7)	6.1	(0.3)
	Malaysia	53.8	(0.8)	28.7	(0.6)	14.8	(0.5)	2.8	(0.2)	51.8	(0.7)	27.2	(0.6)	16.6	(0.5)	4.3	(0.3)
	Malta	45.6	(0.9)	30.9	(0.9)	18.6	(0.8)	4.9	(0.4)	42.0	(1.0)	28.5	(0.8)	20.2	(0.8)	9.3	(0.5)
	Moldova	47.2	(0.9)	27.7	(0.7)	19.4	(0.7)	5.7	(0.4)	42.0	(0.9)	25.5	(0.6)	22.7	(0.6)	9.8	(0.5)
	Mongolia	33.3	(0.7)	33.5	(0.6)	27.4	(0.6)	5.8	(0.3)	27.8	(0.7)	27.9	(0.7)	33.7	(0.7)	10.7	(0.5)
	Montenegro	33.1	(0.7)	27.6	(0.7)	27.8	(0.7)	11.5	(0.5)	34.3	(0.7)	25.5	(0.6)	26.3	(0.7)	13.9	(0.5)
	Morocco	46.3	(1.0) †	23.4	(0.6) †	21.2	(0.7) †	9.1	(0.4) †	44.0	(1.0) †	22.0	(0.7) †	20.6	(0.6) †	13.4	(0.6) †
	North Macedonia	47.4	(0.8)	23.6	(0.7)	21.2	(0.7)	7.8	(0.4)	47.5	(0.8)	21.4	(0.6)	20.4	(0.6)	10.7	(0.5)
	Palestinian Authority	53.7	(0.9)	21.5	(0.6)	18.5	(0.6)	6.3	(0.4)	54.1	(0.9)	18.9	(0.5)	17.4	(0.6)	9.6	(0.5)
	Panama*	58.4	(1.3) †	24.1	(1.0) †	14.6	(1.0) †	2.8	(0.4) †	51.4	(1.2) †	22.9	(1.0) †	18.8	(1.0) †	6.9	(0.5) †
	Paraguay	71.0	(0.9)	19.5	(0.7)	7.6	(0.5)	1.9	(0.2)	66.8	(0.9)	17.8	(0.7)	10.7	(0.5)	4.7	(0.4)
	Peru	56.0	(0.9)	29.6	(0.8)	12.7	(0.5)	1.6	(0.2)	50.1	(0.9)	28.4	(0.6)	17.7	(0.6)	3.8	(0.3)
	Philippines	57.1	(0.7)	24.3	(0.6)	15.4	(0.6)	3.3	(0.3)	57.3	(0.8)	22.6	(0.6)	15.4	(0.5)	4.7	(0.4)
	Qatar	53.4	(0.9)	24.6	(0.7)	16.1	(0.6)	5.8	(0.4)	51.1	(0.8)	22.7	(0.7)	17.1	(0.6)	9.1	(0.5)
	Romania	37.3	(0.9)	26.2	(0.6)	25.2	(0.7)	11.3	(0.6)	37.6	(0.9)	23.7	(0.6)	26.0	(0.6)	12.7	(0.5)
	Saudi Arabia	62.9	(0.8)	17.3	(0.5)	14.3	(0.5)	5.5	(0.3)	61.0	(0.8)	17.0	(0.5)	14.6	(0.5)	7.4	(0.4)
	Serbia	31.7	(0.8)	27.1	(0.6)	28.2	(0.6)	13.0	(0.6)	32.2	(1.0)	24.2	(0.6)	27.8	(0.7)	15.8	(0.6)
	Singapore	53.1	(0.6)	34.4	(0.6)	10.9	(0.3)	1.7	(0.1)	44.6	(0.6)	34.3	(0.6)	17.6	(0.5)	3.5	(0.2)
	Chinese Taipei	47.3	(0.8)	36.9	(0.8)	13.5	(0.6)	2.3	(0.2)	37.0	(0.8)	34.9	(0.8)	24.0	(0.8)	4.1	(0.4)
	Thailand	49.8	(0.8)	27.5	(0.6)	19.2	(0.6)	3.5	(0.3)	46.1	(0.9)	26.5	(0.7)	22.2	(0.6)	5.2	(0.3)
	Ukrainian regions (18 of 27)	35.9	(1.6)	36.9	(1.1)	22.0	(1.1)	5.2	(0.5)	33.6	(1.6)	30.9	(0.9)	26.1	(1.2)	9.4	(0.6)
	United Arab Emirates	49.9	(0.4)	27.1	(0.4)	17.2	(0.3)	5.7	(0.2)	47.7	(0.4)	24.5	(0.3)	18.6	(0.3)	9.2	(0.2)
	Uruguay	43.4	(1.0)	31.7	(0.7)	20.0	(0.6)	4.9	(0.4)	41.2	(0.9)	27.5	(0.8)	22.2	(0.8)	9.0	(0.5)
	Uzbekistan	54.1	(0.8)	25.8	(0.5)	14.4	(0.5)	5.8	(0.3)	52.3	(0.8)	24.6	(0.6)	14.2	(0.5)	8.9	(0.4)
	Viet Nam	54.9	(0.8)	30.2	(0.6)	12.1	(0.5)	2.8	(0.3)	52.7	(0.8)	28.7	(0.6)	14.8	(0.6)	3.8	(0.3)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.9. Disciplinary climate in mathematics lessons [1/8]

Based on students' reports

		Index of disciplinary climate[1]				Percentage of students who reported that the following happens in their mathematics lessons: Students do not listen to what the teacher said							
		Average		Variability		Every lesson		Most lessons		Some lessons		Never or hardly ever	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	-0.24	(0.01)	0.91	(0.01)	10.3	(0.4) †	22.8	(0.4) †	50.7	(0.6) †	16.2	(0.6) †
	Austria	0.36	(0.02)	1.06	(0.01)	12.2	(0.6) †	12.6	(0.7) †	26.8	(0.7) †	48.5	(1.1) †
	Belgium	-0.12	(0.02)	0.94	(0.01)	12.0	(0.7) †	20.7	(0.6) †	48.5	(0.8) †	18.9	(0.8) †
	Canada*	-0.08	(0.01)	0.93	(0.01)	9.7	(0.4) †	19.4	(0.6) †	49.0	(0.6) †	21.8	(0.6) †
	Chile	-0.32	(0.02)	0.86	(0.01)	8.5	(0.5) †	24.4	(1.0) †	51.1	(0.9) †	16.0	(0.8) †
	Colombia	-0.01	(0.02)	0.92	(0.01)	8.7	(0.7) †	16.5	(0.8) †	55.1	(1.1) †	19.6	(1.1) †
	Costa Rica	-0.07	(0.02)	0.90	(0.01)	8.5	(0.5) †	19.0	(0.7) †	48.4	(1.0) †	24.1	(1.1) †
	Czech Republic	-0.03	(0.02)	0.97	(0.01)	14.8	(0.7) †	20.1	(0.7) †	48.5	(0.8) †	16.7	(0.7) †
	Denmark*	0.03	(0.02)	0.79	(0.01)	6.5	(0.4) †	15.8	(0.8) †	54.1	(1.1) †	23.6	(1.2) †
	Estonia	0.14	(0.02)	0.92	(0.01)	8.1	(0.5) †	19.0	(0.8) †	52.4	(0.9) †	20.5	(0.9) †
	Finland	-0.22	(0.02)	0.86	(0.01)	8.6	(0.5) †	26.3	(0.7) †	52.3	(0.9) †	12.8	(0.6) †
	France	-0.23	(0.02)	0.96	(0.01)	16.5	(0.6) †	26.0	(0.7) †	44.2	(0.9) †	13.3	(0.6) †
	Germany	-0.02	(0.02)	0.99	(0.01)	17.8	(0.8) †	20.2	(0.8) †	41.2	(0.9) †	20.8	(0.8) †
	Greece	-0.27	(0.02)	0.87	(0.01)	16.3	(0.8) †	26.9	(0.9) †	44.1	(1.0) †	12.8	(0.8) †
	Hungary	0.05	(0.02)	0.96	(0.01)	10.9	(0.6) †	20.6	(0.9) †	52.4	(1.1) †	16.1	(0.8) †
	Iceland	-0.11	(0.01)	0.88	(0.01)	7.8	(0.5) †	18.3	(0.8) †	54.6	(1.0) †	19.3	(0.8) †
	Ireland*	0.18	(0.02)	0.91	(0.01)	8.5	(0.5) †	20.3	(0.6) †	51.8	(0.8) †	19.4	(0.8) †
	Israel	0.05	(0.03)	1.06	(0.01)	12.7	(0.6) †	17.4	(0.8) †	37.6	(0.9) †	32.3	(1.2) †
	Italy	-0.09	(0.02)	0.91	(0.01)	9.2	(0.5) †	24.1	(0.7) †	49.4	(0.9) †	17.3	(0.7) †
	Japan	1.09	(0.02)	0.79	(0.01)	1.0	(0.2) †	4.7	(0.4) †	35.2	(1.1) †	59.0	(1.3) †
	Korea	0.84	(0.02)	0.88	(0.01)	1.7	(0.3) †	5.6	(0.5) †	32.9	(1.0) †	59.9	(1.3) †
	Latvia*	-0.03	(0.02)	0.91	(0.01)	11.8	(0.6) †	21.9	(0.8) †	49.0	(0.9) †	17.3	(0.9) †
	Lithuania	0.21	(0.02)	0.97	(0.01)	7.5	(0.5) †	15.9	(0.7) †	51.6	(0.8) †	25.1	(0.9) †
	Mexico	0.21	(0.02)	0.91	(0.01)	7.1	(0.5) †	14.3	(0.6) †	52.7	(0.7) †	25.8	(1.0) †
	Netherlands*	-0.15	(0.02)	0.86	(0.01)	6.8	(0.5) †	20.2	(0.8) †	53.9	(0.9) †	19.2	(1.0) †
	New Zealand*	-0.33	(0.02)	0.91	(0.01)	13.2	(0.8) †	27.3	(0.9) †	46.3	(1.0) †	13.1	(0.7) †
	Norway	-0.08	(0.02)	0.84	(0.01)	6.4	(0.4) †	17.4	(0.7) †	54.6	(0.8) †	21.6	(0.9) †
	Poland	-0.05	(0.03)	1.00	(0.01)	14.0	(0.8) †	22.1	(0.8) †	47.1	(1.0) †	16.7	(0.7) †
	Portugal	0.03	(0.02)	0.89	(0.01)	6.9	(0.4) †	17.7	(0.7) †	52.3	(0.9) †	23.1	(0.8) †
	Slovak Republic	0.06	(0.03)	0.98	(0.01)	12.8	(0.7) †	22.1	(0.9) †	47.7	(1.0) †	17.4	(0.9) †
	Slovenia	0.07	(0.01)	0.96	(0.01)	12.0	(0.6) †	27.2	(0.8) †	45.7	(0.8) †	15.0	(0.6) †
	Spain	-0.08	(0.01)	0.91	(0.01)	10.9	(0.3) †	27.2	(0.6) †	46.2	(0.5) †	15.6	(0.5) †
	Sweden	-0.32	(0.02)	0.92	(0.01)	29.9	(0.9) †	27.7	(0.8) †	33.3	(0.9) †	9.1	(0.5) †
	Switzerland	0.11	(0.02)	0.92	(0.01)	12.3	(0.7) †	18.7	(0.6) †	46.5	(1.1) †	22.5	(1.0) †
	Türkiye	-0.05	(0.02)	0.93	(0.01)	9.3	(0.5) †	20.8	(0.7) †	53.6	(0.9) †	16.2	(0.7) †
	United Kingdom*	0.10	(0.02)	0.96	(0.01)	9.0	(0.6) †	19.3	(0.7) †	50.2	(1.1) †	21.5	(1.0) †
	United States*	0.24	(0.02)	0.95	(0.01)	6.9	(0.6) †	16.0	(0.8) †	48.6	(1.1) †	28.5	(1.0) †
	OECD average	0.02	(0.00)	0.92	(0.00)	10.5	(0.1)	19.9	(0.1)	47.6	(0.1)	22.1	(0.1)

1. Higher values in the index indicate a more positive disciplinary climate.

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.9. Disciplinary climate in mathematics lessons [2/8]

Based on students' reports

		Index of disciplinary climate[1]				Percentage of students who reported that the following happens in their mathematics lessons: Students do not listen to what the teacher said							
		Average		Variability		Every lesson		Most lessons		Some lessons		Never or hardly ever	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	0.09	(0.02) †	1.10	(0.01) †	13.6	(0.7) ‡	14.1	(0.8) ‡	43.0	(1.2) ‡	29.3	(1.0) ‡
	Argentina	-0.47	(0.02) †	0.93	(0.01) †	16.5	(0.7) †	27.1	(0.7) †	43.7	(0.8) †	12.6	(0.6) †
	Baku (Azerbaijan)	-0.06	(0.02) †	1.12	(0.01) †	13.8	(0.7) ‡	22.2	(0.9) ‡	37.9	(1.0) ‡	26.1	(0.9) ‡
	Brazil	-0.34	(0.01)	0.89	(0.01)	12.4	(0.5) †	25.6	(0.6) †	45.1	(0.6) †	16.9	(0.6) †
	Brunei Darussalam	0.32	(0.01)	0.80	(0.01)	3.7	(0.3) †	10.9	(0.4) †	62.5	(0.7) †	22.9	(0.7) †
	Bulgaria	-0.32	(0.03)	1.09	(0.01)	23.6	(0.8) †	24.3	(0.8) †	34.2	(0.8) †	18.0	(0.9) †
	Cambodia	0.32	(0.02)	0.97	(0.01)	8.2	(0.5)	11.9	(0.4)	48.6	(1.0)	31.3	(1.0)
	Croatia	0.14	(0.02)	0.96	(0.01)	9.9	(0.6) †	25.4	(0.8) †	50.3	(1.0) †	14.4	(0.7) †
	Cyprus	-0.19	(0.01) †	0.99	(0.01) †	16.6	(0.7) †	22.6	(0.8) †	43.9	(1.1) †	16.9	(0.6) †
	Dominican Republic	-0.04	(0.02) †	1.02	(0.01) †	15.1	(0.8) ‡	18.8	(0.7) ‡	42.9	(0.9) ‡	23.1	(0.9) ‡
	El Salvador	0.12	(0.03)	1.02	(0.01)	13.0	(0.7) †	17.3	(0.7) †	47.4	(1.0) †	22.3	(1.0) †
	Georgia	0.13	(0.02)	1.03	(0.01)	11.6	(0.5) †	16.4	(0.8) †	47.3	(0.8) †	24.7	(1.0) †
	Guatemala	0.56	(0.02)	0.95	(0.01)	9.7	(0.5)	9.7	(0.5)	44.2	(0.8)	36.4	(0.9)
	Hong Kong (China)*	0.33	(0.02)	0.95	(0.01)	6.3	(0.5) †	10.4	(0.6) †	47.2	(1.0) †	36.1	(1.0) †
	Indonesia	0.04	(0.02)	0.99	(0.01)	10.4	(0.6) †	13.4	(0.6) †	44.9	(0.9) †	31.3	(1.0) †
	Jamaica*	-0.14	(0.02) †	0.94	(0.02) †	12.5	(0.8) †	23.7	(1.1) †	46.6	(1.2) †	17.2	(1.1) †
	Jordan	-0.19	(0.02)	1.09	(0.01)	18.1	(0.8) †	21.2	(0.7) †	32.8	(0.9) †	28.0	(0.8) †
	Kazakhstan	0.35	(0.01)	1.03	(0.01)	11.9	(0.4) †	10.5	(0.4) †	44.0	(0.6) †	33.6	(0.6) †
	Kosovo	-0.09	(0.02)	1.02	(0.01)	17.9	(0.7) †	18.0	(0.8) †	46.6	(0.9) †	17.5	(0.8) †
	Macao (China)	0.38	(0.01)	0.88	(0.01)	4.1	(0.4) †	13.0	(0.6) †	52.9	(1.0) †	29.9	(0.8) †
	Malaysia	0.21	(0.02)	0.95	(0.01)	9.2	(0.6) †	12.1	(0.6) †	49.5	(0.8) †	29.2	(0.7) †
	Malta	-0.20	(0.02)	0.94	(0.01)	15.7	(0.8) †	23.5	(0.9) †	43.8	(1.0) †	17.0	(0.8) †
	Moldova	-0.01	(0.02)	0.94	(0.01)	9.7	(0.6) †	23.6	(0.8) †	48.4	(0.8) †	18.3	(0.8) †
	Mongolia	-0.09	(0.01)	0.85	(0.01)	9.1	(0.4) †	15.1	(0.6) †	58.2	(0.7) †	17.6	(0.6) †
	Montenegro	-0.03	(0.01)	1.04	(0.01)	15.6	(0.6) †	23.2	(0.8) †	44.4	(1.0) †	16.8	(0.6) †
	Morocco	-0.34	(0.02)	0.97	(0.01)	21.4	(0.8) †	25.1	(0.8) †	36.8	(0.8) †	16.7	(0.8) †
	North Macedonia	0.06	(0.01)	1.07	(0.01)	16.7	(0.7) †	17.6	(0.6) †	44.4	(0.8) †	21.4	(0.6) †
	Palestinian Authority	-0.30	(0.02)	1.02	(0.01)	16.0	(0.7) †	21.6	(0.7) †	36.7	(0.9) †	25.7	(0.7) †
	Panama*	0.07	(0.03) †	0.96	(0.02) †	11.4	(0.8) ‡	17.6	(0.9) ‡	49.2	(1.3) ‡	21.7	(1.2) ‡
	Paraguay	0.01	(0.03)	1.02	(0.01)	14.9	(0.7)	20.1	(0.7)	46.0	(0.8)	19.0	(0.8)
	Peru	0.18	(0.02)	0.88	(0.01)	6.7	(0.5) †	15.8	(0.7) †	56.5	(0.8) †	21.0	(0.8) †
	Philippines	-0.22	(0.02)	0.90	(0.01)	15.0	(0.7) †	14.1	(0.6) †	51.4	(1.0) †	19.4	(0.7) †
	Qatar	-0.03	(0.02)	1.04	(0.01)	14.2	(0.6) †	18.6	(0.6) †	43.1	(0.9) †	24.1	(0.8) †
	Romania	0.08	(0.02)	1.02	(0.01)	11.4	(0.5) †	16.3	(0.7) †	45.0	(0.6) †	27.3	(0.9) †
	Saudi Arabia	0.39	(0.02)	1.10	(0.01)	9.0	(0.5) †	16.0	(0.6) †	33.3	(0.9) †	41.7	(1.0) †
	Serbia	-0.08	(0.02)	1.04	(0.01)	17.8	(0.6) †	22.6	(0.6) †	44.7	(0.8) †	14.9	(0.6) †
	Singapore	0.22	(0.01)	0.87	(0.01)	4.8	(0.3) †	11.8	(0.6) †	56.2	(0.9) †	27.3	(0.7) †
	Chinese Taipei	0.34	(0.02)	0.94	(0.01)	3.7	(0.4) †	11.3	(0.6) †	42.2	(1.1) †	42.8	(1.1) †
	Thailand	0.03	(0.02)	0.96	(0.01)	7.9	(0.5) †	12.1	(0.6) †	55.0	(0.9) †	25.0	(0.8) †
	Ukrainian regions (18 of 27)	0.31	(0.03)	0.97	(0.02)	10.3	(0.8) †	14.9	(1.0) †	46.5	(1.3) †	28.3	(1.5) †
	United Arab Emirates	0.16	(0.01)	1.05	(0.01)	11.5	(0.3) †	16.0	(0.5) †	42.4	(0.6) †	30.1	(0.5) †
	Uruguay	-0.31	(0.02)	0.90	(0.01)	11.4	(0.5) †	23.7	(0.8) †	50.4	(0.9) †	14.4	(0.8) †
	Uzbekistan	0.30	(0.02)	1.12	(0.01)	14.8	(0.6) †	10.4	(0.5) †	36.8	(1.0) †	38.1	(1.1) †
	Viet Nam	0.39	(0.02)	0.86	(0.01)	2.9	(0.3)	7.9	(0.4)	59.8	(0.8)	29.4	(0.9)

1. Higher values in the index indicate a more positive disciplinary climate.

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.9. Disciplinary climate in mathematics lessons [3/8]

Based on students' reports

		Percentage of students who reported that the following happens in their mathematics lessons:															
		There is noise and disorder								The teacher has to wait a long time for students to quiet down							
		Every lesson		Most lessons		Some lessons		Never or hardly ever		Every lesson		Most lessons		Some lessons		Never or hardly ever	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	13.8	(0.4) †	27.8	(0.5) †	43.4	(0.6) †	15.0	(0.5) †	9.4	(0.4) †	20.3	(0.5) †	46.9	(0.7) †	23.4	(0.6) †
	Austria	9.1	(0.5) †	12.5	(0.6) †	28.3	(0.9) †	50.0	(1.2) †	9.2	(0.4) †	12.6	(0.6) †	26.6	(0.7) †	51.7	(1.0) †
	Belgium	16.1	(0.7) †	23.9	(0.7) †	41.1	(0.8) †	18.8	(0.9) †	13.1	(0.7) †	21.2	(0.7) †	40.5	(0.8) †	25.2	(1.0) †
	Canada*	11.4	(0.4) †	19.6	(0.5) †	42.2	(0.7) †	26.8	(0.7) †	7.5	(0.3) †	13.8	(0.5) †	40.2	(0.6) †	38.4	(0.7) †
	Chile	13.4	(0.7) †	28.9	(0.9) †	46.2	(0.9) †	11.5	(0.7) †	11.2	(0.7) †	23.7	(0.9) †	42.2	(0.9) †	22.8	(1.0) †
	Colombia	11.4	(0.8) †	18.0	(0.8) †	49.7	(0.9) †	20.8	(1.0) †	9.0	(0.6) †	15.1	(0.6) †	40.5	(0.7) †	35.3	(1.1) †
	Costa Rica	13.9	(0.8) †	19.9	(0.7) †	43.2	(0.8) †	22.9	(1.0) †	9.3	(0.5) †	15.2	(0.6) †	35.1	(0.7) †	40.4	(1.1) †
	Czech Republic	12.5	(0.6) †	19.7	(0.7) †	42.7	(0.9) †	25.0	(0.9) †	9.5	(0.6) †	18.2	(0.7) †	38.7	(0.7) †	33.6	(0.9) †
	Denmark*	6.7	(0.5) †	16.8	(0.8) †	56.3	(0.9) †	20.1	(1.1) †	3.6	(0.3) †	10.8	(0.7) †	44.1	(1.1) †	41.5	(1.4) †
	Estonia	7.1	(0.5) †	16.4	(0.7) †	44.3	(0.8) †	32.2	(1.0) †	5.4	(0.5) †	12.7	(0.6) †	42.8	(0.8) †	39.1	(1.2) †
	Finland	11.6	(0.5) †	28.3	(0.7) †	47.4	(0.9) †	12.8	(0.7) †	7.3	(0.4) †	21.6	(0.6) †	48.7	(0.8) †	22.4	(0.9) †
	France	21.9	(0.8) †	27.8	(0.7) †	36.7	(1.0) †	13.6	(0.7) †	16.3	(0.6) †	22.2	(0.9) †	35.7	(0.7) †	25.8	(0.9) †
	Germany	12.6	(0.7) †	19.0	(0.7) †	38.4	(0.9) †	30.0	(1.0) †	10.9	(0.8) †	17.7	(0.8) †	35.3	(1.0) †	36.0	(1.2) †
	Greece	15.1	(0.8) †	22.9	(0.9) †	41.2	(0.9) †	20.8	(1.1) †	12.8	(0.7) †	20.0	(0.7) †	38.1	(0.7) †	29.2	(1.1) †
	Hungary	9.7	(0.5) †	16.4	(0.8) †	46.3	(1.0) †	27.6	(1.2) †	8.6	(0.5) †	17.5	(0.8) †	41.0	(1.0) †	32.9	(1.2) †
	Iceland	8.3	(0.6) †	23.1	(0.9) †	48.1	(1.1) †	20.5	(0.7) †	7.0	(0.5) †	18.3	(0.8) †	48.1	(0.9) †	26.7	(0.8) †
	Ireland*	8.6	(0.5) †	20.5	(0.8) †	43.3	(0.9) †	27.6	(1.1) †	5.8	(0.4) †	14.1	(0.7) †	41.8	(0.9) †	38.3	(1.2) †
	Israel	12.9	(0.7) †	18.7	(0.7) †	36.1	(0.9) †	32.3	(1.2) †	10.7	(0.6) †	18.0	(0.7) †	34.2	(1.0) †	37.2	(1.1) †
	Italy	11.7	(0.5) †	22.7	(0.8) †	41.6	(0.9) †	24.1	(0.8) †	9.3	(0.5) †	20.1	(0.9) †	36.5	(0.8) †	34.0	(1.1) †
	Japan	1.2	(0.2) †	4.0	(0.4) †	26.1	(0.9) †	68.6	(1.1) †	1.0	(0.2) †	3.3	(0.4) †	20.5	(0.8) †	75.3	(1.1) †
	Korea	2.0	(0.3) †	7.9	(0.6) †	30.7	(1.0) †	59.5	(1.2) †	2.2	(0.2) †	7.2	(0.5) †	29.2	(1.0) †	61.4	(1.2) †
	Latvia*	9.6	(0.6) †	19.7	(0.9) †	45.0	(1.0) †	25.7	(1.1) †	7.5	(0.5) †	16.5	(0.8) †	41.8	(1.1) †	34.2	(1.1) †
	Lithuania	6.4	(0.5) †	14.6	(0.6) †	45.7	(0.8) †	33.4	(1.0) †	5.2	(0.4) †	12.2	(0.5) †	41.2	(0.9) †	41.4	(1.0) †
	Mexico	8.6	(0.5) †	14.1	(0.6) †	45.1	(0.9) †	32.1	(1.1) †	4.8	(0.4) †	8.5	(0.5) †	32.8	(0.9) †	53.9	(1.2) †
	Netherlands*	9.2	(0.7) †	22.8	(0.7) †	50.7	(0.8) †	17.4	(0.8) †	8.3	(0.5) †	23.0	(1.0) †	47.1	(0.9) †	21.6	(0.8) †
	New Zealand*	15.7	(0.8) †	27.2	(0.9) †	41.0	(1.1) †	16.1	(0.8) †	10.3	(0.7) †	21.4	(0.8) †	44.0	(1.1) †	24.2	(1.2) †
	Norway	7.7	(0.4) †	21.3	(0.8) †	53.8	(0.8) †	17.2	(0.8) †	6.6	(0.4) †	15.7	(0.7) †	49.9	(0.8) †	27.8	(1.0) †
	Poland	9.7	(0.6) †	16.3	(0.8) †	43.7	(0.9) †	30.2	(1.3) †	9.5	(0.6) †	15.3	(0.7) †	38.4	(0.8) †	36.9	(1.1) †
	Portugal	8.1	(0.5) †	18.4	(0.8) †	49.2	(0.8) †	24.3	(0.9) †	7.2	(0.4) †	16.5	(0.7) †	44.4	(0.9) †	31.9	(1.0) †
	Slovak Republic	9.7	(0.6) †	17.9	(0.9) †	37.5	(0.9) †	34.9	(1.3) †	8.9	(0.6) †	18.3	(0.9) †	37.5	(0.9) †	35.3	(1.2) †
	Slovenia	9.8	(0.5) †	18.2	(0.7) †	38.3	(0.8) †	33.6	(0.9) †	7.5	(0.4) †	18.4	(0.7) †	40.5	(0.8) †	33.6	(0.8) †
	Spain	13.4	(0.4) †	24.0	(0.6) †	40.5	(0.5) †	22.1	(0.7) †	10.3	(0.4) †	21.0	(0.5) †	39.9	(0.6) †	28.8	(0.7) †
	Sweden	13.6	(0.8) †	23.6	(0.8) †	46.6	(0.9) †	16.3	(0.8) †	11.3	(0.7) †	19.4	(0.7) †	43.3	(0.9) †	26.0	(1.0) †
	Switzerland	10.2	(0.7) †	18.6	(0.6) †	41.4	(0.8) †	29.7	(0.9) †	7.9	(0.6) †	15.3	(0.5) †	38.1	(1.0) †	38.7	(1.0) †
	Türkiye	10.8	(0.5) †	19.3	(0.7) †	45.8	(0.8) †	24.1	(0.9) †	12.1	(0.6) †	21.2	(0.8) †	44.4	(1.0) †	22.3	(0.7) †
	United Kingdom*	12.4	(0.7) †	22.1	(0.8) †	43.2	(1.1) †	22.2	(0.9) †	9.2	(0.7) †	18.9	(0.8) †	41.9	(0.9) †	30.0	(1.1) †
	United States*	6.7	(0.5) †	15.0	(0.8) †	38.8	(1.0) †	39.5	(1.2) †	4.9	(0.4) †	10.6	(0.6) †	37.8	(1.0) †	46.6	(1.3) †
	OECD average	10.6	(0.1)	19.7	(0.1)	42.7	(0.1)	27.0	(0.2)	8.4	(0.1)	16.6	(0.1)	39.7	(0.1)	35.2	(0.2)

1. Higher values in the index indicate a more positive disciplinary climate.

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.9. Disciplinary climate in mathematics lessons [4/8]

Based on students' reports

		Percentage of students who reported that the following happens in their mathematics lessons:															
		There is noise and disorder								The teacher has to wait a long time for students to quiet down							
		Every lesson		Most lessons		Some lessons		Never or hardly ever		Every lesson		Most lessons		Some lessons		Never or hardly ever	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	11.7	(0.7) ‡	14.5	(0.8) ‡	38.9	(1.1) ‡	35.0	(1.1) ‡	12.4	(0.7) ‡	14.2	(0.8) ‡	37.3	(0.9) ‡	36.0	(1.0) ‡
	Argentina	24.7	(0.8) †	27.0	(1.0) †	34.7	(1.0) †	13.5	(0.7) †	16.5	(0.8) †	23.3	(0.7) †	36.3	(0.8) †	23.9	(1.1) †
	Baku (Azerbaijan)	14.1	(0.7) ‡	22.9	(0.8) ‡	35.1	(0.9) ‡	27.9	(0.9) ‡	13.1	(0.7) ‡	21.2	(0.9) ‡	33.3	(0.8) ‡	32.3	(1.0) ‡
	Brazil	17.1	(0.6) †	23.7	(0.7) †	41.7	(0.7) †	17.5	(0.7) †	14.5	(0.5) †	22.1	(0.7) †	40.8	(0.7) †	22.6	(0.6) †
	Brunei Darussalam	7.5	(0.5) †	15.7	(0.6) †	50.0	(0.8) †	26.7	(0.7) †	5.2	(0.4) †	9.5	(0.4) †	41.8	(0.6) †	43.4	(0.6) †
	Bulgaria	19.5	(0.8) †	21.4	(0.9) †	33.4	(1.0) †	25.7	(1.2) †	16.2	(0.8) †	20.4	(0.8) †	31.8	(0.8) †	31.6	(1.0) †
	Cambodia	10.2	(0.6)	15.1	(0.7)	38.4	(0.8)	36.3	(1.0)	10.0	(0.4)	13.6	(0.5)	29.9	(0.9)	46.5	(1.2)
	Croatia	8.6	(0.6) †	15.0	(0.7) †	42.2	(0.8) †	34.2	(1.1) †	7.0	(0.5) †	14.3	(0.8) †	37.8	(0.8) †	40.9	(1.1) †
	Cyprus	15.6	(0.6) †	20.8	(0.8) †	39.3	(1.0) †	24.3	(0.7) †	13.2	(0.7) †	19.1	(0.8) †	38.0	(1.0) †	29.8	(0.8) †
	Dominican Republic	15.2	(0.7) ‡	17.9	(0.8) ‡	40.5	(1.0) ‡	26.5	(1.0) ‡	13.8	(0.8) ‡	16.8	(0.7) ‡	35.2	(0.9) ‡	34.2	(1.3) ‡
	El Salvador	13.2	(0.8) †	15.5	(0.7) †	41.9	(1.0) †	29.5	(1.1) †	8.9	(0.5) †	11.1	(0.7) †	33.4	(1.0) †	46.6	(1.4) †
	Georgia	9.3	(0.5) †	13.5	(0.6) †	40.9	(0.9) †	36.3	(1.1) †	9.1	(0.5) †	14.2	(0.7) †	37.9	(0.8) †	38.8	(1.2) †
	Guatemala	7.4	(0.5)	7.7	(0.4)	31.7	(0.9)	53.3	(1.0)	4.6	(0.3)	4.2	(0.3)	17.3	(0.8)	73.8	(0.9)
	Hong Kong (China)*	5.5	(0.4) †	9.2	(0.5) †	48.7	(1.0) †	36.6	(1.2) †	4.4	(0.4) †	8.3	(0.5) †	40.5	(1.0) †	46.9	(1.0) †
	Indonesia	13.4	(0.6) †	18.1	(0.7) †	41.2	(0.9) †	27.3	(0.8) †	10.9	(0.6) †	14.6	(0.7) †	36.0	(0.8) †	38.5	(1.1) †
	Jamaica*	17.4	(1.0) †	18.8	(1.1) †	42.3	(1.4) †	21.6	(1.3) †	15.2	(0.7) †	20.5	(1.2) †	36.1	(1.6) †	28.2	(1.6) †
	Jordan	18.3	(0.7) †	23.7	(0.7) †	33.0	(0.9) †	25.0	(0.9) †	17.1	(0.7) †	22.5	(0.7) †	30.6	(0.8) †	29.9	(0.9) †
	Kazakhstan	6.7	(0.3) †	8.4	(0.3) †	41.9	(0.6) †	43.0	(0.6) †	6.5	(0.3) †	8.4	(0.3) †	30.7	(0.5) †	54.4	(0.6) †
	Kosovo	13.4	(0.6) †	14.7	(0.6) †	43.4	(1.0) †	28.6	(1.0) †	13.6	(0.7) †	16.8	(0.8) †	39.6	(0.9) †	30.0	(0.8) †
	Macao (China)	4.5	(0.4) †	13.1	(0.6) †	53.2	(0.9) †	29.2	(0.8) †	3.0	(0.3) †	10.3	(0.6) †	45.7	(1.0) †	41.0	(0.9) †
	Malaysia	10.4	(0.5) †	14.7	(0.5) †	45.3	(0.7) †	29.6	(0.9) †	7.3	(0.4) †	11.6	(0.5) †	35.7	(0.9) †	45.4	(1.0) †
	Malta	18.3	(0.9) †	23.6	(1.0) †	38.4	(1.1) †	19.8	(0.9) †	13.1	(0.8) †	22.8	(1.0) †	37.8	(1.1) †	26.3	(1.1) †
	Moldova	7.1	(0.5) †	16.5	(0.6) †	45.1	(0.8) †	31.3	(1.0) †	7.3	(0.4) †	16.5	(0.7) †	41.4	(0.8) †	34.8	(1.2) †
	Mongolia	8.3	(0.4) †	15.4	(0.6) †	54.7	(0.8) †	21.6	(0.9) †	8.5	(0.5) †	15.2	(0.6) †	45.3	(1.0) †	31.0	(1.1) †
	Montenegro	10.1	(0.5) †	13.5	(0.6) †	38.0	(0.9) †	38.3	(0.8) †	10.1	(0.6) †	16.2	(0.7) †	36.7	(0.8) †	37.0	(0.8) †
	Morocco	20.3	(0.9) †	24.1	(0.7) †	34.2	(0.9) †	21.4	(0.9) †	17.7	(0.8) †	24.1	(0.9) †	31.5	(0.9) †	26.8	(1.0) †
	North Macedonia	12.5	(0.6) †	13.1	(0.5) †	36.6	(0.8) †	37.9	(0.8) †	11.2	(0.4) †	13.1	(0.5) †	34.8	(0.8) †	40.9	(0.7) †
	Palestinian Authority	18.4	(0.7) †	23.6	(0.7) †	35.9	(0.9) †	22.1	(0.7) †	17.2	(0.7) †	23.0	(0.7) †	32.7	(0.8) †	27.2	(0.8) †
	Panama*	14.4	(0.9) ‡	17.0	(1.1) ‡	40.4	(1.3) ‡	28.2	(1.3) ‡	9.0	(0.8) ‡	11.6	(0.9) ‡	32.7	(1.6) ‡	46.6	(2.0) ‡
	Paraguay	15.1	(0.7)	20.5	(0.7)	40.0	(0.8)	24.5	(1.0)	11.4	(0.7)	15.1	(0.7)	31.4	(0.8)	42.1	(1.1)
	Peru	10.6	(0.5) †	16.8	(0.7) †	50.1	(1.0) †	22.5	(1.0) †	6.3	(0.4) †	10.4	(0.6) †	36.1	(0.8) †	47.3	(1.1) †
	Philippines	13.2	(0.6) †	16.7	(0.6) †	42.3	(0.8) †	27.9	(0.9) †	16.1	(0.8) †	17.4	(0.6) †	39.2	(0.9) †	27.3	(1.2) †
	Qatar	14.5	(0.6) †	19.7	(0.7) †	38.9	(0.9) †	26.9	(0.8) †	14.5	(0.7) †	18.6	(0.8) †	37.2	(0.9) †	29.7	(0.9) †
	Romania	8.7	(0.5) †	12.9	(0.7) †	39.2	(0.8) †	39.2	(1.2) †	8.7	(0.4) †	13.0	(0.7) †	33.8	(0.7) †	44.6	(1.2) †
	Saudi Arabia	8.8	(0.5) †	17.1	(0.6) †	32.7	(0.9) †	41.4	(1.1) †	8.7	(0.5) †	15.3	(0.7) †	27.7	(0.8) †	48.4	(1.0) †
	Serbia	12.3	(0.7) †	16.3	(0.7) †	40.4	(0.9) †	31.1	(1.0) †	11.9	(0.7) †	15.1	(0.6) †	37.2	(0.8) †	35.8	(1.0) †
	Singapore	7.6	(0.4) †	15.1	(0.6) †	47.9	(0.7) †	29.3	(0.7) †	4.6	(0.3) †	11.2	(0.5) †	46.0	(0.7) †	38.3	(0.8) †
	Chinese Taipei	5.1	(0.4) †	14.6	(0.6) †	44.7	(1.0) †	35.6	(1.0) †	4.4	(0.4) †	13.6	(0.7) †	39.4	(0.8) †	42.6	(1.0) †
	Thailand	9.1	(0.5) †	15.6	(0.7) †	54.0	(0.9) †	21.3	(0.7) †	7.8	(0.5) †	13.4	(0.6) †	46.8	(0.9) †	32.0	(1.1) †
	Ukrainian regions (18 of 27)	4.8	(0.5) †	8.6	(0.9) †	31.5	(1.3) †	55.1	(2.0) †	4.6	(0.5) †	9.6	(0.9) †	34.0	(1.2) †	51.9	(1.6) †
	United Arab Emirates	11.0	(0.3) †	17.7	(0.4) †	39.0	(0.5) †	32.3	(0.5) †	9.5	(0.3) †	16.6	(0.4) †	36.6	(0.5) †	37.2	(0.5) †
	Uruguay	17.5	(0.8) †	28.3	(0.8) †	39.5	(0.9) †	14.7	(0.8) †	10.9	(0.5) †	20.4	(0.8) †	38.0	(0.8) †	30.6	(1.0) †
	Uzbekistan	11.5	(0.6) †	9.8	(0.6) †	40.9	(1.0) †	37.8	(1.1) †	10.5	(0.4) †	11.4	(0.6) †	34.2	(0.7) †	43.9	(1.1) †
	Viet Nam	3.8	(0.3)	13.8	(0.6)	62.7	(0.8)	19.7	(0.7)	2.9	(0.3)	8.5	(0.5)	46.5	(0.8)	42.0	(1.1)

1. Higher values in the index indicate a more positive disciplinary climate.

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.9. Disciplinary climate in mathematics lessons [5/8]

Based on students' reports

		Percentage of students who reported that the following happens in their mathematics lessons:															
		Students cannot work well								Students do not start working for a long time after the lesson begins							
		Every lesson		Most lessons		Some lessons		Never or hardly ever		Every lesson		Most lessons		Some lessons		Never or hardly ever	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	7.6	(0.3) †	17.6	(0.4) †	49.9	(0.6) †	24.9	(0.6) †	9.0	(0.4) †	20.5	(0.5) †	44.8	(0.6) †	25.7	(0.5) †
	Austria	7.8	(0.5) †	12.0	(0.6) †	28.3	(0.7) †	51.9	(1.0) †	8.5	(0.5) †	11.3	(0.6) †	24.5	(0.7) †	55.6	(1.0) †
	Belgium	8.4	(0.6) †	14.8	(0.5) †	41.8	(0.8) †	35.0	(0.9) †	12.1	(0.7) †	21.4	(0.7) †	37.8	(0.7) †	28.8	(0.9) †
	Canada*	6.8	(0.3) †	14.6	(0.4) †	42.9	(0.7) †	35.8	(0.8) †	8.6	(0.3) †	19.4	(0.5) †	40.3	(0.5) †	31.7	(0.7) †
	Chile	6.4	(0.5) †	17.6	(0.7) †	46.2	(0.8) †	29.7	(0.8) †	9.3	(0.6) †	23.1	(0.8) †	43.9	(0.9) †	23.6	(0.9) †
	Colombia	6.3	(0.4) †	10.8	(0.6) †	42.4	(0.9) †	40.4	(1.0) †	7.5	(0.5) †	15.3	(0.6) †	40.9	(0.8) †	36.4	(0.8) †
	Costa Rica	7.0	(0.5) †	13.5	(0.6) †	41.3	(0.7) †	38.2	(1.0) †	10.0	(0.5) †	20.2	(0.6) †	38.5	(0.9) †	31.3	(0.9) †
	Czech Republic	7.7	(0.5) †	14.9	(0.6) †	39.2	(1.0) †	38.2	(1.1) †	8.8	(0.5) †	15.8	(0.6) †	35.9	(0.7) †	39.5	(0.8) †
	Denmark*	4.3	(0.4) †	13.4	(0.7) †	52.7	(0.9) †	29.6	(1.0) †	4.2	(0.4) †	16.2	(0.8) †	48.1	(0.9) †	31.4	(1.0) †
	Estonia	4.4	(0.4) †	13.5	(0.7) †	50.1	(1.0) †	31.9	(1.1) †	4.3	(0.3) †	10.7	(0.6) †	38.9	(0.9) †	46.0	(1.1) †
	Finland	6.9	(0.4) †	20.7	(0.6) †	50.3	(0.7) †	22.2	(0.8) †	8.7	(0.4) †	21.8	(0.7) †	47.3	(0.7) †	22.1	(0.8) †
	France	11.6	(0.5) †	17.0	(0.8) †	35.0	(0.7) †	36.4	(1.1) †	16.0	(0.5) †	25.2	(0.7) †	34.7	(0.8) †	24.0	(0.9) †
	Germany	9.6	(0.5) †	18.5	(0.7) †	36.3	(0.9) †	35.5	(1.0) †	10.1	(0.6) †	17.9	(0.8) †	32.9	(0.8) †	39.0	(1.0) †
	Greece	12.2	(0.6) †	22.7	(0.7) †	44.0	(0.7) †	21.2	(0.7) †	10.1	(0.6) †	23.1	(0.7) †	42.1	(0.7) †	24.7	(0.8) †
	Hungary	6.4	(0.4) †	14.9	(0.6) †	43.5	(0.9) †	35.2	(1.1) †	6.3	(0.4) †	13.7	(0.7) †	33.9	(1.0) †	46.1	(1.3) †
	Iceland	5.3	(0.5) †	17.5	(0.8) †	53.7	(1.0) †	23.6	(0.9) †	7.6	(0.6) †	19.8	(0.8) †	49.6	(1.0) †	23.0	(0.8) †
	Ireland*	5.2	(0.4) †	13.2	(0.6) †	43.8	(0.9) †	37.9	(1.0) †	6.0	(0.5) †	14.9	(0.7) †	38.7	(1.0) †	40.3	(1.1) †
	Israel	10.5	(0.6) †	17.2	(0.7) †	38.2	(0.9) †	34.2	(1.1) †	10.4	(0.6) †	15.8	(0.7) †	32.1	(1.0) †	41.7	(1.2) †
	Italy	7.8	(0.5) †	19.1	(0.6) †	42.7	(0.8) †	30.5	(1.1) †	8.0	(0.5) †	18.1	(0.6) †	36.7	(0.6) †	37.2	(1.0) †
	Japan	2.5	(0.3) †	9.2	(0.6) †	39.0	(0.9) †	49.2	(1.2) †	0.8	(0.2) †	3.3	(0.4) †	18.4	(0.8) †	77.5	(1.1) †
	Korea	1.8	(0.2) †	6.8	(0.5) †	25.6	(1.0) †	65.8	(1.1) †	1.7	(0.3) †	7.4	(0.5) †	24.9	(1.0) †	66.1	(1.2) †
	Latvia*	6.7	(0.5) †	17.7	(0.8) †	46.6	(0.9) †	29.0	(1.1) †	5.6	(0.4) †	12.1	(0.6) †	37.8	(0.9) †	44.4	(1.1) †
	Lithuania	5.0	(0.4) †	13.5	(0.5) †	41.9	(0.8) †	39.6	(1.0) †	5.1	(0.4) †	11.4	(0.6) †	36.6	(0.8) †	46.9	(1.1) †
	Mexico	5.0	(0.4) †	9.7	(0.4) †	42.9	(0.9) †	42.3	(0.9) †	6.3	(0.4) †	12.7	(0.6) †	37.8	(0.7) †	43.3	(1.0) †
	Netherlands*	5.9	(0.6) †	15.7	(0.7) †	49.4	(1.0) †	29.0	(1.0) †	9.8	(0.6) †	29.3	(1.0) †	43.3	(0.9) †	17.5	(0.8) †
	New Zealand*	9.0	(0.6) †	19.7	(0.8) †	47.6	(0.9) †	23.7	(1.1) †	10.3	(0.6) †	22.9	(0.7) †	41.9	(1.0) †	24.8	(0.9) †
	Norway	6.5	(0.5) †	16.7	(0.7) †	51.8	(0.9) †	24.9	(0.9) †	6.9	(0.4) †	19.9	(0.7) †	49.9	(0.8) †	23.4	(0.9) †
	Poland	9.3	(0.6) †	18.1	(0.7) †	42.6	(0.9) †	30.1	(0.9) †	8.5	(0.6) †	15.1	(0.7) †	36.6	(0.7) †	39.8	(1.0) †
	Portugal	4.2	(0.3) †	12.3	(0.6) †	41.9	(0.8) †	41.6	(1.0) †	6.6	(0.4) †	17.4	(0.7) †	41.3	(0.8) †	34.6	(0.9) †
	Slovak Republic	9.0	(0.6) †	16.0	(0.7) †	36.6	(0.9) †	38.5	(1.1) †	9.4	(0.6) †	18.3	(0.8) †	37.3	(1.1) †	35.0	(1.1) †
	Slovenia	6.8	(0.4) †	16.6	(0.6) †	41.2	(0.9) †	35.4	(1.0) †	8.7	(0.5) †	17.0	(0.7) †	38.3	(0.9) †	36.0	(0.9) †
	Spain	6.6	(0.3) †	14.9	(0.4) †	37.2	(0.6) †	41.3	(0.7) †	10.0	(0.4) †	21.5	(0.5) †	38.5	(0.4) †	30.0	(0.6) †
	Sweden	10.5	(0.6) †	19.1	(0.7) †	50.2	(0.9) †	20.2	(0.9) †	11.6	(0.7) †	21.6	(0.7) †	45.2	(0.9) †	21.6	(0.8) †
	Switzerland	5.4	(0.4) †	13.9	(0.5) †	40.7	(0.8) †	40.0	(1.1) †	9.5	(0.5) †	18.6	(0.8) †	34.8	(0.8) †	37.1	(0.9) †
	Türkiye	14.4	(0.6) †	27.5	(0.9) †	45.5	(0.9) †	12.6	(0.7) †	12.8	(0.6) †	21.9	(0.6) †	42.6	(0.9) †	22.8	(0.7) †
	United Kingdom*	6.8	(0.5) †	13.9	(0.7) †	41.0	(1.0) †	38.3	(1.1) †	7.4	(0.5) †	14.1	(0.6) †	38.2	(0.9) †	40.3	(1.1) †
	United States*	4.6	(0.4) †	9.7	(0.6) †	40.6	(1.1) †	45.1	(1.0) †	5.5	(0.5) †	13.9	(0.7) †	37.8	(1.0) †	42.8	(1.2) †
	OECD average	7.1	(0.1)	15.5	(0.1)	42.8	(0.1)	34.6	(0.2)	8.2	(0.1)	17.4	(0.1)	38.5	(0.1)	36.0	(0.2)

1. Higher values in the index indicate a more positive disciplinary climate.

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.9. Disciplinary climate in mathematics lessons [6/8]

Based on students' reports

	Percentage of students who reported that the following happens in their mathematics lessons:															
	Students cannot work well								Students do not start working for a long time after the lesson begins							
	Every lesson		Most lessons		Some lessons		Never or hardly ever		Every lesson		Most lessons		Some lessons		Never or hardly ever	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																
Albania	9.8	(0.6) ‡	15.3	(0.8) ‡	43.3	(0.9) ‡	31.7	(0.9) ‡	10.5	(0.8) ‡	13.6	(0.7) ‡	35.2	(0.9) ‡	40.7	(1.0) ‡
Argentina	11.6	(0.6) †	19.5	(0.7) †	41.0	(0.9) †	27.8	(1.0) †	16.2	(0.7) †	25.6	(0.8) †	36.5	(0.8) †	21.7	(0.8) †
Baku (Azerbaijan)	10.5	(0.6) ‡	23.5	(0.9) ‡	38.7	(0.9) ‡	27.3	(1.1) ‡	12.5	(0.7) ‡	21.0	(0.9) ‡	29.7	(0.9) ‡	36.8	(1.0) ‡
Brazil	9.9	(0.4) †	22.2	(0.7) †	49.1	(0.7) †	18.8	(0.6) †	11.1	(0.4) †	23.1	(0.7) †	44.0	(0.7) †	21.8	(0.6) †
Brunei Darussalam	3.8	(0.3) †	14.0	(0.6) †	57.7	(0.9) †	24.4	(0.8) †	3.4	(0.3) †	10.0	(0.5) †	41.9	(0.7) †	44.7	(0.7) †
Bulgaria	15.7	(0.7) †	24.9	(0.9) †	38.5	(0.9) †	20.9	(0.9) †	15.4	(0.7) †	19.7	(0.8) †	30.3	(0.7) †	34.6	(1.3) †
Cambodia	6.7	(0.4)	17.1	(0.6)	52.0	(1.0)	24.2	(0.9)	6.0	(0.4)	13.4	(0.6)	30.8	(1.2)	49.9	(1.2)
Croatia	7.2	(0.5) †	16.5	(0.7) †	41.7	(0.8) †	34.7	(1.0) †	7.3	(0.6) †	14.1	(0.7) †	36.0	(0.8) †	42.7	(1.1) †
Cyprus	11.3	(0.6) †	17.6	(0.8) †	41.6	(0.9) †	29.5	(0.7) †	11.5	(0.6) †	21.0	(0.8) †	39.9	(0.8) †	27.6	(0.8) †
Dominican Republic	11.1	(0.7) ‡	14.2	(0.8) ‡	36.9	(1.0) ‡	37.8	(1.1) ‡	11.9	(0.6) ‡	16.9	(0.8) ‡	33.6	(0.8) ‡	37.6	(1.1) ‡
El Salvador	9.0	(0.6) †	12.0	(0.7) †	42.5	(0.9) †	36.5	(1.2) †	10.9	(0.7) †	13.6	(0.7) †	35.8	(0.9) †	39.7	(1.2) †
Georgia	7.1	(0.4) †	15.1	(0.7) †	44.3	(0.9) †	33.6	(0.9) †	7.5	(0.5) †	14.1	(0.7) †	33.6	(0.9) †	44.8	(1.2) †
Guatemala	5.7	(0.4)	6.3	(0.4)	33.5	(0.7)	54.6	(0.9)	6.9	(0.5)	6.5	(0.4)	23.4	(0.7)	63.2	(1.0)
Hong Kong (China)*	5.0	(0.4) †	9.7	(0.5) †	49.0	(1.1) †	36.3	(1.0) †	5.0	(0.4) †	11.6	(0.5) †	46.3	(1.1) †	37.0	(1.2) †
Indonesia	9.4	(0.5) †	15.8	(0.6) †	47.2	(0.9) †	27.6	(0.9) †	11.7	(0.6) †	15.9	(0.7) †	37.5	(0.8) †	34.9	(0.8) †
Jamaica*	9.2	(0.6) †	19.2	(1.1) †	44.7	(1.4) †	26.9	(1.3) †	10.1	(0.7) †	17.4	(1.0) †	39.0	(1.1) †	33.4	(1.2) †
Jordan	14.1	(0.6) †	24.0	(0.8) †	33.0	(0.8) †	28.8	(0.8) †	16.8	(0.6) †	23.8	(0.9) †	31.1	(0.8) †	28.3	(0.9) †
Kazakhstan	6.3	(0.3) †	9.2	(0.4) †	36.4	(0.6) †	48.1	(0.7) †	6.2	(0.3) †	9.0	(0.3) †	30.4	(0.6) †	54.4	(0.7) †
Kosovo	11.6	(0.6) †	18.6	(0.7) †	44.8	(0.9) †	25.0	(0.8) †	12.1	(0.5) †	15.9	(0.7) †	37.1	(0.9) †	35.0	(1.0) †
Macao (China)	4.5	(0.3) †	16.2	(0.6) †	56.7	(0.9) †	22.5	(0.8) †	4.5	(0.4) †	17.5	(0.6) †	52.7	(0.9) †	25.3	(0.8) †
Malaysia	6.9	(0.4) †	14.6	(0.5) †	43.7	(0.8) †	34.8	(0.8) †	8.1	(0.5) †	16.2	(0.7) †	42.0	(0.8) †	33.7	(1.0) †
Malta	8.9	(0.7) †	18.6	(0.9) †	42.1	(1.2) †	30.4	(1.1) †	9.9	(0.6) †	18.5	(0.9) †	37.9	(1.1) †	33.7	(1.0) †
Moldova	6.2	(0.4) †	18.2	(0.7) †	49.1	(1.0) †	26.5	(0.9) †	6.4	(0.4) †	16.1	(0.7) †	40.6	(0.8) †	36.9	(1.1) †
Mongolia	6.4	(0.4) †	17.0	(0.6) †	56.0	(0.8) †	20.6	(0.6) †	6.0	(0.3) †	13.6	(0.5) †	47.1	(0.7) †	33.2	(0.8) †
Montenegro	10.2	(0.5) †	17.1	(0.6) †	39.5	(0.9) †	33.2	(0.8) †	9.7	(0.6) †	17.3	(0.6) †	33.7	(0.8) †	39.3	(0.7) †
Morocco	16.2	(0.6) †	23.8	(0.6) †	38.1	(0.9) †	21.8	(0.9) †	18.0	(0.7) †	23.6	(0.7) †	32.9	(0.9) †	25.5	(0.8) †
North Macedonia	11.1	(0.5) †	15.5	(0.7) †	38.2	(0.8) †	35.2	(0.8) †	10.5	(0.5) †	13.8	(0.5) †	33.7	(0.8) †	42.0	(0.8) †
Palestinian Authority	12.5	(0.6) †	24.4	(0.8) †	35.4	(0.9) †	27.7	(0.7) †	15.7	(0.6) †	23.9	(0.8) †	33.7	(0.7) †	26.8	(0.8) †
Panama*	7.6	(0.7) ‡	14.2	(0.9) ‡	38.1	(1.3) ‡	40.1	(1.6) ‡	11.2	(0.9) ‡	15.4	(0.9) ‡	34.8	(1.3) ‡	38.5	(1.5) ‡
Paraguay	8.2	(0.5)	11.4	(0.5)	32.9	(0.7)	47.5	(0.9)	10.0	(0.6)	15.4	(0.6)	35.0	(0.8)	39.7	(1.0)
Peru	4.8	(0.4) †	12.5	(0.6) †	44.8	(0.8) †	38.0	(1.0) †	5.7	(0.4) †	14.9	(0.6) †	39.8	(0.8) †	39.6	(1.0) †
Philippines	10.1	(0.5) †	16.4	(0.6) †	48.1	(0.8) †	25.4	(0.7) †	11.6	(0.5) †	17.9	(0.6) †	44.3	(0.8) †	26.3	(0.7) †
Qatar	9.6	(0.5) †	16.8	(0.8) †	40.4	(0.8) †	33.2	(0.9) †	11.1	(0.6) †	17.2	(0.7) †	36.9	(0.9) †	34.8	(0.8) †
Romania	7.9	(0.5) †	13.4	(0.6) †	40.8	(0.9) †	37.8	(1.1) †	8.3	(0.4) †	14.8	(0.6) †	34.3	(0.8) †	42.5	(1.0) †
Saudi Arabia	7.5	(0.4) †	16.1	(0.6) †	31.4	(0.7) †	45.0	(0.8) †	8.1	(0.4) †	14.6	(0.6) †	27.5	(0.7) †	49.7	(0.9) †
Serbia	11.3	(0.7) †	17.0	(0.6) †	39.6	(0.8) †	32.1	(0.9) †	11.4	(0.7) †	15.8	(0.6) †	34.9	(0.8) †	37.9	(0.9) †
Singapore	3.3	(0.2) †	7.5	(0.4) †	40.7	(0.7) †	48.5	(0.7) †	3.5	(0.3) †	9.0	(0.4) †	38.9	(0.7) †	48.6	(0.8) †
Chinese Taipei	5.3	(0.4) †	13.9	(0.7) †	45.8	(1.0) †	35.0	(0.8) †	5.9	(0.4) †	16.6	(0.8) †	44.3	(1.1) †	33.2	(1.0) †
Thailand	7.7	(0.5) †	12.1	(0.6) †	43.0	(0.8) †	37.2	(1.0) †	7.8	(0.5) †	14.1	(0.5) †	48.8	(0.9) †	29.4	(1.0) †
Ukrainian regions (18 of 27)	5.6	(0.7) †	13.3	(0.8) †	41.4	(1.3) †	39.7	(1.5) †	3.9	(0.5) †	9.6	(0.7) †	33.4	(1.2) †	53.0	(1.4) †
United Arab Emirates	7.7	(0.2) †	15.3	(0.4) †	36.8	(0.4) †	40.2	(0.4) †	8.5	(0.2) †	14.5	(0.3) †	33.1	(0.4) †	43.9	(0.5) †
Uruguay	8.6	(0.5) †	16.3	(0.6) †	41.3	(0.8) †	33.8	(0.9) †	11.6	(0.6) †	22.7	(0.7) †	38.9	(0.8) †	26.8	(0.9) †
Uzbekistan	8.8	(0.5) †	11.0	(0.5) †	38.9	(0.9) †	41.4	(1.0) †	9.6	(0.5) †	9.9	(0.6) †	32.3	(0.8) †	48.2	(1.2) †
Viet Nam	2.7	(0.3)	8.4	(0.5)	44.1	(0.9)	44.8	(1.1)	2.4	(0.3)	8.4	(0.4)	40.1	(0.9)	49.0	(1.1)

1. Higher values in the index indicate a more positive disciplinary climate.

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.9. Disciplinary climate in mathematics lessons [7/8]

Based on students' reports

		Percentage of students who reported that the following happens in their mathematics lessons:															
		Students get distracted by using digital devices								Students get distracted by other students who are using digital devices							
		Every lesson		Most lessons		Some lessons		Never or hardly ever		Every lesson		Most lessons		Some lessons		Never or hardly ever	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	14.8	(0.4) †	25.5	(0.5) †	38.6	(0.6) †	21.1	(0.7) †	13.4	(0.4) †	23.6	(0.5) †	40.2	(0.6) †	22.8	(0.7) †
	Austria	10.8	(0.5) †	12.6	(0.6) †	27.8	(0.7) †	48.8	(1.2) †	10.7	(0.6) †	12.8	(0.5) †	25.7	(0.8) †	50.8	(1.2) †
	Belgium	12.5	(0.6) †	15.9	(0.6) †	31.8	(0.9) †	39.7	(1.3) †	12.2	(0.6) †	14.9	(0.6) †	30.4	(0.9) †	42.5	(1.2) †
	Canada*	17.7	(0.5) †	25.5	(0.6) †	36.8	(0.8) †	20.0	(0.7) †	12.8	(0.4) †	19.8	(0.5) †	36.7	(0.7) †	30.7	(0.7) †
	Chile	20.3	(0.9) †	31.0	(0.9) †	37.6	(0.9) †	11.2	(0.7) †	15.6	(0.7) †	26.0	(0.8) †	39.9	(0.8) †	18.5	(0.8) †
	Colombia	10.9	(0.6) †	19.5	(0.7) †	41.3	(0.8) †	28.3	(1.0) †	10.0	(0.6) †	16.6	(0.6) †	41.9	(1.0) †	31.6	(1.1) †
	Costa Rica	14.6	(0.7) †	19.5	(0.8) †	37.5	(0.8) †	28.4	(1.1) †	14.7	(0.6) †	18.6	(0.7) †	37.9	(0.7) †	28.7	(1.1) †
	Czech Republic	13.8	(0.7) †	17.0	(0.6) †	32.1	(0.7) †	37.1	(1.1) †	12.5	(0.8) †	16.1	(0.6) †	31.4	(0.7) †	39.9	(0.9) †
	Denmark*	8.4	(0.5) †	23.1	(1.0) †	43.5	(1.0) †	25.0	(0.9) †	6.4	(0.5) †	18.7	(0.7) †	44.3	(0.9) †	30.6	(0.9) †
	Estonia	9.0	(0.6) †	19.1	(0.7) †	43.0	(0.8) †	28.9	(1.1) †	6.4	(0.5) †	15.3	(0.6) †	40.2	(0.9) †	38.1	(1.2) †
	Finland	13.0	(0.6) †	27.6	(0.7) †	42.7	(0.8) †	16.7	(0.6) †	7.0	(0.4) †	16.2	(0.6) †	41.0	(0.7) †	35.7	(0.8) †
	France	13.3	(0.6) †	17.0	(0.7) †	27.9	(0.8) †	41.8	(1.1) †	13.2	(0.6) †	13.7	(0.7) †	26.0	(0.7) †	47.2	(1.1) †
	Germany	12.3	(0.7) †	15.8	(0.7) †	30.1	(0.8) †	41.8	(1.2) †	11.4	(0.6) †	15.8	(0.6) †	30.4	(0.8) †	42.4	(1.1) †
	Greece	17.6	(0.9) †	20.5	(0.8) †	31.7	(0.8) †	30.2	(1.2) †	15.4	(0.7) †	17.5	(0.7) †	31.3	(0.8) †	35.8	(1.1) †
	Hungary	9.7	(0.5) †	18.4	(0.8) †	38.7	(1.0) †	33.1	(1.1) †	7.9	(0.4) †	15.5	(0.7) †	37.1	(0.9) †	39.5	(1.0) †
	Iceland	9.0	(0.6) †	23.3	(0.9) †	46.1	(1.0) †	21.6	(0.9) †	8.5	(0.5) †	19.8	(0.8) †	44.2	(1.0) †	27.5	(0.8) †
	Ireland*	6.3	(0.5) †	13.5	(0.8) †	29.4	(1.0) †	50.8	(1.6) †	5.4	(0.4) †	10.4	(0.7) †	30.0	(1.0) †	54.2	(1.3) †
	Israel	13.0	(0.7) †	18.0	(0.8) †	34.4	(0.9) †	34.6	(1.3) †	10.8	(0.6) †	13.5	(0.7) †	29.1	(0.8) †	46.6	(1.3) †
	Italy	13.8	(0.7) †	23.9	(0.9) †	37.1	(0.8) †	25.1	(1.0) †	11.1	(0.5) †	18.3	(0.8) †	34.1	(0.8) †	36.4	(1.0) †
	Japan	1.4	(0.2) †	3.7	(0.4) †	16.4	(0.9) †	78.5	(1.1) †	1.2	(0.2) †	2.8	(0.3) †	13.9	(0.7) †	82.2	(0.9) †
	Korea	2.7	(0.3) †	6.7	(0.5) †	24.4	(1.1) †	66.2	(1.4) †	2.6	(0.3) †	6.2	(0.5) †	23.3	(0.9) †	67.8	(1.1) †
	Latvia*	17.2	(0.8) †	24.7	(0.8) †	39.4	(0.9) †	18.7	(0.8) †	9.6	(0.6) †	16.1	(0.7) †	35.9	(0.9) †	38.3	(1.0) †
	Lithuania	7.9	(0.5) †	17.5	(0.6) †	40.6	(0.8) †	34.0	(1.1) †	6.6	(0.5) †	13.8	(0.6) †	36.7	(0.9) †	43.0	(1.1) †
	Mexico	9.8	(0.5) †	15.5	(0.6) †	39.8	(0.9) †	34.9	(1.3) †	8.2	(0.4) †	13.1	(0.6) †	37.7	(1.0) †	41.0	(1.1) †
	Netherlands*	10.0	(0.7) †	23.0	(1.0) †	39.2	(0.9) †	27.8	(1.6) †	8.6	(0.6) †	19.2	(0.8) †	38.6	(1.1) †	33.7	(1.5) †
	New Zealand*	18.5	(0.9) †	27.2	(0.9) †	36.4	(1.0) †	17.9	(0.9) †	15.6	(0.8) †	24.5	(0.9) †	39.6	(1.1) †	20.4	(0.9) †
	Norway	8.8	(0.5) †	22.4	(0.7) †	43.1	(0.9) †	25.7	(0.8) †	7.7	(0.4) †	17.0	(0.7) †	43.4	(1.0) †	32.0	(0.8) †
	Poland	13.9	(0.8) †	20.3	(0.7) †	37.2	(0.9) †	28.6	(1.0) †	12.0	(0.7) †	16.9	(0.7) †	35.4	(0.9) †	35.7	(1.1) †
	Portugal	10.8	(0.5) †	23.2	(0.7) †	39.1	(0.7) †	26.9	(0.9) †	8.4	(0.5) †	16.2	(0.7) †	42.0	(0.7) †	33.4	(0.9) †
	Slovak Republic	10.1	(0.5) †	15.9	(0.7) †	28.2	(0.9) †	45.8	(1.2) †	8.9	(0.5) †	13.7	(0.6) †	29.6	(0.9) †	47.7	(1.1) †
	Slovenia	8.2	(0.4) †	15.0	(0.6) †	32.1	(0.8) †	44.6	(1.0) †	6.8	(0.4) †	11.5	(0.5) †	25.2	(0.7) †	56.5	(0.8) †
	Spain	12.2	(0.4) †	20.6	(0.5) †	30.0	(0.5) †	37.2	(1.0) †	9.2	(0.4) †	16.7	(0.5) †	30.2	(0.5) †	43.9	(0.8) †
	Sweden	13.8	(0.7) †	23.1	(0.8) †	37.9	(0.8) †	25.2	(1.0) †	11.8	(0.7) †	17.4	(0.7) †	38.0	(0.8) †	32.8	(1.0) †
	Switzerland	9.2	(0.6) †	13.7	(0.7) †	26.7	(0.8) †	50.3	(1.2) †	8.4	(0.6) †	12.7	(0.6) †	28.8	(0.8) †	50.1	(1.1) †
	Türkiye	10.3	(0.5) †	13.1	(0.6) †	26.7	(0.9) †	49.8	(1.4) †	8.8	(0.5) †	11.9	(0.5) †	27.3	(0.9) †	52.0	(1.3) †
	United Kingdom*	6.3	(0.5) †	12.3	(0.6) †	30.1	(0.9) †	51.3	(1.2) †	7.5	(0.6) †	12.9	(0.6) †	31.7	(0.9) †	47.9	(1.2) †
	United States*	11.3	(0.7) †	18.3	(1.0) †	37.1	(1.0) †	33.3	(1.3) †	7.7	(0.5) †	12.3	(0.8) †	33.8	(0.9) †	46.2	(1.2) †
	OECD average	11.4	(0.1)	19.0	(0.1)	34.9	(0.1)	34.6	(0.2)	9.6	(0.1)	15.6	(0.1)	34.1	(0.1)	40.7	(0.2)

1. Higher values in the index indicate a more positive disciplinary climate.

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.9. Disciplinary climate in mathematics lessons [8/8]

Based on students' reports

		Percentage of students who reported that the following happens in their mathematics lessons:																							
		Students get distracted by using digital devices												Students get distracted by other students who are using digital devices											
		Every lesson			Most lessons			Some lessons			Never or hardly ever			Every lesson			Most lessons			Some lessons			Never or hardly ever		
		%	S.E.		%	S.E.		%	S.E.		%	S.E.		%	S.E.		%	S.E.		%	S.E.		%	S.E.	
Partners	Albania	10.8	(0.7)	‡	14.4	(0.7)	‡	35.1	(1.1)	‡	39.7	(1.1)	‡	11.4	(0.6)	‡	12.3	(0.6)	‡	34.5	(1.0)	‡	41.8	(1.2)	‡
	Argentina	25.8	(0.9)	†	27.8	(0.8)	†	32.0	(0.7)	†	14.4	(0.6)	†	21.5	(0.8)	†	24.8	(0.8)	†	33.4	(0.8)	†	20.3	(0.7)	†
	Baku (Azerbaijan)	14.2	(0.7)	‡	18.4	(0.8)	‡	30.0	(1.0)	‡	37.4	(1.2)	‡	12.8	(0.7)	‡	17.8	(0.8)	‡	28.4	(0.8)	‡	41.0	(1.1)	‡
	Brazil	19.4	(0.7)	†	25.7	(0.6)	†	36.0	(0.7)	†	18.9	(0.6)	†	17.3	(0.5)	†	23.0	(0.6)	†	35.9	(0.6)	†	23.8	(0.7)	†
	Brunei Darussalam	3.9	(0.3)	†	7.7	(0.4)	†	21.2	(0.6)	†	67.3	(0.7)	†	3.3	(0.3)	†	7.1	(0.3)	†	22.2	(0.6)	†	67.4	(0.7)	†
	Bulgaria	22.7	(0.9)	†	23.2	(0.7)	†	31.2	(0.9)	†	22.9	(0.9)	†	19.5	(0.8)	†	20.3	(0.8)	†	31.0	(0.8)	†	29.2	(1.0)	†
	Cambodia	7.6	(0.4)		11.6	(0.5)		26.7	(1.0)		54.0	(1.1)		8.0	(0.5)		12.7	(0.6)		30.5	(1.1)		48.7	(1.2)	
	Croatia	8.3	(0.6)	†	14.5	(0.6)	†	30.9	(0.7)	†	46.3	(0.9)	†	6.9	(0.5)	†	10.4	(0.5)	†	27.7	(0.7)	†	54.9	(1.0)	†
	Cyprus	14.9	(0.7)	†	20.0	(0.7)	†	33.9	(0.8)	†	31.2	(0.7)	†	13.6	(0.6)	†	17.7	(0.6)	†	34.5	(0.9)	†	34.2	(0.8)	†
	Dominican Republic	13.9	(0.7)	‡	17.0	(0.7)	‡	32.1	(1.0)	‡	37.0	(1.4)	‡	12.4	(0.6)	‡	15.2	(0.7)	‡	30.4	(1.1)	‡	42.0	(1.2)	‡
	El Salvador	11.1	(0.7)	†	12.5	(0.7)	†	29.2	(1.0)	†	47.2	(1.7)	†	10.3	(0.7)	†	12.4	(0.8)	†	29.9	(1.1)	†	47.3	(1.7)	†
	Georgia	11.0	(0.6)	†	18.0	(0.7)	†	36.6	(1.0)	†	34.4	(1.2)	†	9.7	(0.6)	†	13.5	(0.6)	†	32.6	(1.0)	†	44.2	(1.2)	†
	Guatemala	6.9	(0.5)		7.3	(0.5)		25.1	(1.0)		60.7	(1.2)		6.3	(0.4)		6.1	(0.5)		23.3	(0.9)		64.2	(1.1)	
	Hong Kong (China)*	6.5	(0.5)	†	9.9	(0.7)	†	37.2	(0.9)	†	46.5	(1.4)	†	5.9	(0.5)	†	9.3	(0.7)	†	35.9	(1.1)	†	48.9	(1.4)	†
	Indonesia	11.1	(0.6)	†	14.0	(0.7)	†	29.1	(0.8)	†	45.7	(1.2)	†	11.5	(0.6)	†	15.1	(0.6)	†	31.7	(0.7)	†	41.7	(1.1)	†
	Jamaica*	13.6	(0.8)	†	16.1	(0.9)	†	31.6	(1.2)	†	38.7	(1.3)	†	12.6	(1.0)	†	15.7	(0.9)	†	32.1	(1.4)	†	39.6	(1.4)	†
	Jordan	12.1	(0.6)	†	15.7	(0.8)	†	19.4	(0.7)	†	52.7	(1.2)	†	13.0	(0.8)	†	16.4	(0.8)	†	21.3	(0.8)	†	49.4	(1.3)	†
	Kazakhstan	9.9	(0.3)	†	13.4	(0.3)	†	37.5	(0.6)	†	39.3	(0.7)	†	8.9	(0.3)	†	11.9	(0.4)	†	36.4	(0.6)	†	42.9	(0.7)	†
	Kosovo	13.1	(0.6)	†	16.9	(0.8)	†	33.5	(0.9)	†	36.5	(1.0)	†	12.0	(0.6)	†	15.2	(0.7)	†	33.8	(1.0)	†	39.0	(1.0)	†
	Macao (China)	4.4	(0.4)	†	8.9	(0.6)	†	36.2	(0.8)	†	50.4	(0.7)	†	3.5	(0.4)	†	8.1	(0.5)	†	35.1	(0.8)	†	53.2	(0.9)	†
	Malaysia	8.0	(0.6)	†	12.3	(0.6)	†	24.9	(0.7)	†	54.8	(1.2)	†	8.2	(0.5)	†	10.9	(0.5)	†	23.1	(0.7)	†	57.9	(1.0)	†
	Malta	6.9	(0.7)	†	9.5	(0.7)	†	18.0	(0.9)	†	65.6	(1.1)	†	6.6	(0.5)	†	9.4	(0.6)	†	19.1	(0.8)	†	64.8	(0.8)	†
	Moldova	12.4	(0.7)	†	20.3	(0.7)	†	40.0	(0.9)	†	27.3	(1.1)	†	10.5	(0.5)	†	18.1	(0.7)	†	40.5	(0.9)	†	30.9	(1.0)	†
	Mongolia	10.9	(0.5)	†	22.0	(0.7)	†	47.7	(0.7)	†	19.5	(0.8)	†	10.0	(0.5)	†	18.3	(0.6)	†	47.1	(0.7)	†	24.6	(0.8)	†
	Montenegro	14.0	(0.6)	†	20.8	(0.7)	†	34.3	(1.0)	†	30.9	(0.7)	†	12.4	(0.5)	†	17.7	(0.5)	†	34.2	(0.8)	†	35.6	(0.8)	†
	Morocco	18.1	(0.7)	†	20.8	(0.8)	†	28.2	(0.8)	†	32.9	(1.0)	†	17.3	(0.6)	†	18.5	(0.7)	†	27.6	(0.8)	†	36.5	(1.0)	†
	North Macedonia	12.7	(0.5)	†	16.1	(0.6)	†	36.8	(0.8)	†	34.3	(0.8)	†	9.9	(0.5)	†	12.2	(0.5)	†	30.5	(0.7)	†	47.3	(0.9)	†
	Palestinian Authority	11.2	(0.6)	†	14.7	(0.6)	†	18.3	(0.7)	†	55.8	(1.1)	†	12.0	(0.6)	†	14.5	(0.6)	†	21.8	(0.7)	†	51.8	(1.0)	†
	Panama*	12.1	(1.1)	‡	15.1	(1.2)	‡	32.3	(1.4)	‡	40.4	(1.9)	‡	10.8	(0.8)	‡	12.4	(0.8)	‡	31.2	(1.3)	‡	45.6	(1.7)	‡
	Paraguay	15.3	(0.8)		16.9	(0.7)		31.4	(1.1)		36.5	(1.3)		13.0	(0.6)		15.1	(0.7)		31.0	(0.9)		40.9	(1.1)	
	Peru	7.6	(0.5)	†	13.0	(0.6)	†	31.8	(1.0)	†	47.5	(1.5)	†	6.9	(0.5)	†	11.9	(0.6)	†	31.5	(1.0)	†	49.7	(1.3)	†
	Philippines	17.7	(0.6)	†	23.2	(0.8)	†	38.2	(0.8)	†	20.9	(0.9)	†	16.4	(0.6)	†	21.1	(0.6)	†	39.3	(0.8)	†	23.3	(0.7)	†
	Qatar	9.6	(0.6)	†	12.5	(0.5)	†	21.5	(0.6)	†	56.4	(0.7)	†	9.3	(0.5)	†	11.8	(0.5)	†	20.0	(0.6)	†	58.8	(0.8)	†
	Romania	14.6	(0.6)	†	20.0	(0.7)	†	37.2	(0.7)	†	28.2	(1.0)	†	12.9	(0.5)	†	18.0	(0.7)	†	37.7	(0.7)	†	31.4	(0.9)	†
	Saudi Arabia	8.0	(0.4)	†	11.3	(0.5)	†	16.0	(0.6)	†	64.8	(0.9)	†	7.0	(0.4)	†	9.9	(0.5)	†	16.3	(0.6)	†	66.8	(0.9)	†
	Serbia	15.7	(0.8)	†	18.4	(0.7)	†	34.8	(0.7)	†	31.1	(0.9)	†	13.4	(0.6)	†	14.7	(0.6)	†	33.1	(0.9)	†	38.8	(1.0)	†
	Singapore	10.0	(0.5)	†	17.3	(0.8)	†	42.3	(0.9)	†	30.5	(0.9)	†	7.6	(0.4)	†	13.0	(0.6)	†	39.4	(0.8)	†	40.0	(0.8)	†
	Chinese Taipei	4.5	(0.4)	†	11.3	(0.8)	†	31.3	(0.9)	†	52.8	(1.3)	†	3.7	(0.4)	†	8.8	(0.5)	†	30.3	(1.0)	†	57.2	(1.2)	†
	Thailand	9.7	(0.6)	†	16.7	(0.7)	†	45.2	(0.9)	†	28.4	(1.0)	†	9.1	(0.5)	†	13.8	(0.6)	†	46.2	(0.9)	†	31.0	(1.0)	†
	Ukrainian regions (18 of 27)	7.5	(0.7)	†	16.6	(1.0)	†	44.4	(1.3)	†	31.5	(1.3)	†	6.5	(0.7)	†	12.7	(1.0)	†	40.8	(1.6)	†	40.0	(1.6)	†
	United Arab Emirates	10.0	(0.3)	†	14.4	(0.3)	†	29.1	(0.4)	†	46.4	(0.5)	†	9.6	(0.3)	†	12.5	(0.4)	†	27.1	(0.4)	†	50.8	(0.4)	†
	Uruguay	23.2	(0.8)	†	28.8	(0.9)	†	35.1	(0.8)	†	12.9	(0.8)	†	17.2	(0.6)	†	22.2	(0.8)	†	35.7	(0.7)	†	24.9	(0.9)	†
	Uzbekistan	9.7	(0.5)	†	10.0	(0.6)	†	29.4	(0.9)	†	50.9	(1.2)	†	8.9	(0.5)	†	9.0	(0.5)	†	30.6	(0.9)	†	51.5	(1.1)	†
	Viet Nam	4.3	(0.4)		10.0	(0.5)		45.4	(1.0)		40.4	(1.2)		4.0	(0.4)		8.7	(0.5)		44.3	(1.0)		43.0	(1.2)	

1. Higher values in the index indicate a more positive disciplinary climate.

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.23. School safety risks [1/4]

Based on students' reports

		Index of school safety risks				Percentage of students who reported that the following happened at school during the four weeks prior to the PISA assessment							
						Our school was vandalised				I witnessed a fight on school property in which someone got hurt			
		Average		Variability		Yes		No		Yes		No	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	m	m	m	m	m	m	m	m	m	m	m	m
	Austria	-0.10	(0.02)	0.86	(0.02)	20.4	(0.9)	79.6	(0.9)	7.2	(0.5)	92.8	(0.5)
	Belgium	0.03	(0.02)	0.93	(0.01)	17.8	(0.9)	82.2	(0.9)	17.5	(0.7)	82.5	(0.7)
	Canada*	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	0.34	(0.03)	1.10	(0.02)	9.3	(0.9)	90.7	(0.9)	36.1	(1.2)	63.9	(1.2)
	Colombia	-0.04	(0.02)	0.91	(0.02)	7.8	(0.6)	92.2	(0.6)	21.4	(0.9)	78.6	(0.9)
	Costa Rica	0.32	(0.03)	1.12	(0.02)	21.3	(1.0)	78.7	(1.0)	25.9	(1.0)	74.1	(1.0)
	Czech Republic	0.05	(0.02)	1.00	(0.02)	10.9	(0.5)	89.1	(0.5)	15.3	(0.8)	84.7	(0.8)
	Denmark*	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	0.03	(0.02)	0.91	(0.02)	23.4	(1.0)	76.6	(1.0)	11.4	(0.6)	88.6	(0.6)
	Finland	0.25	(0.02)	1.04	(0.02)	38.2	(1.4)	61.8	(1.4)	14.3	(0.8)	85.7	(0.8)
	France	-0.08	(0.02)	0.89	(0.01)	5.2	(0.4)	94.8	(0.4)	18.0	(0.7)	82.0	(0.7)
	Germany	m	m	m	m	m	m	m	m	m	m	m	m
	Greece	0.31	(0.02)	1.07	(0.02)	38.9	(1.4)	61.1	(1.4)	17.2	(0.8)	82.8	(0.8)
	Hungary	m	m	m	m	18.9	(1.0)	81.1	(1.0)	7.3	(0.6)	92.7	(0.6)
	Iceland	-0.05	(0.02)	0.93	(0.02)	23.5	(0.7)	76.5	(0.7)	11.9	(0.5)	88.1	(0.5)
	Ireland*	-0.06	(0.03)	0.88	(0.02)	18.0	(1.0)	82.0	(1.0)	16.4	(1.0)	83.6	(1.0)
	Israel	m	m	m	m	m	m	m	m	m	m	m	m
	Italy	0.05	(0.02)	0.86	(0.02)	18.1	(1.1)	81.9	(1.1)	9.9	(0.6)	90.1	(0.6)
	Japan	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	-0.41	(0.02)	0.59	(0.04)	10.0	(0.6)	90.0	(0.6)	7.8	(1.2)	92.2	(1.2)
	Latvia*	0.28	(0.03)	1.06	(0.02)	27.9	(1.0)	72.1	(1.0)	23.0	(1.0)	77.0	(1.0)
	Lithuania	-0.14	(0.02)	0.85	(0.02)	7.7	(0.5)	92.3	(0.5)	8.7	(0.5)	91.3	(0.5)
	Mexico	-0.30	(0.02)	0.73	(0.02)	5.0	(0.4)	95.0	(0.4)	10.7	(0.6)	89.3	(0.6)
	Netherlands*	-0.18	(0.02)	0.82	(0.02)	16.2	(0.9)	83.8	(0.9)	9.0	(0.6)	91.0	(0.6)
	New Zealand*	0.01	(0.03)	1.19	(0.01)	44.7	(1.5)	55.3	(1.5)	28.0	(1.1)	72.0	(1.1)
	Norway	-0.43	(0.03)	1.40	(0.02)	53.9	(1.4)	46.1	(1.4)	16.4	(0.8)	83.6	(0.8)
	Poland	-0.12	(0.02)	0.92	(0.02)	11.3	(0.8)	88.7	(0.8)	12.2	(0.6)	87.8	(0.6)
	Portugal	-0.03	(0.02)	0.95	(0.02)	7.5	(0.6)	92.5	(0.6)	15.8	(0.7)	84.2	(0.7)
	Slovak Republic	0.02	(0.02)	1.01	(0.02)	19.5	(1.1)	80.5	(1.1)	10.8	(0.7)	89.2	(0.7)
	Slovenia	-0.21	(0.01)	0.85	(0.01)	5.7	(0.3)	94.3	(0.3)	9.0	(0.4)	91.0	(0.4)
	Spain	m	m	m	m	m	m	m	m	m	m	m	m
	Sweden	-0.20	(0.02)	1.17	(0.02)	40.6	(1.1)	59.4	(1.1)	18.8	(0.6)	81.2	(0.6)
	Switzerland	-0.05	(0.02)	0.92	(0.02)	15.7	(1.1)	84.3	(1.1)	12.0	(0.5)	88.0	(0.5)
	Türkiye	0.35	(0.03)	1.17	(0.02)	5.3	(0.3)	94.7	(0.3)	26.9	(1.1)	73.1	(1.1)
	United Kingdom*	0.40	(0.03)	1.05	(0.01)	32.7	(1.4)	67.3	(1.4)	38.3	(1.4)	61.7	(1.4)
	United States*	0.19	(0.03)	1.01	(0.02)	18.2	(1.2)	81.8	(1.2)	33.3	(1.6)	66.7	(1.6)
	OECD average	0.01	(0.00)	0.97	(0.00)	19.8	(0.2)	80.2	(0.2)	17.0	(0.2)	83.0	(0.2)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.23. School safety risks [2/4]

Based on students' reports

		Index of school safety risks				Percentage of students who reported that the following happened at school during the four weeks prior to the PISA assessment							
						Our school was vandalised				I witnessed a fight on school property in which someone got hurt			
		Average		Variability		Yes		No		Yes		No	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	0.20	(0.02)	1.18	(0.02)	13.1	(0.6)	86.9	(0.6)	21.4	(0.7)	78.6	(0.7)
	Argentina	0.21	(0.02)	1.04	(0.02)	12.9	(0.7)	87.1	(0.7)	25.6	(1.0)	74.4	(1.0)
	Baku (Azerbaijan)	0.06	(0.02) †	1.05	(0.01) †	9.9	(0.6) †	90.1	(0.6) †	19.5	(0.6) †	80.5	(0.6) †
	Brazil	0.03	(0.02)	0.94	(0.01)	16.2	(0.6)	83.8	(0.6)	19.0	(0.6)	81.0	(0.6)
	Brunei Darussalam	0.23	(0.01)	0.98	(0.01)	16.6	(0.5)	83.4	(0.5)	17.0	(0.6)	83.0	(0.6)
	Bulgaria	0.20	(0.03)	1.12	(0.02)	26.7	(0.9)	73.3	(0.9)	17.0	(0.9)	83.0	(0.9)
	Cambodia	0.03	(0.03)	0.93	(0.02)	4.2	(0.4)	95.8	(0.4)	27.2	(1.5)	72.8	(1.5)
	Croatia	-0.26	(0.02)	0.80	(0.02)	10.5	(0.7)	89.5	(0.7)	6.7	(0.5)	93.3	(0.5)
	Cyprus	0.46	(0.02)	1.27	(0.01)	33.2	(0.7)	66.8	(0.7)	24.8	(0.5)	75.2	(0.5)
	Dominican Republic	0.09	(0.02)	1.00	(0.01)	11.9	(0.6)	88.1	(0.6)	23.8	(0.7)	76.2	(0.7)
	El Salvador	-0.18	(0.02)	0.84	(0.02)	7.3	(0.5)	92.7	(0.5)	19.6	(0.8)	80.4	(0.8)
	Georgia	-0.21	(0.02)	0.89	(0.02)	4.5	(0.3)	95.5	(0.3)	11.6	(0.6)	88.4	(0.6)
	Guatemala	m	m	m	m	2.0	(0.3)	98.0	(0.3)	6.4	(0.4)	93.6	(0.4)
	Hong Kong (China)*	-0.29	(0.02)	0.79	(0.02)	5.5	(0.5)	94.5	(0.5)	8.5	(0.5)	91.5	(0.5)
	Indonesia	-0.25	(0.02)	0.76	(0.02)	5.6	(0.6)	94.4	(0.6)	12.3	(0.7)	87.7	(0.7)
	Jamaica*	0.63	(0.03)	1.18	(0.02)	14.3	(0.9)	85.7	(0.9)	38.9	(1.4)	61.1	(1.4)
	Jordan	0.33	(0.03)	1.23	(0.02)	19.4	(0.9)	80.6	(0.9)	23.1	(1.0)	76.9	(1.0)
	Kazakhstan	-0.41	(0.01)	0.61	(0.01)	2.7	(0.2)	97.3	(0.2)	7.6	(0.3)	92.4	(0.3)
	Kosovo	0.46	(0.02)	1.21	(0.01)	15.8	(0.6)	84.2	(0.6)	22.9	(0.6)	77.1	(0.6)
	Macao (China)	m	m	m	m	m	m	m	m	m	m	m	m
	Malaysia	-0.17	(0.02)	0.82	(0.01)	6.5	(0.4)	93.5	(0.4)	12.7	(0.6)	87.3	(0.6)
	Malta	0.43	(0.02)	1.16	(0.01)	28.4	(0.9)	71.6	(0.9)	30.8	(0.8)	69.2	(0.8)
	Moldova	0.08	(0.02)	0.96	(0.02)	11.0	(0.7)	89.0	(0.7)	16.7	(0.8)	83.3	(0.8)
	Mongolia	-0.06	(0.02)	0.89	(0.02)	3.8	(0.4)	96.2	(0.4)	18.6	(0.6)	81.4	(0.6)
	Montenegro	0.30	(0.02)	1.19	(0.01)	16.4	(0.5)	83.6	(0.5)	27.8	(0.6)	72.2	(0.6)
	Morocco	0.25	(0.02)	1.02	(0.01)	14.9	(0.8)	85.1	(0.8)	13.6	(0.6)	86.4	(0.6)
	North Macedonia	0.09	(0.01)	1.06	(0.01)	13.0	(0.5)	87.0	(0.5)	14.9	(0.4)	85.1	(0.4)
	Palestinian Authority	0.24	(0.03)	1.15	(0.02)	16.3	(0.8)	83.7	(0.8)	19.8	(0.7)	80.2	(0.7)
	Panama*	-0.05	(0.03)	0.92	(0.02)	10.5	(0.9)	89.5	(0.9)	17.0	(0.9)	83.0	(0.9)
	Paraguay	m	m	m	m	12.6	(0.7)	87.4	(0.7)	16.8	(1.0)	83.2	(1.0)
	Peru	-0.04	(0.02)	0.91	(0.02)	7.3	(0.5)	92.7	(0.5)	20.1	(0.8)	79.9	(0.8)
	Philippines	0.43	(0.03)	1.20	(0.01)	21.3	(0.8)	78.7	(0.8)	34.5	(0.7)	65.5	(0.7)
	Qatar	0.24	(0.01)	1.13	(0.01)	18.1	(0.5)	81.9	(0.5)	31.1	(0.6)	68.9	(0.6)
	Romania	0.07	(0.02)	0.94	(0.01)	6.0	(0.4)	94.0	(0.4)	16.5	(0.8)	83.5	(0.8)
	Saudi Arabia	-0.08	(0.02)	0.97	(0.02)	12.3	(0.5)	87.7	(0.5)	19.2	(0.8)	80.8	(0.8)
	Serbia	-0.18	(0.01)	0.85	(0.02)	6.2	(0.4)	93.8	(0.4)	7.2	(0.4)	92.8	(0.4)
	Singapore	-0.15	(0.01)	0.83	(0.01)	17.0	(0.6)	83.0	(0.6)	13.3	(0.4)	86.7	(0.4)
	Chinese Taipei	-0.35	(0.02)	0.71	(0.02)	4.3	(0.4)	95.7	(0.4)	5.0	(0.6)	95.0	(0.6)
	Thailand	0.07	(0.03)	1.04	(0.02)	5.8	(0.5)	94.2	(0.5)	18.2	(1.0)	81.8	(1.0)
	Ukrainian regions (18 of 27)	-0.21	(0.03)	0.82	(0.03)	3.6	(0.4)	96.4	(0.4)	12.0	(0.9)	88.0	(0.9)
	United Arab Emirates	0.14	(0.01)	1.15	(0.01)	16.6	(0.3)	83.4	(0.3)	23.1	(0.4)	76.9	(0.4)
	Uruguay	0.28	(0.02)	1.07	(0.01)	19.0	(0.9)	81.0	(0.9)	27.4	(0.9)	72.6	(0.9)
	Uzbekistan	-0.08	(0.02)	0.95	(0.02)	13.7	(0.7)	86.3	(0.7)	16.1	(0.7)	83.9	(0.7)
	Viet Nam	-0.15	(0.02)	0.83	(0.02)	2.2	(0.2)	97.8	(0.2)	13.3	(0.8)	86.7	(0.8)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.23. School safety risks [3/4]

Based on students' reports

		Percentage of students who reported that the following happened at school during the four weeks prior to the PISA assessment											
		I saw gangs in school				I heard a student threaten to hurt another student				I saw a student carrying a gun or knife at school			
		Yes		No		Yes		No		Yes		No	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	m	m	m	m	m	m	m	m	m	m	m	m
	Austria	10.2	(0.5)	89.8	(0.5)	11.9	(0.7)	88.1	(0.7)	13.0	(0.6)	87.0	(0.6)
	Belgium	9.8	(0.5)	90.2	(0.5)	20.1	(0.6)	79.9	(0.6)	11.0	(0.5)	89.0	(0.5)
	Canada*	m	m	m	m	m	m	m	m	m	m	m	m
	Chile	12.5	(0.7)	87.5	(0.7)	32.4	(0.9)	67.6	(0.9)	19.5	(0.7)	80.5	(0.7)
	Colombia	8.0	(0.6)	92.0	(0.6)	17.4	(0.7)	82.6	(0.7)	11.3	(0.6)	88.7	(0.6)
	Costa Rica	17.4	(0.9)	82.6	(0.9)	28.1	(0.7)	71.9	(0.7)	17.7	(0.8)	82.3	(0.8)
	Czech Republic	16.0	(0.8)	84.0	(0.8)	19.8	(0.7)	80.2	(0.7)	16.2	(0.6)	83.8	(0.6)
	Denmark*	m	m	m	m	m	m	m	m	m	m	m	m
	Estonia	13.1	(0.5)	86.9	(0.5)	19.7	(0.7)	80.3	(0.7)	9.6	(0.5)	90.4	(0.5)
	Finland	23.5	(0.8)	76.5	(0.8)	24.2	(0.7)	75.8	(0.7)	7.1	(0.4)	92.9	(0.4)
	France	6.6	(0.5)	93.4	(0.5)	18.8	(0.7)	81.2	(0.7)	12.0	(0.5)	88.0	(0.5)
	Germany	m	m	m	m	m	m	m	m	m	m	m	m
	Greece	17.1	(0.8)	82.9	(0.8)	25.1	(0.8)	74.9	(0.8)	15.9	(0.8)	84.1	(0.8)
	Hungary	17.2	(0.7)	82.8	(0.7)	11.5	(0.5)	88.5	(0.5)	6.5	(0.4)	93.5	(0.4)
	Iceland	5.0	(0.3)	95.0	(0.3)	18.9	(0.7)	81.1	(0.7)	8.7	(0.5)	91.3	(0.5)
	Ireland*	6.2	(0.5)	93.8	(0.5)	21.4	(1.1)	78.6	(1.1)	3.6	(0.3)	96.4	(0.3)
	Israel	m	m	m	m	m	m	m	m	m	m	m	m
	Italy	m	m	m	m	19.8	(0.8)	80.2	(0.8)	m	m	m	m
	Japan	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	3.7	(0.6)	96.3	(0.6)	2.9	(0.4)	97.1	(0.4)	2.3	(0.9)	97.7	(0.9)
	Latvia*	26.2	(1.0)	73.8	(1.0)	20.4	(0.8)	79.6	(0.8)	11.6	(0.7)	88.4	(0.7)
	Lithuania	14.4	(0.6)	85.6	(0.6)	16.0	(0.6)	84.0	(0.6)	8.0	(0.4)	92.0	(0.4)
	Mexico	7.7	(0.4)	92.3	(0.4)	10.0	(0.6)	90.0	(0.6)	3.8	(0.3)	96.2	(0.3)
	Netherlands*	6.9	(0.5)	93.1	(0.5)	13.8	(0.7)	86.2	(0.7)	6.5	(0.4)	93.5	(0.4)
	New Zealand*	8.7	(0.5)	91.3	(0.5)	34.1	(0.9)	65.9	(0.9)	7.7	(0.5)	92.3	(0.5)
	Norway	11.3	(0.5)	88.7	(0.5)	20.5	(0.8)	79.5	(0.8)	10.0	(0.5)	90.0	(0.5)
	Poland	10.0	(0.6)	90.0	(0.6)	15.2	(0.6)	84.8	(0.6)	10.2	(0.5)	89.8	(0.5)
	Portugal	11.8	(0.7)	88.2	(0.7)	22.8	(0.7)	77.2	(0.7)	10.0	(0.6)	90.0	(0.6)
	Slovak Republic	14.4	(0.7)	85.6	(0.7)	15.9	(0.8)	84.1	(0.8)	16.3	(0.8)	83.7	(0.8)
	Slovenia	9.0	(0.5)	91.0	(0.5)	13.1	(0.5)	86.9	(0.5)	10.2	(0.4)	89.8	(0.4)
	Spain	m	m	m	m	m	m	m	m	m	m	m	m
	Sweden	10.6	(0.6)	89.4	(0.6)	21.5	(0.7)	78.5	(0.7)	9.9	(0.6)	90.1	(0.6)
	Switzerland	9.7	(0.5)	90.3	(0.5)	15.9	(0.6)	84.1	(0.6)	14.3	(0.6)	85.7	(0.6)
	Türkiye	25.6	(0.9)	74.4	(0.9)	28.5	(0.9)	71.5	(0.9)	25.7	(1.1)	74.3	(1.1)
	United Kingdom*	10.0	(0.6)	90.0	(0.6)	37.2	(1.0)	62.8	(1.0)	4.5	(0.4)	95.5	(0.4)
	United States*	8.9	(0.6)	91.1	(0.6)	28.3	(1.1)	71.7	(1.1)	5.5	(0.5)	94.5	(0.5)
	OECD average	12.1	(0.1)	87.9	(0.1)	20.2	(0.1)	79.8	(0.1)	10.6	(0.1)	89.4	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.3.23. School safety risks [4/4]

Based on students' reports

		Percentage of students who reported that the following happened at school during the four weeks prior to the PISA assessment											
		I saw gangs in school				I heard a student threaten to hurt another student				I saw a student carrying a gun or knife at school			
		Yes		No		Yes		No		Yes		No	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	24.4	(0.8)	75.6	(0.8)	21.7	(0.7)	78.3	(0.7)	17.2	(0.7)	82.8	(0.7)
	Argentina	11.1	(0.6)	88.9	(0.6)	31.7	(0.9)	68.3	(0.9)	14.9	(0.7)	85.1	(0.7)
	Baku (Azerbaijan)	9.1	(0.4) †	90.9	(0.4) †	22.5	(0.7) †	77.5	(0.7) †	18.7	(0.7) †	81.3	(0.7) †
	Brazil	7.1	(0.3)	92.9	(0.3)	25.6	(0.6)	74.4	(0.6)	8.1	(0.4)	91.9	(0.4)
	Brunei Darussalam	34.4	(0.6)	65.6	(0.6)	29.2	(0.6)	70.8	(0.6)	2.5	(0.2)	97.5	(0.2)
	Bulgaria	14.7	(0.7)	85.3	(0.7)	28.5	(1.0)	71.5	(1.0)	13.8	(0.8)	86.2	(0.8)
	Cambodia	21.0	(1.2)	79.0	(1.2)	17.3	(0.9)	82.7	(0.9)	5.2	(0.5)	94.8	(0.5)
	Croatia	7.0	(0.4)	93.0	(0.4)	13.4	(0.7)	86.6	(0.7)	5.3	(0.4)	94.7	(0.4)
	Cyprus	28.3	(0.6)	71.7	(0.6)	26.3	(0.6)	73.7	(0.6)	19.5	(0.6)	80.5	(0.6)
	Dominican Republic	10.6	(0.5)	89.4	(0.5)	27.1	(0.7)	72.9	(0.7)	10.2	(0.5)	89.8	(0.5)
	El Salvador	6.6	(0.5)	93.4	(0.5)	13.8	(0.7)	86.2	(0.7)	4.3	(0.3)	95.7	(0.3)
	Georgia	9.1	(0.5)	90.9	(0.5)	14.4	(0.7)	85.6	(0.7)	9.2	(0.5)	90.8	(0.5)
	Guatemala	2.8	(0.3)	97.2	(0.3)	7.6	(0.5)	92.4	(0.5)	2.4	(0.3)	97.6	(0.3)
	Hong Kong (China)*	6.9	(0.5)	93.1	(0.5)	12.0	(0.6)	88.0	(0.6)	4.9	(0.4)	95.1	(0.4)
	Indonesia	8.8	(0.5)	91.2	(0.5)	13.7	(0.7)	86.3	(0.7)	2.4	(0.3)	97.6	(0.3)
	Jamaica*	24.5	(1.1)	75.5	(1.1)	48.6	(1.0)	51.4	(1.0)	19.3	(1.0)	80.7	(1.0)
	Jordan	23.3	(0.7)	76.7	(0.7)	32.4	(0.9)	67.6	(0.9)	14.5	(0.7)	85.5	(0.7)
	Kazakhstan	2.4	(0.1)	97.6	(0.1)	8.0	(0.3)	92.0	(0.3)	3.5	(0.2)	96.5	(0.2)
	Kosovo	29.7	(0.7)	70.3	(0.7)	30.5	(0.7)	69.5	(0.7)	30.4	(0.8)	69.6	(0.8)
	Macao (China)	m	m	m	m	m	m	m	m	m	m	m	m
	Malaysia	19.4	(0.7)	80.6	(0.7)	11.5	(0.5)	88.5	(0.5)	2.5	(0.2)	97.5	(0.2)
	Malta	22.6	(0.8)	77.4	(0.8)	34.5	(0.8)	65.5	(0.8)	9.9	(0.5)	90.1	(0.5)
	Moldova	12.9	(0.6)	87.1	(0.6)	27.7	(0.9)	72.3	(0.9)	11.1	(0.5)	88.9	(0.5)
	Mongolia	6.1	(0.4)	93.9	(0.4)	25.5	(0.7)	74.5	(0.7)	7.8	(0.6)	92.2	(0.6)
	Montenegro	21.0	(0.6)	79.0	(0.6)	29.8	(0.7)	70.2	(0.7)	13.0	(0.5)	87.0	(0.5)
	Morocco	16.1	(0.6)	83.9	(0.6)	37.9	(0.7)	62.1	(0.7)	16.8	(0.7)	83.2	(0.7)
	North Macedonia	20.3	(0.5)	79.7	(0.5)	22.3	(0.6)	77.7	(0.6)	13.6	(0.5)	86.4	(0.5)
	Palestinian Authority	20.2	(0.7)	79.8	(0.7)	32.4	(0.8)	67.6	(0.8)	12.9	(0.7)	87.1	(0.7)
	Panama*	11.3	(0.7)	88.7	(0.7)	20.5	(1.1)	79.5	(1.1)	6.9	(0.5)	93.1	(0.5)
	Paraguay	6.7	(0.5)	93.3	(0.5)	26.0	(0.9)	74.0	(0.9)	5.3	(0.4)	94.7	(0.4)
	Peru	12.8	(0.7)	87.2	(0.7)	20.8	(0.7)	79.2	(0.7)	4.5	(0.4)	95.5	(0.4)
	Philippines	20.6	(0.8)	79.4	(0.8)	35.8	(0.8)	64.2	(0.8)	13.5	(0.6)	86.5	(0.6)
	Qatar	16.4	(0.6)	83.6	(0.6)	27.6	(0.5)	72.4	(0.5)	8.4	(0.4)	91.6	(0.4)
	Romania	8.9	(0.5)	91.1	(0.5)	32.4	(1.0)	67.6	(1.0)	12.6	(0.6)	87.4	(0.6)
	Saudi Arabia	9.1	(0.5)	90.9	(0.5)	17.5	(0.5)	82.5	(0.5)	5.4	(0.4)	94.6	(0.4)
	Serbia	10.1	(0.5)	89.9	(0.5)	18.9	(0.7)	81.1	(0.7)	6.9	(0.4)	93.1	(0.4)
	Singapore	8.8	(0.3)	91.2	(0.3)	15.4	(0.4)	84.6	(0.4)	2.8	(0.2)	97.2	(0.2)
	Chinese Taipei	8.3	(0.6)	91.7	(0.6)	8.4	(0.6)	91.6	(0.6)	5.7	(0.4)	94.3	(0.4)
	Thailand	29.2	(1.2)	70.8	(1.2)	17.8	(0.7)	82.2	(0.7)	9.4	(0.6)	90.6	(0.6)
	Ukrainian regions (18 of 27)	5.6	(0.5)	94.4	(0.5)	16.6	(1.2)	83.4	(1.2)	8.5	(0.7)	91.5	(0.7)
	United Arab Emirates	16.5	(0.3)	83.5	(0.3)	24.6	(0.3)	75.4	(0.3)	9.8	(0.2)	90.2	(0.2)
	Uruguay	14.7	(0.6)	85.3	(0.6)	30.7	(0.8)	69.3	(0.8)	13.3	(0.6)	86.7	(0.6)
	Uzbekistan	9.2	(0.5)	90.8	(0.5)	19.0	(0.5)	81.0	(0.5)	6.1	(0.3)	93.9	(0.3)
	Viet Nam	13.5	(0.7)	86.5	(0.7)	20.5	(0.9)	79.5	(0.9)	3.3	(0.3)	96.7	(0.3)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.4.10. Grade repetition [1/2]

Based on students' reports

		Repeated a grade at least once in primary, lower secondary or upper secondary school[1]		Percentage of students who had repeated a grade in:																	
				Primary school						Lower secondary school						Upper secondary school					
				Never		Once		Twice or more		Never		Once		Twice or more		Never		Once		Twice or more	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	4.8	(0.2)	95.8	(0.2)	3.9	(0.2)	0.3	(0.1)	99.1	(0.1)	0.7	(0.1)	0.3	(0.1)	100.0	(0.0)	0.0	(0.0)	0.0	(0.0)
	Austria	15.6	(0.6)	92.0	(0.4)	7.5	(0.4)	0.5	(0.1)	93.0	(0.5)	6.4	(0.5)	0.6	(0.1)	97.3	(0.2)	2.4	(0.2)	0.3	(0.1)
	Belgium	26.5	(0.8)	83.9	(0.7)	14.3	(0.6)	1.8	(0.2)	93.0	(0.4)	6.5	(0.4)	0.5	(0.1)	92.4	(0.4)	7.4	(0.4)	0.2	(0.1)
	Canada*	5.0	(0.2)	97.1	(0.2)	2.6	(0.1)	0.3	(0.1)	97.6	(0.1)	2.1	(0.1)	0.3	(0.1)	99.3	(0.1)	0.4	(0.1)	0.2	(0.0)
	Chile	16.8	(0.9)	87.6	(0.8)	9.7	(0.6)	2.7	(0.4)	96.9	(0.3)	2.7	(0.3)	0.5	(0.1)	97.0	(0.3)	2.8	(0.3)	0.2	(0.1)
	Colombia	39.4	(1.4)	78.8	(1.0)	16.6	(0.8)	4.6	(0.4)	73.0	(1.3)	20.3	(0.9)	6.8	(0.5)	97.8	(0.2)†	2.1	(0.2)†	0.1	(0.0)†
	Costa Rica	19.1	(0.8)	86.8	(0.6)	11.2	(0.5)	2.0	(0.3)	91.8	(0.5)	7.6	(0.5)	0.6	(0.1)	99.7	(0.1)	0.2	(0.1)	0.1	(0.0)
	Czech Republic	4.2	(0.4)	97.6	(0.3)	1.9	(0.3)	0.5	(0.1)	97.3	(0.3)	2.2	(0.2)	0.5	(0.1)	m	m	m	m	m	m
	Denmark*	3.5	(0.3)	96.9	(0.2)	2.9	(0.2)	0.2	(0.0)	99.4	(0.1)	0.5	(0.1)	0.2	(0.0)	100.0	c	0.0	c	0.0	c
	Estonia	3.6	(0.3)	97.5	(0.2)	1.9	(0.2)	0.6	(0.1)	98.1	(0.2)	1.4	(0.2)	0.5	(0.1)	m	m	m	m	m	m
	Finland	2.7	(0.2)	97.7	(0.2)	2.0	(0.1)	0.4	(0.1)	99.1	(0.1)	0.6	(0.1)	0.3	(0.1)	100.0	c	0.0	c	0.0	c
	France	10.8	(0.6)	92.5	(0.5)	7.2	(0.5)	0.2	(0.1)	96.1	(0.4)	3.6	(0.4)	0.2	(0.1)	99.7	(0.1)	0.2	(0.1)	0.1	(0.0)
	Germany	19.2	(0.9)	89.1	(0.7)	10.3	(0.6)	0.6	(0.1)	89.8	(0.6)	9.5	(0.6)	0.6	(0.1)	m	m	m	m	m	m
	Greece	3.3	(0.6)	98.4	(0.3)	1.1	(0.3)	0.5	(0.1)	97.8	(0.4)	1.6	(0.4)	0.6	(0.1)	m	m	m	m	m	m
	Hungary	6.5	(0.4)	96.2	(0.3)	3.2	(0.3)	0.6	(0.1)	96.8	(0.3)	2.4	(0.3)	0.8	(0.1)	98.4	(0.3)	1.2	(0.2)	0.3	(0.1)
	Iceland	1.4	(0.2)	99.1	(0.1)	0.5	(0.1)	0.4	(0.1)	99.0	(0.2)	0.5	(0.1)	0.6	(0.1)	m	m	m	m	m	m
	Ireland*	3.8	(0.3)	96.7	(0.3)	3.1	(0.3)	0.2	(0.1)	99.4	(0.1)	0.5	(0.1)	0.2	(0.1)	99.7	(0.1)	0.2	(0.1)	0.1	(0.1)
	Israel	8.1	(0.5)	96.6	(0.3)	2.3	(0.2)	1.1	(0.2)	94.7	(0.4)	3.8	(0.3)	1.4	(0.2)	95.8	(0.4)	2.7	(0.3)	1.5	(0.2)
	Italy	8.6	(0.4)	99.0	(0.2)	0.9	(0.1)	0.1	(0.0)	97.9	(0.2)	1.8	(0.2)	0.4	(0.1)	93.9	(0.4)	6.0	(0.4)	0.1	(0.0)
	Japan	0.0	(0.0)	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Korea	3.3	(0.3)	96.9	(0.2)	1.8	(0.2)	1.2	(0.2)	97.2	(0.2)	1.5	(0.2)	1.4	(0.2)	97.8	(0.2)	1.3	(0.2)	0.8	(0.1)
	Latvia*	2.9	(0.4)	98.9	(0.2)	1.0	(0.2)	0.2	(0.1)	98.0	(0.3)	1.7	(0.2)	0.3	(0.1)	100.0	c	0.0	c	0.0	c
	Lithuania	1.8	(0.2)	98.7	(0.2)	1.0	(0.2)	0.3	(0.1)	99.2	(0.1)	0.5	(0.1)	0.3	(0.1)	m	m	m	m	m	m
	Mexico	9.0	(0.7)	94.7	(0.5)	4.8	(0.5)	0.4	(0.1)	96.8	(0.4)	3.0	(0.3)	0.3	(0.1)	98.7	(0.3)	1.1	(0.2)	0.2	(0.1)
	Netherlands*	23.3	(0.9)	85.7	(0.7)	13.4	(0.6)	0.8	(0.2)	91.4	(0.6)	8.0	(0.6)	0.5	(0.1)	97.9	(0.2)	2.1	(0.2)	0.0	c
	New Zealand*	4.9	(0.3)	96.0	(0.3)	3.7	(0.3)	0.3	(0.1)	98.5	(0.2)	1.4	(0.2)	0.2	(0.1)	99.4	(0.1)	0.4	(0.1)	0.2	(0.1)
	Norway	0.0	(0.0)	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Poland	3.1	(0.3)	98.6	(0.2)	1.0	(0.2)	0.4	(0.1)	98.7	(0.2)	0.9	(0.2)	0.5	(0.1)	98.6	(0.2)	1.0	(0.2)	0.4	(0.1)
	Portugal	17.2	(0.8)	85.8	(0.7)	12.0	(0.6)	2.2	(0.4)	95.0	(0.4)	4.3	(0.4)	0.7	(0.1)	99.8	(0.0)	0.1	(0.0)	0.1	(0.0)
	Slovak Republic	7.6	(0.7)	95.2	(0.5)	3.7	(0.4)	1.1	(0.2)	96.1	(0.4)	3.0	(0.3)	0.9	(0.2)	99.7	(0.1)	0.1	(0.1)	0.2	(0.0)
	Slovenia	3.5	(0.3)	97.8	(0.3)	1.8	(0.2)	0.3	(0.1)	98.4	(0.2)	1.4	(0.2)	0.3	(0.1)	99.3	(0.1)	0.4	(0.1)	0.3	(0.1)
	Spain	21.7	(0.5)	89.9	(0.3)	9.6	(0.3)	0.5	(0.1)	85.1	(0.4)	13.5	(0.4)	1.3	(0.1)	m	m	m	m	m	m
	Sweden	4.0	(0.2)	96.8	(0.2)	2.6	(0.2)	0.6	(0.1)	97.5	(0.2)	1.9	(0.2)	0.5	(0.1)	100.0	c	0.0	c	0.0	c
	Switzerland	13.4	(0.7)	90.7	(0.5)	8.8	(0.5)	0.5	(0.1)	95.7	(0.4)	4.0	(0.4)	0.3	(0.1)	99.3	(0.1)	0.6	(0.1)	0.0	(0.0)
	Türkiye	1.5	(0.2)	99.4	(0.1)	0.5	(0.1)	0.1	(0.0)	99.1	(0.1)	0.7	(0.1)	0.2	(0.1)	99.4	(0.1)	0.4	(0.1)	0.2	(0.1)
	United Kingdom*	2.1	(0.2)	98.5	(0.2)	1.3	(0.2)	0.2	(0.1)	99.3	(0.1)	0.6	(0.1)	0.2	(0.1)	99.5	(0.1)	0.3	(0.1)	0.2	(0.1)
	United States*	8.0	(0.7)	94.2	(0.6)	5.5	(0.6)	0.3	(0.1)	97.0	(0.4)	2.8	(0.4)	0.2	(0.1)	99.0	(0.2)	0.8	(0.2)	0.2	(0.1)
	OECD average	8.9	(0.1)	94.2	(0.1)	5.0	(0.1)	0.8	(0.0)	95.8	(0.1)	3.5	(0.1)	0.7	(0.0)	98.6	(0.0)	1.2	(0.0)	0.2	(0.0)

1. The questions on grade repetition were not administered in Japan and Norway. The share of grade repeaters has been set to zero in agreement with countries since there is a policy of automatic grade progression and more than 99.5% of students were enrolled in the same grade level.

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.4.10. Grade repetition [2/2]

Based on students' reports

Partners	Repeated a grade at least once in primary, lower secondary or upper secondary school[1]		Percentage of students who had repeated a grade in:																	
			Primary school						Lower secondary school						Upper secondary school					
			Never		Once		Twice or more		Never		Once		Twice or more		Never		Once		Twice or more	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Albania	5.5	(0.5)	97.2	(0.3)	1.8	(0.2)	0.9	(0.2)	96.0	(0.4)	2.5	(0.3)	1.4	(0.2)	97.7	(0.3)	1.2	(0.2)	1.1	(0.2)
Argentina	13.5	(0.7)	93.5	(0.5)	5.6	(0.4)	0.9	(0.1)	91.2	(0.5)	7.8	(0.5)	0.9	(0.2)	99.5	(0.1)	0.3	(0.1)	0.2	(0.1)
Baku (Azerbaijan)	3.9	(0.3)	98.1	(0.2)	1.2	(0.1)	0.7	(0.1)	96.9	(0.2)	1.8	(0.2)	1.2	(0.1)	98.7	(0.1)	0.5	(0.1)	0.8	(0.1)
Brazil	22.1	(0.7)	87.5	(0.6)	10.0	(0.5)	2.5	(0.2)	87.3	(0.5)	10.4	(0.4)	2.2	(0.2)	98.7	(0.2)	1.1	(0.1)	0.2	(0.0)
Brunei Darussalam	8.3	(0.3)	94.3	(0.3)	5.0	(0.3)	0.7	(0.1)	95.7	(0.3)	3.7	(0.2)	0.5	(0.1)	96.8	(0.2)	2.4	(0.2)	0.8	(0.1)
Bulgaria	5.0	(0.4)	97.6	(0.2)	1.5	(0.2)	1.0	(0.2)	96.5	(0.3)	2.6	(0.3)	1.0	(0.1)	97.4	(0.3)	1.2	(0.2)	1.5	(0.2)
Cambodia	28.8	(1.0)	73.4	(1.0)	22.7	(0.9)	3.9	(0.3)	93.9	(0.5)	4.7	(0.4)	1.3	(0.2)	99.0	(0.2)†	0.8	(0.2)†	0.2	(0.1)†
Croatia	1.2	(0.2)	99.7	(0.1)	0.2	(0.0)	0.1	(0.0)	99.3	(0.1)	0.6	(0.1)	0.1	(0.0)	99.3	(0.1)	0.5	(0.1)	0.2	(0.1)
Cyprus	5.2	(0.3)	96.3	(0.3)	1.9	(0.2)	1.8	(0.2)	96.2	(0.2)	1.5	(0.2)	2.3	(0.2)	m	m	m	m	m	m
Dominican Republic	25.8	(0.9)	81.3	(0.7)	15.1	(0.5)	3.6	(0.3)	86.5	(0.7)	11.7	(0.6)	1.8	(0.2)	98.4	(0.3)†	1.3	(0.2)†	0.3	(0.1)†
El Salvador	19.8	(0.8)	86.2	(0.7)	11.8	(0.6)	2.0	(0.2)	89.8	(0.6)	8.8	(0.5)	1.4	(0.2)	100.0	c†	0.0	c†	0.0	c†
Georgia	3.0	(0.3)	98.2	(0.2)	1.2	(0.2)	0.6	(0.1)	98.3	(0.2)	1.1	(0.2)	0.6	(0.1)	98.6	(0.2)	0.6	(0.1)	0.8	(0.1)
Guatemala	28.6	(1.0)	77.4	(1.0)	19.4	(0.8)	3.2	(0.4)	88.2	(0.9)	10.8	(0.8)	1.0	(0.2)	99.9	(0.1)‡	0.1	(0.1)‡	0.0	c‡
Hong Kong (China)*	12.3	(0.6)	93.5	(0.4)	6.0	(0.4)	0.5	(0.1)	93.4	(0.4)	6.0	(0.4)	0.6	(0.1)	99.7	(0.1)	0.2	(0.1)	0.1	(0.1)
Indonesia	12.0	(0.8)	89.4	(0.7)	9.4	(0.7)	1.3	(0.2)	94.4	(0.4)	4.4	(0.4)	1.2	(0.2)	97.8	(0.3)	1.6	(0.2)	0.6	(0.1)
Jamaica*	20.4	(1.0)	82.8	(0.9)	16.0	(0.8)	1.2	(0.2)	94.3	(0.6)	5.0	(0.6)	0.7	(0.2)	99.4	(0.2)	0.5	(0.2)	0.1	(0.0)
Jordan	12.7	(0.6)	90.9	(0.5)	6.5	(0.4)	2.6	(0.2)	90.8	(0.6)	5.9	(0.4)	3.4	(0.3)	m	m	m	m	m	m
Kazakhstan	2.4	(0.2)	98.3	(0.1)	1.5	(0.1)	0.2	(0.0)	98.8	(0.1)	1.0	(0.1)	0.3	(0.1)	99.5	(0.1)	0.3	(0.1)	0.1	(0.0)
Kosovo	4.7	(0.3)	96.6	(0.2)	1.8	(0.2)	1.6	(0.2)	96.9	(0.2)	1.8	(0.2)	1.3	(0.2)	98.3	(0.2)	0.6	(0.1)	1.1	(0.2)
Macao (China)	21.9	(0.4)	88.1	(0.4)	10.2	(0.4)	1.7	(0.2)	87.4	(0.4)	11.2	(0.4)	1.4	(0.1)	99.8	(0.1)	0.2	(0.1)	0.0	c
Malaysia	w	w	w	w	w	w	w	w	w	w	w	w	w	w	w	w	w	w	w	w
Malta	4.6	(0.4)	96.4	(0.3)	2.9	(0.3)	0.8	(0.2)	98.1	(0.3)	1.2	(0.2)	0.7	(0.2)	98.4	(0.3)	0.6	(0.2)	1.0	(0.2)
Moldova	2.9	(0.3)	98.0	(0.2)	1.3	(0.2)	0.7	(0.1)	98.1	(0.2)	1.3	(0.2)	0.6	(0.1)	99.9	(0.0)	0.0	(0.0)	0.1	(0.0)
Mongolia	3.7	(0.3)	97.6	(0.2)	1.5	(0.1)	1.0	(0.1)	97.8	(0.2)	1.1	(0.1)	1.1	(0.1)	98.3	(0.2)	0.8	(0.2)	0.9	(0.1)
Montenegro	2.3	(0.3)	98.7	(0.2)	0.6	(0.1)	0.7	(0.1)	98.2	(0.2)	1.1	(0.2)	0.7	(0.1)	98.9	(0.1)	0.3	(0.1)	0.7	(0.1)
Morocco	45.5	(2.9)	73.8	(2.0)	19.6	(1.4)	6.6	(0.7)	66.5	(2.4)	27.4	(2.0)	6.1	(0.6)	99.1	(0.2)†	0.9	(0.2)†	0.1	(0.0)†
North Macedonia	3.0	(0.2)	98.4	(0.1)	1.1	(0.1)	0.5	(0.1)	97.9	(0.2)	1.7	(0.1)	0.4	(0.1)	98.0	(0.2)	1.0	(0.1)	0.9	(0.1)
Palestinian Authority	11.1	(0.6)	93.9	(0.4)	4.5	(0.3)	1.6	(0.2)	92.5	(0.5)	5.9	(0.4)	1.6	(0.2)	93.0	(0.5)	4.4	(0.3)	2.6	(0.3)
Panama*	20.4	(1.1)	87.7	(0.8)	10.4	(0.7)	1.9	(0.3)	88.3	(0.8)	9.9	(0.7)	1.7	(0.2)	98.8	(0.2)†	0.9	(0.2)†	0.2	(0.1)†
Paraguay	18.1	(0.8)	85.6	(0.7)	12.4	(0.6)	1.9	(0.2)	94.2	(0.5)	4.8	(0.4)	1.0	(0.2)	98.6	(0.2)	1.2	(0.2)	0.3	(0.1)
Peru	13.5	(0.6)	89.5	(0.5)	9.4	(0.4)	1.1	(0.1)	95.9	(0.3)	3.9	(0.3)	0.3	(0.1)	99.5	(0.1)	0.4	(0.1)	0.2	(0.0)
Philippines	25.5	(1.1)	81.8	(0.8)	14.3	(0.7)	3.8	(0.3)	82.9	(0.8)	12.8	(0.6)	4.3	(0.3)	100.0	c†	0.0	c†	0.0	c†
Qatar	13.7	(0.5)	91.2	(0.4)	6.8	(0.4)	2.0	(0.2)	91.9	(0.4)	5.8	(0.3)	2.3	(0.2)	96.4	(0.3)	2.0	(0.2)	1.6	(0.2)
Romania	5.0	(0.5)	97.0	(0.3)	2.4	(0.3)	0.7	(0.1)	97.0	(0.4)	2.3	(0.3)	0.7	(0.2)	m	m	m	m	m	m
Saudi Arabia	6.3	(0.3)	96.0	(0.3)	2.8	(0.2)	1.3	(0.2)	95.8	(0.3)	2.7	(0.3)	1.5	(0.2)	96.4	(0.3)	2.1	(0.2)	1.5	(0.2)
Serbia	1.6	(0.4)	99.2	(0.2)	0.4	(0.1)	0.4	(0.1)	98.8	(0.4)	0.8	(0.3)	0.4	(0.1)	99.3	(0.1)	0.3	(0.1)	0.4	(0.1)
Singapore	3.7	(0.2)	98.4	(0.2)	1.4	(0.2)	0.2	(0.1)	98.4	(0.2)	1.4	(0.2)	0.2	(0.1)	98.8	(0.1)	1.0	(0.1)	0.1	(0.0)
Chinese Taipei	0.9	(0.2)	99.4	(0.1)	0.4	(0.1)	0.2	(0.1)	99.5	(0.1)	0.3	(0.1)	0.1	(0.1)	99.7	(0.1)	0.2	(0.1)	0.1	(0.1)
Thailand	6.9	(0.6)	94.5	(0.5)	4.9	(0.5)	0.6	(0.1)	96.1	(0.4)	3.2	(0.3)	0.6	(0.1)	98.1	(0.2)	1.6	(0.2)	0.3	(0.1)
Ukrainian regions (18 of 27)	2.6	(0.4)	98.5	(0.3)	1.0	(0.2)	0.6	(0.2)	98.8	(0.2)	0.7	(0.2)	0.5	(0.1)	98.9	(0.2)	0.7	(0.2)	0.5	(0.1)
United Arab Emirates	11.4	(0.3)	94.6	(0.2)	4.0	(0.2)	1.4	(0.1)	93.7	(0.2)	5.0	(0.2)	1.4	(0.1)	93.8	(0.2)	3.6	(0.2)	2.6	(0.1)
Uruguay	24.0	(0.8)	83.7	(0.7)	13.9	(0.7)	2.4	(0.3)	88.3	(0.5)	9.7	(0.5)	2.0	(0.2)	99.8	(0.1)	0.1	(0.0)	0.1	(0.0)
Uzbekistan	5.9	(0.3)	96.6	(0.2)	2.4	(0.2)	1.0	(0.1)	95.0	(0.3)	3.7	(0.2)	1.3	(0.2)	99.3	(0.1)	0.5	(0.1)	0.2	(0.1)
Viet Nam	4.7	(0.7)	97.2	(0.5)	2.6	(0.5)	0.3	(0.1)	97.6	(0.4)	2.1	(0.3)	0.3	(0.1)	99.6	(0.1)	0.3	(0.1)	0.1	(0.0)

1. The questions on grade repetition were not administered in Japan and Norway. The share of grade repeaters has been set to zero in agreement with countries since there is a policy of automatic grade progression and more than 99.5% of students were enrolled in the same grade level.

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.4.17. Isolation index, by socio-economic status, immigrant background, gender and mathematics performance [1/6]

		Isolation index[1] by:									
		All students and schools									
		Socio-economic status						Immigrant background[2]		Gender	
		Disadvantaged students from all other students		Advantaged students from all other students		Disadvantaged students from advantaged students		Immigrant students from non-immigrant students		Boys from girls	
		Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.
OECD	Australia*	0.20	(0.01)	0.19	(0.01)	0.71	(0.01)	0.30	(0.01)	0.20	(0.01)
	Austria	0.24	(0.01)	0.22	(0.02)	0.75	(0.01)	0.29	(0.02)	0.25	(0.01)
	Belgium	0.18	(0.01)	0.19	(0.01)	0.72	(0.01)	0.24	(0.02)	0.14	(0.01)
	Canada*	0.12	(0.01)	0.12	(0.01)	0.63	(0.01)	0.34	(0.01)	0.04	(0.01)
	Chile	0.20	(0.02)	0.34	(0.02)	0.79	(0.01)	0.22	(0.06)	0.10	(0.01)
	Colombia	0.26	(0.02)	0.36	(0.03)	0.81	(0.01)	m	m	0.06	(0.01)
	Costa Rica	m	m	m	m	m	m	0.14	(0.02)	0.03	(0.01)
	Czech Republic	0.23	(0.01)	0.26	(0.01)	0.76	(0.01)	m	m	0.21	(0.01)
	Denmark*	0.16	(0.01)	0.14	(0.01)	0.64	(0.01)	0.18	(0.01)	0.05	(0.01)
	Estonia	0.17	(0.02)	0.18	(0.02)	0.69	(0.01)	0.17	(0.02)	0.03	(0.00)
	Finland	0.09	(0.01)	0.10	(0.01)	0.61	(0.01)	0.13	(0.01)	0.02	(0.00)
	France	0.20	(0.01)	0.20	(0.02)	0.72	(0.01)	0.23	(0.02)	0.08	(0.01)
	Germany	0.18	(0.01)	0.22	(0.01)	0.72	(0.01)	0.18	(0.01)	0.07	(0.01)
	Greece	0.14	(0.01)	0.21	(0.01)	0.69	(0.01)	0.16	(0.02)	0.07	(0.01)
	Hungary	0.30	(0.02)	0.30	(0.01)	0.82	(0.01)	m	m	0.20	(0.01)
	Iceland	0.12	(0.02)	0.10	(0.02)	0.62	(0.01)	0.10	(0.03)	0.05	(0.01)
	Ireland*	0.13	(0.01)	0.11	(0.01)	0.65	(0.01)	0.15	(0.02)	0.37	(0.01)
	Israel	0.23	(0.01)	0.18	(0.01)	0.74	(0.01)	0.20	(0.02)	0.32	(0.01)
	Italy	0.16	(0.01)	0.17	(0.02)	0.69	(0.01)	0.11	(0.01)	0.17	(0.01)
	Japan	0.19	(0.01)	0.16	(0.01)	0.70	(0.01)	m	m	0.14	(0.02)
	Korea	0.14	(0.01)	0.13	(0.01)	0.67	(0.01)	m	m	0.40	(0.03)
	Latvia*	0.19	(0.01)	0.16	(0.01)	0.69	(0.01)	m	m	0.05	(0.01)
	Lithuania	0.20	(0.01)	0.21	(0.01)	0.73	(0.01)	m	m	0.05	(0.00)
	Mexico	0.22	(0.01)	0.26	(0.02)	0.74	(0.01)	m	m	0.06	(0.00)
	Netherlands*	0.14	(0.01)	0.18	(0.02)	0.69	(0.01)	0.16	(0.02)	0.03	(0.00)
	New Zealand*	0.16	(0.01)	0.12	(0.02)	0.65	(0.01)	0.21	(0.02)	0.33	(0.01)
	Norway	0.10	(0.01)	0.11	(0.01)	0.61	(0.01)	0.22	(0.03)	0.03	(0.00)
	Poland	0.21	(0.01)	0.24	(0.02)	0.76	(0.01)	m	m	0.21	(0.01)
	Portugal	0.15	(0.01)	0.18	(0.01)	0.68	(0.01)	0.16	(0.02)	0.04	(0.01)
	Slovak Republic	0.28	(0.02)	0.28	(0.02)	0.78	(0.01)	m	m	0.20	(0.01)
	Slovenia	0.21	(0.02)	0.20	(0.02)	0.73	(0.01)	0.21	(0.02)	0.35	(0.01)
	Spain	0.14	(0.01)	0.18	(0.01)	0.68	(0.01)	0.19	(0.02)	0.03	(0.01)
	Sweden	0.13	(0.01)	0.15	(0.01)	0.65	(0.01)	0.22	(0.02)	0.03	(0.00)
	Switzerland	0.15	(0.01)	0.20	(0.02)	0.69	(0.01)	0.17	(0.01)	0.09	(0.01)
	Türkiye	0.18	(0.01)	0.27	(0.03)	0.75	(0.01)	m	m	0.19	(0.01)
	United Kingdom*	0.16	(0.01)	0.19	(0.01)	0.70	(0.01)	0.28	(0.03)	0.14	(0.02)
	United States*	0.17	(0.02)	0.20	(0.02)	0.71	(0.02)	0.27	(0.03)	0.03	(0.01)
	OECD average	0.18	(0.00)	0.19	(0.00)	0.70	(0.00)	0.20	(0.00)	0.13	(0.00)

1. The isolation index measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students or from a specific group of students (e.g. advantaged students), based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure (no segregation) and 1 to full isolation/segregation.
2. Only countries and economies where at least 5% of the student population has an immigrant background are examined.
3. Low-achieving students are students who score among the bottom 25% of students within their country or economy on the PISA test.
4. High-achieving students are students who score among the top 25% of students within their country or economy on the PISA test.
Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.4.17. Isolation index, by socio-economic status, immigrant background, gender and mathematics performance [2/6]

		Isolation index[1] by:									
		All students and schools									
		Socio-economic status						Immigrant background[2]		Gender	
		Disadvantaged students from all other students		Advantaged students from all other students		Disadvantaged students from advantaged students		Immigrant students from non-immigrant students		Boys from girls	
		Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.
Partners	Albania	0.19	(0.01)	0.24	(0.01)	0.73	(0.01)	m	m	0.13	(0.01)
	Argentina	0.20	(0.02)	0.29	(0.02)	0.77	(0.01)	0.19	(0.03)	0.08	(0.01)
	Baku (Azerbaijan)	0.12	(0.01)	0.21	(0.02)	0.69	(0.01)	m	m	0.02	(0.00)
	Brazil	0.19	(0.01)	0.31	(0.02)	0.74	(0.01)	m	m	0.06	(0.00)
	Brunei Darussalam	0.11	(0.01)	0.20	(0.01)	0.68	(0.01)	0.22	(0.02)	0.24	(0.00)
	Bulgaria	0.29	(0.02)	0.23	(0.02)	0.80	(0.01)	m	m	0.16	(0.02)
	Cambodia	0.14	(0.01)	0.21	(0.03)	0.68	(0.02)	m	m	0.03	(0.00)
	Croatia	0.13	(0.01)	0.20	(0.01)	0.68	(0.01)	0.07	(0.01)	0.25	(0.02)
	Cyprus	0.13	(0.01)	0.14	(0.01)	0.67	(0.01)	0.22	(0.02)	0.07	(0.00)
	Dominican Republic	0.13	(0.01)	0.20	(0.02)	0.68	(0.01)	m	m	0.06	(0.01)
	El Salvador	0.24	(0.02)	0.31	(0.02)	0.77	(0.01)	m	m	0.09	(0.01)
	Georgia	0.18	(0.01)	0.18	(0.02)	0.68	(0.01)	m	m	0.05	(0.01)
	Guatemala	0.24	(0.01)	0.32	(0.03)	0.77	(0.01)	m	m	0.12	(0.02)
	Hong Kong (China)*	0.13	(0.01)	0.27	(0.04)	0.72	(0.02)	0.12	(0.01)	0.19	(0.01)
	Indonesia	0.20	(0.02)	0.24	(0.02)	0.74	(0.01)	m	m	0.12	(0.01)
	Jamaica*	0.09	(0.01)	0.14	(0.02)	0.60	(0.01)	m	m	0.20	(0.03)
	Jordan	0.16	(0.01)	0.15	(0.02)	0.65	(0.01)	0.24	(0.02)	0.94	(0.01)
	Kazakhstan	0.13	(0.01)	0.16	(0.01)	0.66	(0.01)	0.21	(0.03)	0.08	(0.01)
	Kosovo	0.12	(0.01)	0.15	(0.01)	0.64	(0.01)	m	m	0.13	(0.00)
	Macao (China)	0.15	(0.01)	0.24	(0.01)	0.74	(0.01)	0.11	(0.01)	0.21	(0.00)
	Malaysia	0.15	(0.01)	0.23	(0.02)	0.71	(0.01)	m	m	0.06	(0.01)
	Malta	0.11	(0.01)	0.14	(0.02)	0.67	(0.01)	0.18	(0.02)	0.39	(0.00)
	Moldova	0.19	(0.01)	0.25	(0.02)	0.73	(0.01)	m	m	0.07	(0.01)
	Mongolia	0.21	(0.01)	0.27	(0.02)	0.77	(0.01)	m	m	0.07	(0.01)
	Montenegro	0.12	(0.01)	0.14	(0.01)	0.65	(0.01)	0.06	(0.01)	0.12	(0.01)
	Morocco	0.13	(0.01)	0.26	(0.04)	0.70	(0.01)	m	m	0.05	(0.00)
	North Macedonia	0.09	(0.01)	0.15	(0.01)	0.64	(0.01)	m	m	0.14	(0.00)
	Palestinian Authority	0.12	(0.01)	0.12	(0.02)	0.62	(0.01)	m	m	0.95	(0.01)
	Panama*	0.24	(0.02)	0.35	(0.03)	0.78	(0.01)	m	m	0.09	(0.01)
	Paraguay	0.18	(0.01)	0.29	(0.02)	0.72	(0.01)	m	m	0.08	(0.01)
	Peru	0.34	(0.01)	0.34	(0.02)	0.83	(0.01)	m	m	0.13	(0.02)
	Philippines	0.12	(0.01)	0.17	(0.02)	0.64	(0.01)	m	m	0.02	(0.01)
	Qatar	0.19	(0.01)	0.24	(0.02)	0.74	(0.01)	0.37	(0.01)	0.58	(0.00)
	Romania	0.25	(0.01)	0.30	(0.02)	0.80	(0.01)	m	m	0.09	(0.01)
	Saudi Arabia	0.14	(0.01)	0.16	(0.01)	0.67	(0.01)	0.22	(0.03)	1.00	(0.00)
	Serbia	0.15	(0.02)	0.21	(0.01)	0.70	(0.01)	0.07	(0.01)	0.22	(0.01)
	Singapore	0.14	(0.01)	0.20	(0.02)	0.71	(0.01)	0.19	(0.02)	0.21	(0.00)
	Chinese Taipei	0.17	(0.02)	0.17	(0.02)	0.70	(0.01)	m	m	0.13	(0.02)
	Thailand	0.20	(0.01)	0.30	(0.03)	0.75	(0.01)	m	m	0.11	(0.02)
	Ukrainian regions (18 of 27)	0.22	(0.02)	0.17	(0.02)	0.71	(0.02)	m	m	0.09	(0.02)
	United Arab Emirates	0.19	(0.01)	0.19	(0.01)	0.69	(0.01)	0.60	(0.01)	0.73	(0.01)
	Uruguay	0.16	(0.01)	0.29	(0.02)	0.75	(0.01)	m	m	0.07	(0.01)
	Uzbekistan	0.11	(0.01)	0.12	(0.01)	0.63	(0.01)	m	m	0.04	(0.01)
	Viet Nam	0.24	(0.02)	0.26	(0.03)	0.75	(0.01)	m	m	0.03	(0.00)

1. The isolation index measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students or from a specific group of students (e.g. advantaged students), based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure (no segregation) and 1 to full isolation/segregation. 2. Only countries and economies where at least 5% of the student population has an immigrant background are examined. 3. Low-achieving students are students who score among the bottom 25% of students within their country or economy on the PISA test. 4. High-achieving students are students who score among the top 25% of students within their country or economy on the PISA test. Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Information regarding the proportion of the sample covered is shown next to the standard error.

Table II.B1.4.17. Isolation index, by socio-economic status, immigrant background, gender and mathematics performance [3/6]

		Isolation index[1] by:											
		All students and schools						Only schools with students in the modal grade					
		Mathematics performance						Socio-economic status					
		Low-achieving students in mathematics[3] from all other students		High-achieving students in mathematics[4] from all other students		Low-achieving students in mathematics from high-achieving students in mathematics		Disadvantaged students from all other students		Advantaged students from all other students		Disadvantaged students from advantaged students	
		Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.
OECD	**Australia***	0.18	(0.01)	0.22	(0.01)	0.70	(0.01)	0.20	(0.01)	0.19	(0.01)	0.71	(0.01)
	Austria	0.39	(0.02)	0.27	(0.02)	0.86	(0.01)	0.20	(0.01)	0.21	(0.02)	0.74	(0.01)
	Belgium	0.33	(0.02)	0.28	(0.02)	0.84	(0.01)	0.17	(0.01)	0.18	(0.01)	0.71	(0.01)
	Canada*	0.12	(0.01)	0.16	(0.01)	0.65	(0.01)	0.12	(0.01)	0.12	(0.01)	0.63	(0.01)
	Chile	0.17	(0.01)	0.20	(0.01)	0.71	(0.01)	0.18	(0.01)	0.33	(0.02)	0.79	(0.01)
	Colombia	0.24	(0.02)	0.30	(0.02)	0.79	(0.01)	0.26	(0.02)	0.36	(0.03)	0.81	(0.01)
	Costa Rica	0.16	(0.01)	0.23	(0.02)	0.71	(0.01)	m	m	m	m	m	m
	Czech Republic	0.30	(0.02)	0.36	(0.02)	0.84	(0.01)	0.23	(0.01)	0.26	(0.01)	0.76	(0.01)
	Denmark*	0.13	(0.01)	0.12	(0.01)	0.62	(0.01)	0.15	(0.01)	0.13	(0.01)	0.64	(0.01)
	Estonia	0.15	(0.01)	0.13	(0.01)	0.65	(0.01)	0.17	(0.02)	0.18	(0.02)	0.69	(0.01)
	Finland	0.08	(0.01)	0.08	(0.01)	0.58	(0.01)	0.09	(0.01)	0.10	(0.01)	0.61	(0.01)
	France	0.38	(0.02)	0.23	(0.01)	0.84	(0.01)	0.17	(0.01)	0.18	(0.02)	0.71	(0.01)
	Germany	0.31	(0.02)	0.31	(0.02)	0.85	(0.01)	0.19	(0.01)	0.22	(0.01)	0.72	(0.01)
	Greece	0.24	(0.02)	0.17	(0.01)	0.73	(0.01)	0.13	(0.01)	0.20	(0.01)	0.68	(0.01)
	Hungary	0.46	(0.02)	0.38	(0.02)	0.91	(0.01)	0.26	(0.02)	0.28	(0.01)	0.81	(0.01)
	Iceland	0.09	(0.02)	0.09	(0.02)	0.58	(0.02)	0.12	(0.02)	0.09	(0.02)	0.62	(0.01)
	Ireland*	0.09	(0.01)	0.09	(0.01)	0.60	(0.01)	0.13	(0.01)	0.11	(0.01)	0.65	(0.01)
	Israel	0.30	(0.02)	0.22	(0.02)	0.78	(0.01)	0.23	(0.01)	0.18	(0.01)	0.74	(0.01)
	Italy	0.29	(0.02)	0.28	(0.02)	0.83	(0.01)	0.16	(0.01)	0.17	(0.02)	0.69	(0.01)
	Japan	0.32	(0.02)	0.36	(0.03)	0.87	(0.01)	0.19	(0.01)	0.16	(0.01)	0.70	(0.01)
	Korea	0.17	(0.02)	0.18	(0.02)	0.70	(0.01)	0.15	(0.02)	0.14	(0.01)	0.68	(0.01)
	Latvia*	0.17	(0.01)	0.18	(0.02)	0.68	(0.01)	0.19	(0.01)	0.16	(0.01)	0.69	(0.01)
	Lithuania	0.24	(0.02)	0.23	(0.02)	0.74	(0.01)	0.20	(0.01)	0.21	(0.01)	0.73	(0.01)
	Mexico	0.19	(0.02)	0.22	(0.02)	0.72	(0.01)	0.21	(0.02)	0.22	(0.02)	0.73	(0.01)
	Netherlands*	0.44	(0.02)	0.36	(0.02)	0.95	(0.01)	0.14	(0.01)	0.18	(0.02)	0.69	(0.01)
	New Zealand*	0.18	(0.02)	0.15	(0.01)	0.68	(0.01)	0.16	(0.01)	0.12	(0.02)	0.65	(0.01)
	Norway	0.10	(0.01)	0.10	(0.01)	0.60	(0.01)	0.10	(0.01)	0.11	(0.01)	0.61	(0.01)
	Poland	0.33	(0.02)	0.28	(0.02)	0.84	(0.01)	0.19	(0.01)	0.24	(0.02)	0.76	(0.01)
	Portugal	0.20	(0.02)	0.15	(0.01)	0.69	(0.01)	0.13	(0.01)	0.17	(0.01)	0.66	(0.01)
	Slovak Republic	0.42	(0.02)	0.33	(0.02)	0.87	(0.01)	0.28	(0.02)	0.28	(0.02)	0.78	(0.01)
	Slovenia	0.34	(0.02)	0.34	(0.02)	0.86	(0.01)	0.17	(0.02)	0.18	(0.02)	0.72	(0.01)
	Spain	0.13	(0.01)	0.12	(0.01)	0.64	(0.01)	0.14	(0.01)	0.18	(0.01)	0.68	(0.01)
	Sweden	0.14	(0.01)	0.14	(0.01)	0.64	(0.01)	0.13	(0.01)	0.15	(0.01)	0.65	(0.01)
	Switzerland	0.21	(0.02)	0.27	(0.02)	0.78	(0.01)	0.15	(0.01)	0.20	(0.02)	0.69	(0.01)
	Türkiye	0.28	(0.02)	0.46	(0.01)	0.89	(0.01)	0.18	(0.01)	0.27	(0.03)	0.75	(0.01)
	United Kingdom*	0.13	(0.01)	0.18	(0.02)	0.67	(0.01)	0.16	(0.01)	0.19	(0.01)	0.70	(0.01)
	United States*	0.16	(0.02)	0.17	(0.02)	0.68	(0.02)	0.17	(0.02)	0.20	(0.02)	0.71	(0.02)
	OECD average	0.23	(0.00)	0.23	(0.00)	0.75	(0.00)	0.17	(0.00)	0.19	(0.00)	0.70	(0.00)

1. The isolation index measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students or from a specific group of students (e.g. advantaged students), based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure (no segregation) and 1 to full isolation/segregation.
2. Only countries and economies where at least 5% of the student population has an immigrant background are examined.
3. Low-achieving students are students who score among the bottom 25% of students within their country or economy on the PISA test.
4. High-achieving students are students who score among the top 25% of students within their country or economy on the PISA test.
Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.4.17. Isolation index, by socio-economic status, immigrant background, gender and mathematics performance [4/6]

		Isolation index[1] by:											
		All students and schools						Only schools with students in the modal grade					
		Mathematics performance						Socio-economic status					
		Low-achieving students in mathematics[3] from all other students		High-achieving students in mathematics[4] from all other students		Low-achieving students in mathematics from high-achieving students in mathematics		Disadvantaged students from all other students		Advantaged students from all other students		Disadvantaged students from advantaged students	
		Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.
Partners	Albania	0.16	(0.01)	0.22	(0.02)	0.70	(0.01)	0.17	(0.01)	0.23	(0.02)	0.72	(0.01)
	Argentina	0.22	(0.02)	0.27	(0.02)	0.78	(0.01)	0.20	(0.02)	0.29	(0.02)	0.77	(0.01)
	Baku (Azerbaijan)	0.10	(0.01)	0.12	(0.02)	0.63	(0.01)	0.12	(0.01)	0.21	(0.02)	0.69	(0.01)
	Brazil	0.23	(0.01)	0.33	(0.02)	0.78	(0.01)	0.18	(0.01)	0.31	(0.02)	0.75	(0.01)
	Brunei Darussalam	0.15	(0.01)	0.24	(0.01)	0.74	(0.01)	0.11	(0.01)	0.20	(0.01)	0.68	(0.01)
	Bulgaria	0.31	(0.02)	0.39	(0.03)	0.86	(0.01)	0.29	(0.02)	0.23	(0.02)	0.80	(0.01)
	Cambodia	0.14	(0.02)	0.18	(0.03)	0.68	(0.02)	0.14	(0.01)	0.21	(0.03)	0.68	(0.02)
	Croatia	0.23	(0.02)	0.28	(0.02)	0.80	(0.01)	0.13	(0.01)	0.20	(0.01)	0.68	(0.01)
	Cyprus	0.18	(0.01)	0.19	(0.01)	0.71	(0.01)	0.11	(0.01)	0.14	(0.01)	0.67	(0.01)
	Dominican Republic	0.18	(0.02)	0.22	(0.02)	0.72	(0.01)	0.13	(0.01)	0.20	(0.02)	0.68	(0.01)
	El Salvador	0.18	(0.01)	0.28	(0.03)	0.74	(0.02)	0.24	(0.02)	0.32	(0.03)	0.78	(0.01)
	Georgia	0.18	(0.01)	0.21	(0.03)	0.71	(0.01)	0.18	(0.01)	0.18	(0.02)	0.68	(0.01)
	Guatemala	0.25	(0.02)	0.29	(0.03)	0.77	(0.02)	0.23	(0.02)	0.31	(0.04)	0.77	(0.01)
	Hong Kong (China)*	0.27	(0.02)	0.24	(0.02)	0.80	(0.01)	0.13	(0.01)	0.27	(0.04)	0.72	(0.02)
	Indonesia	0.20	(0.02)	0.27	(0.02)	0.76	(0.02)	0.20	(0.02)	0.24	(0.02)	0.74	(0.01)
	Jamaica*	0.27	(0.02)	0.41	(0.03)	0.86	(0.02)	0.09	(0.01)	0.14	(0.02)	0.60	(0.01)
	Jordan	0.15	(0.01)	0.19	(0.02)	0.70	(0.01)	0.16	(0.01)	0.15	(0.02)	0.65	(0.01)
	Kazakhstan	0.15	(0.01)	0.23	(0.01)	0.70	(0.01)	0.13	(0.01)	0.16	(0.01)	0.66	(0.01)
	Kosovo	0.17	(0.01)	0.23	(0.02)	0.72	(0.01)	0.08	(0.01)	0.14	(0.02)	0.63	(0.01)
	Macao (China)	0.20	(0.01)	0.14	(0.01)	0.71	(0.01)	0.15	(0.01)	0.24	(0.01)	0.75	(0.01)
	Malaysia	0.13	(0.01)	0.26	(0.02)	0.72	(0.01)	0.15	(0.01)	0.23	(0.02)	0.71	(0.01)
	Malta	0.15	(0.01)	0.09	(0.01)	0.64	(0.01)	0.11	(0.01)	0.14	(0.02)	0.67	(0.01)
	Moldova	0.15	(0.01)	0.22	(0.02)	0.70	(0.01)	0.20	(0.01)	0.26	(0.02)	0.74	(0.01)
	Mongolia	0.19	(0.02)	0.23	(0.02)	0.74	(0.01)	0.21	(0.01)	0.26	(0.02)	0.77	(0.01)
	Montenegro	0.17	(0.01)	0.23	(0.01)	0.75	(0.01)	0.11	(0.01)	0.13	(0.01)	0.64	(0.01)
	Morocco	0.22	(0.02)	0.29	(0.03)	0.81	(0.01)	0.13	(0.01)	0.26	(0.04)	0.70	(0.01)
	North Macedonia	0.18	(0.01)	0.23	(0.01)	0.75	(0.01)	0.09	(0.01)	0.15	(0.01)	0.64	(0.01)
	Palestinian Authority	0.12	(0.01)	0.17	(0.02)	0.66	(0.01)	0.12	(0.01)	0.12	(0.02)	0.62	(0.01)
	Panama*	0.29	(0.02)	0.35	(0.04)	0.83	(0.02)	0.21	(0.02)	0.34	(0.03)	0.78	(0.01)
	Paraguay	0.23	(0.02)	0.27	(0.02)	0.76	(0.01)	0.16	(0.01)	0.28	(0.02)	0.71	(0.01)
	Peru	0.23	(0.02)	0.26	(0.02)	0.77	(0.01)	0.33	(0.02)	0.34	(0.02)	0.83	(0.01)
	Philippines	0.12	(0.01)	0.22	(0.03)	0.69	(0.02)	0.12	(0.01)	0.17	(0.02)	0.64	(0.01)
	Qatar	0.20	(0.01)	0.31	(0.02)	0.79	(0.01)	0.17	(0.01)	0.24	(0.02)	0.74	(0.01)
	Romania	0.35	(0.02)	0.38	(0.02)	0.89	(0.01)	0.20	(0.02)	0.28	(0.02)	0.80	(0.01)
	Saudi Arabia	0.09	(0.01)	0.11	(0.01)	0.61	(0.01)	0.14	(0.01)	0.16	(0.01)	0.67	(0.01)
	Serbia	0.22	(0.02)	0.28	(0.03)	0.78	(0.01)	0.12	(0.01)	0.20	(0.01)	0.69	(0.01)
	Singapore	0.17	(0.01)	0.26	(0.02)	0.75	(0.01)	0.14	(0.01)	0.20	(0.02)	0.71	(0.01)
	Chinese Taipei	0.26	(0.02)	0.28	(0.03)	0.80	(0.01)	0.17	(0.02)	0.17	(0.02)	0.70	(0.01)
	Thailand	0.18	(0.02)	0.30	(0.02)	0.76	(0.02)	0.15	(0.01)	0.29	(0.03)	0.74	(0.01)
	Ukrainian regions (18 of 27)	0.24	(0.03)	0.22	(0.03)	0.74	(0.02)	0.22	(0.02)	0.17	(0.02)	0.71	(0.02)
	United Arab Emirates	0.27	(0.01)	0.34	(0.01)	0.84	(0.01)	0.19	(0.01)	0.19	(0.01)	0.69	(0.01)
	Uruguay	0.24	(0.02)	0.24	(0.02)	0.78	(0.01)	0.16	(0.01)	0.29	(0.02)	0.74	(0.01)
	Uzbekistan	0.11	(0.01)	0.15	(0.02)	0.64	(0.01)	0.11	(0.01)	0.12	(0.01)	0.63	(0.01)
	Viet Nam	0.28	(0.03)	0.24	(0.03)	0.79	(0.02)	0.21	(0.02)	0.26	(0.03)	0.75	(0.01)

1. The isolation index measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students or from a specific group of students (e.g. advantaged students), based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure (no segregation) and 1 to full isolation/segregation. 2. Only countries and economies where at least 5% of the student population has an immigrant background are examined. 3. Low-achieving students are students who score among the bottom 25% of students within their country or economy on the PISA test. 4. High-achieving students are students who score among the top 25% of students within their country or economy on the PISA test. Notes: Values that are statistically significant are indicated in bold (see Annex A3). Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.4.17. Isolation index, by socio-economic status, immigrant background, gender and mathematics performance [5/6]

		Isolation index[1] by:									
		Only schools with students in the modal grade									
		Immigrant background[2]		Gender		Mathematics performance					
		Immigrant students from non-immigrant students		Boys from girls		Low-achieving students in mathematics from all other students		High-achieving students in mathematics from all other students		Low-achieving students in mathematics from high-achieving students in mathematics	
		Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.
OECD	Australia*	0.30	(0.01)	0.20	(0.01)	0.18	(0.01)	0.22	(0.01)	0.70	(0.01)
	Austria	0.25	(0.02)	0.26	(0.01)	0.33	(0.02)	0.26	(0.02)	0.84	(0.01)
	Belgium	0.23	(0.02)	0.13	(0.01)	0.28	(0.02)	0.27	(0.02)	0.82	(0.01)
	Canada*	0.34	(0.01)	0.04	(0.01)	0.12	(0.01)	0.15	(0.01)	0.65	(0.01)
	Chile	0.22	(0.06)	0.10	(0.01)	0.14	(0.01)	0.19	(0.01)	0.70	(0.01)
	Colombia	m	m	0.06	(0.01)	0.24	(0.02)	0.30	(0.02)	0.79	(0.01)
	Costa Rica	0.14	(0.02)	0.03	(0.01)	0.16	(0.01)	0.23	(0.02)	0.71	(0.01)
	Czech Republic	m	m	0.21	(0.01)	0.30	(0.02)	0.36	(0.02)	0.84	(0.01)
	Denmark*	0.18	(0.01)	0.05	(0.01)	0.13	(0.01)	0.12	(0.01)	0.62	(0.01)
	Estonia	0.16	(0.02)	0.03	(0.00)	0.14	(0.01)	0.13	(0.01)	0.65	(0.01)
	Finland	0.13	(0.01)	0.02	(0.00)	0.08	(0.01)	0.08	(0.01)	0.58	(0.01)
	France	0.21	(0.02)	0.08	(0.01)	0.33	(0.02)	0.21	(0.01)	0.83	(0.01)
	Germany	0.18	(0.01)	0.06	(0.01)	0.32	(0.02)	0.30	(0.02)	0.85	(0.01)
	Greece	0.09	(0.01)	0.05	(0.01)	0.21	(0.02)	0.16	(0.01)	0.72	(0.01)
	Hungary	m	m	0.18	(0.02)	0.41	(0.02)	0.37	(0.02)	0.91	(0.01)
	Iceland	0.10	(0.03)	0.05	(0.01)	0.08	(0.02)	0.08	(0.02)	0.58	(0.02)
	Ireland*	0.15	(0.02)	0.37	(0.01)	0.09	(0.01)	0.09	(0.01)	0.60	(0.01)
	Israel	0.20	(0.02)	0.33	(0.01)	0.30	(0.02)	0.22	(0.02)	0.78	(0.01)
	Italy	0.10	(0.01)	0.17	(0.01)	0.29	(0.02)	0.28	(0.02)	0.83	(0.01)
	Japan	m	m	0.14	(0.02)	0.32	(0.02)	0.36	(0.03)	0.87	(0.01)
	Korea	m	m	0.44	(0.01)	0.21	(0.02)	0.19	(0.02)	0.72	(0.01)
	Latvia*	m	m	0.04	(0.01)	0.16	(0.01)	0.18	(0.02)	0.68	(0.01)
	Lithuania	m	m	0.05	(0.00)	0.24	(0.02)	0.23	(0.02)	0.74	(0.01)
	Mexico	m	m	0.03	(0.00)	0.15	(0.02)	0.20	(0.02)	0.71	(0.01)
	Netherlands*	0.16	(0.02)	0.03	(0.00)	0.44	(0.02)	0.36	(0.02)	0.95	(0.01)
	New Zealand*	0.21	(0.02)	0.33	(0.01)	0.18	(0.02)	0.15	(0.01)	0.68	(0.01)
	Norway	0.22	(0.03)	0.03	(0.00)	0.10	(0.01)	0.10	(0.01)	0.60	(0.01)
	Poland	m	m	0.21	(0.01)	0.32	(0.02)	0.27	(0.02)	0.83	(0.01)
	Portugal	0.12	(0.02)	0.03	(0.01)	0.12	(0.02)	0.13	(0.01)	0.66	(0.01)
	Slovak Republic	m	m	0.20	(0.01)	0.42	(0.02)	0.33	(0.02)	0.87	(0.01)
	Slovenia	0.14	(0.02)	0.36	(0.01)	0.31	(0.02)	0.33	(0.02)	0.86	(0.01)
	Spain	0.19	(0.02)	0.03	(0.01)	0.13	(0.01)	0.12	(0.01)	0.64	(0.01)
	Sweden	0.22	(0.02)	0.03	(0.00)	0.14	(0.01)	0.12	(0.01)	0.64	(0.01)
	Switzerland	0.17	(0.01)	0.09	(0.01)	0.21	(0.02)	0.27	(0.02)	0.78	(0.01)
	Türkiye	m	m	0.19	(0.01)	0.28	(0.02)	0.46	(0.01)	0.89	(0.01)
	United Kingdom*	0.28	(0.03)	0.14	(0.02)	0.13	(0.01)	0.18	(0.02)	0.67	(0.01)
	United States*	0.27	(0.03)	0.03	(0.01)	0.16	(0.02)	0.17	(0.02)	0.68	(0.02)
	OECD average	0.19	(0.00)	0.13	(0.00)	0.22	(0.00)	0.22	(0.00)	0.74	(0.00)

1. The isolation index measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students or from a specific group of students (e.g. advantaged students), based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure (no segregation) and 1 to full isolation/segregation.
2. Only countries and economies where at least 5% of the student population has an immigrant background are examined.
3. Low-achieving students are students who score among the bottom 25% of students within their country or economy on the PISA test.
4. High-achieving students are students who score among the top 25% of students within their country or economy on the PISA test.
Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.4.17. Isolation index, by socio-economic status, immigrant background, gender and mathematics performance [6/6]

		Isolation index[1] by:									
		Only schools with students in the modal grade									
		Immigrant background[2]		Gender		Mathematics performance					
		Immigrant students from non-immigrant students		Boys from girls		Low-achieving students in mathematics from all other students		High-achieving students in mathematics from all other students		Low-achieving students in mathematics from high-achieving students in mathematics	
		Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.
Partners	Albania	m	m	0.13	(0.01)	0.15	(0.01)	0.21	(0.02)	0.70	(0.01)
	Argentina	0.19	(0.03)	0.08	(0.01)	0.22	(0.02)	0.27	(0.02)	0.78	(0.01)
	Baku (Azerbaijan)	m	m	0.02	(0.00)	0.10	(0.01)	0.12	(0.02)	0.63	(0.01)
	Brazil	m	m	0.04	(0.00)	0.15	(0.01)	0.30	(0.02)	0.75	(0.01)
	Brunei Darussalam	0.22	(0.02)	0.24	(0.00)	0.15	(0.01)	0.24	(0.01)	0.74	(0.01)
	Bulgaria	m	m	0.16	(0.02)	0.31	(0.02)	0.39	(0.03)	0.86	(0.01)
	Cambodia	m	m	0.03	(0.00)	0.14	(0.02)	0.18	(0.03)	0.68	(0.02)
	Croatia	0.07	(0.01)	0.25	(0.02)	0.23	(0.02)	0.28	(0.02)	0.80	(0.01)
	Cyprus	0.19	(0.01)	0.07	(0.00)	0.17	(0.01)	0.18	(0.01)	0.71	(0.01)
	Dominican Republic	m	m	0.06	(0.01)	0.18	(0.02)	0.22	(0.02)	0.72	(0.01)
	El Salvador	m	m	0.09	(0.01)	0.18	(0.01)	0.29	(0.03)	0.75	(0.02)
	Georgia	m	m	0.05	(0.01)	0.18	(0.01)	0.21	(0.03)	0.71	(0.01)
	Guatemala	m	m	0.10	(0.02)	0.23	(0.02)	0.27	(0.04)	0.76	(0.02)
	Hong Kong (China)*	0.12	(0.01)	0.19	(0.01)	0.27	(0.02)	0.24	(0.02)	0.80	(0.01)
	Indonesia	m	m	0.12	(0.01)	0.20	(0.02)	0.27	(0.02)	0.76	(0.02)
	Jamaica*	m	m	0.20	(0.03)	0.27	(0.02)	0.41	(0.03)	0.86	(0.02)
	Jordan	0.24	(0.02)	0.94	(0.01)	0.15	(0.01)	0.19	(0.02)	0.70	(0.01)
	Kazakhstan	0.21	(0.03)	0.08	(0.01)	0.15	(0.01)	0.23	(0.01)	0.70	(0.01)
	Kosovo	m	m	0.12	(0.00)	0.15	(0.01)	0.23	(0.02)	0.73	(0.01)
	Macao (China)	0.11	(0.01)	0.21	(0.00)	0.20	(0.01)	0.14	(0.01)	0.71	(0.01)
	Malaysia	m	m	0.06	(0.01)	0.13	(0.01)	0.26	(0.02)	0.72	(0.01)
	Malta	0.18	(0.02)	0.39	(0.00)	0.15	(0.01)	0.09	(0.01)	0.64	(0.01)
	Moldova	m	m	0.05	(0.00)	0.15	(0.01)	0.22	(0.02)	0.70	(0.01)
	Mongolia	m	m	0.07	(0.01)	0.19	(0.02)	0.23	(0.02)	0.74	(0.01)
	Montenegro	0.05	(0.01)	0.11	(0.00)	0.16	(0.01)	0.23	(0.01)	0.75	(0.01)
	Morocco	m	m	0.05	(0.00)	0.22	(0.02)	0.29	(0.03)	0.81	(0.01)
	North Macedonia	m	m	0.14	(0.00)	0.18	(0.01)	0.23	(0.01)	0.75	(0.01)
	Palestinian Authority	m	m	0.95	(0.01)	0.11	(0.01)	0.16	(0.02)	0.65	(0.01)
	Panama*	m	m	0.07	(0.01)	0.22	(0.02)	0.32	(0.04)	0.80	(0.02)
	Paraguay	m	m	0.06	(0.01)	0.17	(0.01)	0.26	(0.02)	0.74	(0.02)
	Peru	m	m	0.12	(0.02)	0.22	(0.02)	0.25	(0.02)	0.76	(0.01)
	Philippines	m	m	0.02	(0.01)	0.12	(0.01)	0.22	(0.03)	0.69	(0.02)
	Qatar	0.39	(0.01)	0.54	(0.00)	0.16	(0.02)	0.30	(0.02)	0.77	(0.01)
	Romania	m	m	0.07	(0.01)	0.30	(0.02)	0.37	(0.03)	0.89	(0.01)
	Saudi Arabia	0.22	(0.03)	1.00	(0.00)	0.09	(0.01)	0.11	(0.01)	0.61	(0.01)
	Serbia	0.07	(0.01)	0.22	(0.01)	0.18	(0.01)	0.27	(0.03)	0.77	(0.01)
	Singapore	0.19	(0.02)	0.21	(0.00)	0.17	(0.01)	0.26	(0.02)	0.75	(0.01)
	Chinese Taipei	m	m	0.13	(0.02)	0.26	(0.02)	0.28	(0.03)	0.80	(0.01)
	Thailand	m	m	0.11	(0.02)	0.16	(0.02)	0.29	(0.02)	0.75	(0.02)
	Ukrainian regions (18 of 27)	m	m	0.09	(0.02)	0.25	(0.03)	0.22	(0.03)	0.74	(0.02)
	United Arab Emirates	0.60	(0.01)	0.73	(0.01)	0.27	(0.01)	0.34	(0.01)	0.84	(0.01)
	Uruguay	m	m	0.07	(0.01)	0.22	(0.02)	0.22	(0.02)	0.76	(0.01)
	Uzbekistan	m	m	0.04	(0.01)	0.11	(0.01)	0.15	(0.02)	0.64	(0.01)
	Viet Nam	m	m	0.02	(0.00)	0.24	(0.03)	0.23	(0.03)	0.77	(0.02)

1. The isolation index measures the extent to which certain types of students (e.g. disadvantaged students) are isolated from other all other types of students or from a specific group of students (e.g. advantaged students), based on the schools they attend. It ranges from 0 to 1 where 0 corresponds to full exposure (no segregation) and 1 to full isolation/segregation. 2. Only countries and economies where at least 5% of the student population has an immigrant background are examined. 3. Low-achieving students are students who score among the bottom 25% of students within their country or economy on the PISA test. 4. High-achieving students are students who score among the top 25% of students within their country or economy on the PISA test. Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.4.26. Ability grouping [1/2]

Results based on principals' reports

		Percentage of students in schools where students are:											
		Grouped by ability into different classes						Grouped by ability within their classes					
		For all subjects		For some subjects		Not for any subject		For all subjects		For some subjects		Not for any subject	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	2.7	(0.7)	81.1	(1.3)	16.2	(1.2)	4.8	(0.8)	61.6	(1.9)	33.6	(1.7)
	Austria	3.5	(1.1)	7.5	(1.3)	89.0	(1.8)	2.8	(1.0)	27.1	(2.0)	70.1	(2.0)
	Belgium	10.1	(2.0)	15.3	(2.3)	74.6	(2.8)	2.7	(1.0)	41.8	(3.0)	55.5	(2.9)
	Canada*	8.2	(1.6)	69.1	(2.2)	22.7	(1.8)	4.1	(1.0)	37.3	(2.3)	58.7	(2.3)
	Chile	2.5	(1.6)	16.2	(2.8)	81.3	(3.1)	2.6	(1.6)	29.8	(3.1)	67.6	(3.5)
	Colombia	18.3	(2.8)	16.9	(2.6)	64.8	(3.5)	14.9	(2.4)	22.3	(2.9)	62.8	(3.7)
	Costa Rica	20.7	(3.6)	9.2	(2.7)	70.1	(3.9)	66.8	(4.0)	11.6	(3.0)	21.6	(3.3)
	Czech Republic	2.9	(1.0)	18.6	(2.3)	78.4	(2.6)	0.5	(0.3)	54.1	(2.7)	45.5	(2.7)
	Denmark*	1.4	(1.3)	14.8	(2.7)	83.8	(2.7)	11.5	(2.0)	60.3	(3.6)	28.2	(3.4)
	Estonia	6.3	(1.4)	34.2	(2.6)	59.5	(2.7)	2.7	(1.1)	51.9	(2.5)	45.4	(2.6)
	Finland	0.9	(0.5)	27.7	(3.2)	71.3	(3.3)	3.9	(1.4)	58.6	(3.7)	37.6	(3.4)
	France	2.5	(1.1)	11.8	(2.3)	85.7	(2.5)	2.9	(0.9)	31.6	(3.2)	65.5	(3.2)
	Germany	10.0	(2.3)	19.1	(3.0)	70.9	(3.4)	5.5	(1.4)	42.8	(3.4)	51.7	(3.7)
	Greece	0.5	(0.5)	7.2	(1.8)	92.3	(1.9)	1.0	(0.7)	18.1	(2.7)	80.9	(2.8)
	Hungary	1.6	(1.0)	38.3	(3.3)	60.0	(3.3)	0.3	(0.2)	80.7	(2.8)	19.0	(2.8)
	Iceland	0.6	(0.0)	20.0	(0.2)	79.3	(0.2)	0.4	(0.1)	40.0	(0.2)	59.5	(0.2)
	Ireland*	0.6	(0.6)	92.8	(1.8)	6.5	(1.9)	1.9	(1.2)	34.9	(3.7)	63.1	(3.5)
	Israel	13.9	(2.5)	80.6	(2.9)	5.5	(1.8)	8.1	(2.2)	70.4	(3.0)	21.4	(2.7)
	Italy	1.1	(0.7)	2.9	(1.0)	96.0	(1.2)	5.9	(1.8)	19.1	(3.1)	75.0	(3.5)
	Japan	6.2	(2.2)	37.5	(4.1)	56.3	(4.1)	0.8	(0.8)	42.0	(3.3)	57.2	(3.2)
	Korea	8.3	(2.3)	10.2	(2.5)	81.5	(2.7)	1.1	(0.8)	31.3	(3.7)	67.6	(3.7)
	Latvia*	6.6	(1.5)	13.3	(1.6)	80.1	(2.2)	2.9	(1.0)	32.6	(2.4)	64.5	(2.4)
	Lithuania	4.8	(0.7)	29.5	(2.2)	65.6	(2.3)	2.3	(0.3)	46.8	(2.4)	50.9	(2.4)
	Mexico	8.3	(1.9)	24.6	(3.0)	67.1	(3.2)	12.3	(2.5)	38.8	(3.6)	48.9	(3.7)
	Netherlands*	37.2	(4.4) †	16.9	(4.0) †	45.9	(4.8) †	4.1	(1.7) †	77.4	(4.1) †	18.5	(4.0) †
	New Zealand*	1.4	(0.1) †	65.7	(3.5) †	32.8	(3.5) †	5.7	(1.7) †	57.2	(4.1) †	37.0	(4.2) †
	Norway	0.0	c	7.3	(1.7)	92.7	(1.7)	3.0	(1.1)	40.2	(3.0)	56.8	(3.1)
	Poland	3.0	(1.1)	31.5	(2.9)	65.5	(2.8)	1.8	(0.9)	65.3	(3.2)	32.8	(3.2)
	Portugal	3.9	(0.8)	6.1	(1.5)	89.9	(1.7)	2.2	(1.0)	12.0	(2.3)	85.8	(2.5)
	Slovak Republic	10.0	(1.7)	17.2	(3.1)	72.8	(3.5)	3.3	(1.0)	47.7	(3.0)	49.0	(2.8)
	Slovenia	0.2	(0.2)	23.9	(0.7)	75.9	(0.7)	10.1	(0.3)	33.8	(0.7)	56.1	(0.7)
	Spain	6.2	(1.3)	24.8	(2.0)	68.9	(2.1)	4.7	(1.1)	23.7	(2.0)	71.6	(2.1)
	Sweden	0.0	c	18.4	(3.0)	81.6	(3.0)	1.1	(0.7)	25.9	(3.4)	73.0	(3.4)
	Switzerland	26.1	(2.6)	28.5	(3.3)	45.4	(3.4)	2.0	(1.0)	44.9	(4.0)	53.1	(4.0)
	Türkiye	10.9	(2.3)	31.6	(3.8)	57.5	(4.0)	3.3	(1.4)	33.6	(3.8)	63.0	(4.0)
	United Kingdom*	5.0	(1.6)	92.4	(2.1)	2.6	(1.3)	2.3	(0.9)	50.9	(3.7)	46.8	(3.7)
	United States*	1.6	(1.2)	75.7	(3.6)	22.8	(3.5)	4.2	(1.7)	69.8	(4.8)	26.0	(4.3)
	OECD average	6.7	(0.3)	30.8	(0.4)	62.5	(0.5)	5.7	(0.2)	42.4	(0.5)	51.9	(0.5)

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage

Table II.B1.4.26. Ability grouping [2/2]

Results based on principals' reports

		Percentage of students in schools where students are:											
		Grouped by ability into different classes						Grouped by ability within their classes					
		For all subjects		For some subjects		Not for any subject		For all subjects		For some subjects		Not for any subject	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	16.1	(2.1)	24.2	(2.3)	59.7	(2.9)	24.4	(2.5)	29.9	(2.8)	45.7	(3.2)
	Argentina	1.5	(0.6)	14.1	(2.2)	84.4	(2.3)	4.8	(1.2)	24.4	(2.6)	70.8	(2.5)
	Baku (Azerbaijan)	23.9	(3.5) †	31.9	(3.8) †	44.3	(4.6) †	19.1	(3.3) †	43.2	(4.1) †	37.7	(4.1) †
	Brazil	7.5	(1.5)	9.1	(1.6)	83.3	(2.1)	12.2	(1.6)	16.0	(1.9)	71.9	(2.1)
	Brunei Darussalam	34.7	(0.1)	51.0	(0.1)	14.3	(0.1)	38.1	(0.1)	50.2	(0.1)	11.7	(0.1)
	Bulgaria	7.4	(2.2)	8.3	(2.2)	84.3	(2.9)	13.6	(2.8)	22.7	(3.3)	63.7	(3.7)
	Cambodia	36.8	(4.3)	12.7	(4.5)	50.4	(5.3)	27.8	(4.4)	22.6	(5.4)	49.6	(5.6)
	Croatia	16.1	(2.6)	5.2	(1.8)	78.6	(3.2)	7.7	(2.2)	24.2	(3.3)	68.1	(3.5)
	Cyprus	5.1	(0.5)	26.3	(0.5)	68.6	(0.7)	8.7	(0.2)	27.2	(0.7)	64.1	(0.6)
	Dominican Republic	17.0	(3.2) †	28.8	(3.6) †	54.2	(4.2) †	18.5	(3.4) †	26.2	(3.4) †	55.3	(3.8) †
	El Salvador	18.6	(2.8)	45.2	(3.7)	36.2	(3.7)	23.2	(3.1)	41.8	(3.5)	35.0	(3.5)
	Georgia	2.5	(1.0)	3.2	(1.2)	94.3	(1.6)	4.7	(1.2)	12.3	(1.9)	83.0	(2.3)
	Guatemala	12.9	(2.0)	32.9	(3.1)	54.2	(3.1)	12.1	(2.1)	36.7	(3.5)	51.2	(3.5)
	Hong Kong (China)*	13.2	(3.2) †	74.2	(4.6) †	12.6	(3.2) †	1.9	(1.6) †	73.7	(4.4) †	24.4	(3.9) †
	Indonesia	23.2	(3.4)	16.2	(2.8)	60.6	(3.7)	20.4	(3.2)	20.1	(2.7)	59.4	(3.8)
	Jamaica*	19.3	(3.1) †	43.7	(3.0) †	37.1	(3.6) †	7.9	(2.1) †	50.8	(5.1) †	41.3	(4.8) †
	Jordan	39.6	(3.3)	13.1	(2.3)	47.3	(3.6)	47.2	(3.3)	16.9	(2.5)	35.9	(3.4)
	Kazakhstan	15.2	(1.7)	25.9	(2.2)	59.0	(2.6)	15.2	(1.8)	60.1	(2.4)	24.7	(2.5)
	Kosovo	16.5	(1.0)	26.7	(1.5)	56.8	(1.2)	24.4	(1.1)	31.3	(1.5)	44.3	(1.4)
	Macao (China)	6.3	(0.0)	44.6	(0.1)	49.0	(0.1)	2.8	(0.0)	56.0	(0.1)	41.1	(0.1)
	Malaysia	29.6	(3.3)	48.2	(3.7)	22.2	(3.1)	31.3	(3.8)	41.9	(3.8)	26.8	(2.9)
	Malta	22.3	(0.2)	70.8	(0.2)	6.9	(0.1)	3.1	(0.2)	42.9	(0.2)	54.0	(0.3)
	Moldova	4.4	(1.3)	2.0	(1.0)	93.6	(1.7)	2.7	(1.0)	14.3	(2.6)	83.0	(2.9)
	Mongolia	6.5	(1.8)	34.7	(2.8)	58.7	(2.9)	6.7	(1.8)	36.0	(3.0)	57.3	(3.2)
	Montenegro	27.2	(0.6)	20.0	(0.7)	52.9	(0.6)	15.6	(0.7)	27.5	(0.6)	56.9	(0.5)
	Morocco	22.9	(3.1)	9.6	(2.1)	67.5	(3.6)	16.5	(2.8)	13.4	(3.0)	70.1	(3.8)
	North Macedonia	21.1	(0.1)	20.9	(0.1)	58.0	(0.1)	33.9	(0.1)	41.3	(0.1)	24.8	(0.1)
	Palestinian Authority	34.9	(2.8)	8.1	(1.8)	57.0	(2.9)	39.1	(2.9)	12.3	(2.5)	48.7	(3.1)
	Panama*	5.4	(1.9) †	19.3	(3.8) †	75.2	(4.3) †	7.4	(2.3) †	31.0	(4.5) †	61.6	(5.0) †
	Paraguay	8.5	(2.4)	18.2	(2.4)	73.4	(3.4)	8.5	(2.3)	31.1	(3.2)	60.3	(3.4)
	Peru	4.1	(1.1)	10.8	(1.9)	85.0	(2.3)	6.2	(1.4)	27.2	(2.6)	66.5	(2.6)
	Philippines	20.5	(3.2)	34.2	(3.5)	45.2	(4.0)	25.0	(3.2)	34.7	(3.4)	40.3	(3.5)
	Qatar	27.4	(0.1)	40.2	(0.1)	32.4	(0.1)	44.8	(0.1)	37.5	(0.1)	17.7	(0.1)
	Romania	13.5	(2.9)	15.5	(3.0)	71.1	(3.4)	5.4	(1.8)	35.2	(4.0)	59.4	(4.1)
	Saudi Arabia	47.3	(3.6)	14.5	(2.9)	38.2	(3.9)	45.2	(3.3)	21.1	(3.2)	33.7	(3.3)
	Serbia	8.3	(1.8)	9.0	(1.9)	82.8	(2.5)	14.1	(2.3)	22.8	(3.4)	63.1	(3.5)
	Singapore	7.3	(0.2)	78.2	(0.7)	14.5	(0.6)	5.1	(1.1)	65.1	(1.0)	29.8	(0.6)
	Chinese Taipei	6.3	(1.9)	17.2	(2.7)	76.4	(3.1)	1.6	(1.1)	38.8	(4.1)	59.6	(4.3)
	Thailand	18.4	(3.0)	47.0	(4.2)	34.7	(3.3)	16.4	(2.8)	48.8	(3.3)	34.9	(2.8)
	Ukrainian regions (18 of 27)	16.3	(4.0)	20.8	(3.3)	62.9	(4.4)	15.9	(4.7)	30.0	(3.9)	54.1	(4.8)
	United Arab Emirates	14.3	(0.2)	31.9	(0.7)	53.8	(0.9)	41.1	(0.9)	36.7	(0.4)	22.2	(1.2)
	Uruguay	12.0	(2.0)	6.8	(1.6)	81.3	(2.5)	5.0	(1.3)	11.7	(1.9)	83.3	(2.3)
	Uzbekistan	8.1	(2.0)	32.2	(3.6)	59.7	(4.0)	13.3	(2.7)	37.1	(3.8)	49.6	(3.9)
	Viet Nam	19.3	(3.2)	63.2	(4.2)	17.5	(2.7)	22.8	(3.1)	52.6	(3.8)	24.6	(3.1)

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but
less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage

Table II.B1.5.4. Shortage of education staff in 2015, 2018 and 2022 [1/4]

		Percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered to some extent or a lot by the following factors:																							
		PISA 2015								PISA 2018								PISA 2022							
		A lack of teaching staff		Inadequate or poorly qualified teaching staff		A lack of assisting staff		Inadequate or poorly qualified assisting staff		A lack of teaching staff		Inadequate or poorly qualified teaching staff		A lack of assisting staff		Inadequate or poorly qualified assisting staff		A lack of teaching staff		Inadequate or poorly qualified teaching staff		A lack of assisting staff		Inadequate or poorly qualified assisting staff	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	20.5	(1.4)	17.6	(1.6)	18.1	(1.5)	12.8	(1.4)	17.0	(1.2)	14.3	(1.4)	12.4	(1.2)	7.7	(1.0)	61.2	(1.8)	26.7	(1.8)	26.9	(1.9)	13.3	(1.3)
	Austria	19.1	(2.8)	13.8	(2.6)	60.7	(3.7)	27.7	(3.4)	11.9	(1.9)	9.3	(2.3)	66.0	(3.0)	28.2	(3.3)	33.0	(2.7)	18.4	(1.9)	58.4	(2.8)	17.5	(2.7)
	Belgium	33.9	(3.1)	30.3	(2.8)	37.4	(3.1)	19.5	(2.5)	43.5	(3.1)	25.5	(2.9)	32.8	(2.9)	16.9	(2.4)	80.1	(2.7)	50.7	(3.4)	31.2	(3.5)	16.2	(2.8)
	Canada*	18.8	(2.2)	13.2	(2.0)	32.4	(2.6)	15.1	(2.3)	19.4	(1.7)	7.1	(1.2)	27.9	(2.2)	11.3	(1.4)	43.6	(2.2)	23.8	(1.8)	36.8	(2.6)	18.5	(1.6)
	Chile	17.2	(3.1)	19.2	(3.4)	17.2	(2.9)	14.3	(2.7)	12.6	(2.6)	18.1	(2.8)	21.5	(3.4)	16.3	(2.7)	43.7	(3.5)	22.7	(3.2)	33.3	(3.3)	19.3	(3.0)
	Colombia	41.4	(3.3)	26.7	(3.1)	69.7	(2.9)	31.4	(3.3)	30.6	(2.9)	16.8	(2.6)	58.8	(3.2)	26.7	(2.9)	49.4	(3.6)	24.3	(2.9)	55.9	(3.3)	25.0	(3.2)
	Costa Rica	46.8	(4.0)	45.0	(3.7)	58.8	(3.4)	50.2	(3.7)	39.9	(3.4)	35.7	(3.3)	47.5	(3.7)	41.5	(3.5)	51.3	(4.2)	45.0	(4.1)	52.1	(4.2)	39.9	(4.2)
	Czech Republic	13.2	(1.8)	17.4	(2.3)	27.0	(3.1)	9.4	(2.0)	35.2	(2.8)	19.8	(2.7)	33.4	(2.8)	15.0	(2.2)	44.2	(2.7)	29.9	(2.2)	30.4	(2.9)	11.9	(1.7)
	Denmark*	6.0	(1.6)	4.9	(1.4)	21.3	(3.1)	8.3	(1.9)	5.3	(1.3)	2.5	(1.0)	13.2	(2.2)	6.0	(1.7)	10.1	(1.9)	5.8	(1.6)	15.3	(2.2)	8.4	(1.6)
	Estonia	34.6	(2.9)	27.3	(2.6)	37.7	(2.5)	16.1	(2.0)	43.6	(2.1)	33.2	(2.0)	37.3	(2.0)	19.7	(1.6)	72.9	(2.4)	51.3	(2.8)	37.1	(2.6)	17.5	(2.3)
	Finland	2.8	(1.2)	3.8	(1.6)	46.1	(3.7)	24.7	(3.7)	7.3	(2.1)	6.2	(1.9)	38.0	(3.4)	22.0	(2.8)	23.1	(2.8)	12.8	(2.2)	39.7	(3.5)	24.6	(3.1)
	France	34.7	(2.7)	20.4	(2.9)	34.3	(3.0)	17.6	(2.5)	17.1	(2.6)	11.3	(2.4)	31.7	(3.4)	13.0	(2.1)	67.0	(3.7)	30.4	(3.4)	44.5	(3.4)	22.6	(2.9)
	Germany	55.1	(3.8)	23.5	(3.2)	53.4	(3.6)	17.7	(2.5) †	56.9	(3.6)	15.6	(2.5)	48.8	(3.4)	18.2	(3.1)	73.2	(2.8)	25.3	(3.2)	58.8	(3.2)	21.1	(2.7)
	Greece	44.3	(3.0)	21.0	(2.9)	72.8	(3.1)	32.8	(3.5)	26.3	(3.1)	12.8	(2.3)	64.4	(3.4)	27.0	(3.3)	54.3	(3.0)	26.5	(2.9)	70.0	(2.9)	32.4	(2.9)
	Hungary	33.8	(3.0)	18.6	(2.7)	54.9	(4.0)	6.9	(1.6)	33.7	(3.4)	9.9	(2.5)	44.3	(3.6)	9.6	(2.3)	40.7	(3.7)	16.1	(2.8)	41.8	(3.4)	10.3	(2.4)
	Iceland	13.3	(0.2)	14.8	(0.2)	27.8	(0.3)	10.9	(0.1)	9.9	(0.2)	3.7	(0.1)	17.7	(0.2)	12.2	(0.2)	11.4	(0.2)	8.5	(0.1)	26.1	(0.2)	7.0	(0.1)
	Ireland*	55.5	(4.1)	13.3	(3.1)	40.6	(4.0)	23.9	(3.7)	44.8	(4.0)	11.1	(2.6)	26.0	(3.5)	15.6	(3.2)	67.8	(3.6)	31.0	(3.8)	40.0	(4.0)	22.2	(3.1)
	Israel	41.1	(4.1)	40.6	(4.2)	33.2	(3.7)	26.6	(3.8)	37.6	(3.5)	33.8	(3.8)	35.9	(3.7)	27.8	(3.5)	45.6	(3.9)	44.0	(3.6)	36.4	(3.5)	32.8	(3.7)
	Italy	31.5	(4.0) †	40.9	(3.5) †	45.4	(3.7) †	32.1	(3.8) †	22.7	(2.8)	26.3	(2.8)	48.8	(3.4)	32.1	(3.0)	48.9	(3.5)	38.2	(3.7)	33.6	(3.5)	32.5	(3.6)
	Japan	55.1	(3.3)	43.7	(3.6)	36.0	(3.4)	18.1	(2.8)	52.8	(3.7)	40.0	(3.4)	31.7	(3.4)	19.5	(2.4)	63.7	(3.6)	42.9	(3.4)	42.6	(3.6)	17.0	(2.9)
	Korea	38.8	(3.8)	11.4	(2.4)	72.6	(3.5)	13.2	(2.6)	32.6	(3.4)	17.0	(2.9)	55.9	(3.8)	11.6	(2.4)	50.9	(5.0)	15.7	(2.6)	55.6	(4.8)	11.5	(2.5)
	Latvia*	21.5	(2.2)	15.0	(2.1)	27.5	(2.5)	14.3	(2.1)	28.2	(1.6)	10.5	(1.1)	17.3	(1.9)	9.8	(1.4)	67.7	(2.8)	29.6	(2.8)	35.5	(3.0)	21.1	(2.5)
	Lithuania	11.3	(1.8)	15.5	(2.1)	21.2	(2.5)	12.3	(2.1)	7.2	(0.5)	3.6	(0.9)	6.7	(0.9)	4.6	(0.8)	26.8	(1.6)	3.7	(1.1)	14.5	(1.7)	5.3	(1.1)
	Mexico	29.1	(2.9)	14.4	(2.2)	46.7	(3.3)	19.7	(2.3)	25.3	(2.3)	9.0	(1.9)	35.2	(2.9)	14.8	(2.2)	30.8	(2.8)	18.3	(2.4)	43.5	(3.6)	18.2	(2.6)
	Netherlands*	27.1	(4.0) †	35.6	(4.5) †	10.0	(2.9) †	14.9	(3.5) †	35.7	(4.1)	23.6	(3.6)	9.9	(2.7)	8.5	(2.5)	71.8	(4.4)	45.5	(5.2)	23.0	(4.7)	10.6	(3.4)
	New Zealand*	20.9	(3.1)	15.8	(3.0)	19.2	(3.5)	7.9	(2.3)	37.2	(3.1)	16.4	(2.2)	19.4	(2.7)	8.3	(1.8)	44.5	(3.7) †	23.7	(3.6) †	22.4	(4.0) †	11.5	(2.8) †
	Norway	21.5	(3.0)	17.5	(2.4)	12.4	(2.4)	19.5	(2.7)	11.3	(1.7)	5.0	(1.4)	7.9	(2.1)	10.2	(1.9)	34.6	(3.0)	11.5	(1.9)	26.8	(3.1)	15.1	(2.4)
	Poland	0.2	(0.2)	0.6	(0.6)	17.0	(2.9)	12.4	(2.4)	2.6	(1.1)	1.2	(0.7)	8.7	(1.9)	5.7	(1.7)	47.5	(3.3)	23.4	(2.3)	11.8	(2.1)	8.5	(1.9)
	Portugal	39.7	(3.4)	30.9	(3.4)	73.6	(2.6)	68.0	(3.0)	31.8	(3.1)	23.0	(3.1)	67.7	(2.9)	57.4	(3.7)	62.1	(3.3)	26.9	(3.3)	53.4	(3.0)	46.6	(3.3)
	Slovak Republic	9.9	(1.9)	6.3	(1.3)	24.9	(2.9)	8.6	(1.8)	11.4	(1.9)	4.9	(1.1)	29.1	(2.4)	10.7	(1.5)	41.0	(3.1)	16.3	(2.8)	37.1	(2.9)	13.4	(2.3)
	Slovenia	18.9	(0.5)	10.4	(0.6)	16.4	(0.6)	7.8	(0.4)	22.8	(0.6)	11.2	(0.2)	25.5	(0.5)	7.9	(0.1)	42.2	(0.8)	22.9	(0.6)	17.2	(0.5)	10.4	(0.5)
	Spain	55.5	(2.8)	28.2	(3.2)	60.0	(3.0)	12.0	(2.0)	42.7	(2.4)	22.2	(1.8)	59.4	(2.3)	15.2	(1.4)	40.5	(2.0)	21.3	(1.9)	55.2	(2.4)	15.4	(1.7)
	Sweden	39.1	(3.8)	38.1	(3.7)	42.6	(3.6)	35.4	(3.8)	30.1	(3.2)	32.0	(3.0)	29.2	(3.4)	38.6	(3.8)	35.5	(3.3)	36.8	(3.3)	38.4	(3.3)	35.2	(3.4)
	Switzerland	23.8	(2.9)	15.3	(2.9)	16.8	(2.7)	4.8	(1.7)	11.0	(2.5)	5.1	(1.5)	11.5	(2.1)	3.8	(1.5)	33.9	(3.8)	16.6	(3.1)	15.7	(2.5)	7.8	(2.1) †
	Türkiye	29.3	(3.4)	26.4	(3.4)	53.2	(4.0)	50.9	(3.6)	14.7	(2.1)	20.4	(3.2)	35.6	(3.6)	26.6	(3.5)	16.4	(2.9)	17.0	(2.9)	40.7	(3.9)	36.0	(3.7)
	United Kingdom*	42.8	(4.0) †	20.1	(3.4) †	19.0	(2.6) †	12.0	(2.5) †	28.1	(3.1)	8.6	(1.9)	21.5	(2.6)	7.8	(1.7)	53.5	(3.6)	18.9	(3.0)	41.8	(3.5)	19.4	(3.0)
	United States*	23.7	(3.1)	14.2	(3.0)	24.1	(3.4)	11.7	(2.2)	25.8	(3.6)	13.2	(2.1)	26.8	(3.7)	13.9	(2.6)	41.8	(4.7)	18.4	(3.0)	33.9	(3.6)	19.3	(3.3)
	OECD average	29.0	(0.5)	20.9	(0.5)	37.4	(0.5)	20.0	(0.4)	26.1	(0.4)	15.7	(0.4)	32.6	(0.5)	17.3	(0.4)	46.7	(0.5)	25.4	(0.5)	37.2	(0.5)	19.3	(0.4)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.5.4. Shortage of education staff in 2015, 2018 and 2022 [2/4]

		Percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered to some extent or a lot by the following factors:																							
		PISA 2015								PISA 2018								PISA 2022							
		A lack of teaching staff		Inadequate or poorly qualified teaching staff		A lack of assisting staff		Inadequate or poorly qualified assisting staff		A lack of teaching staff		Inadequate or poorly qualified teaching staff		A lack of assisting staff		Inadequate or poorly qualified assisting staff		A lack of teaching staff		Inadequate or poorly qualified teaching staff		A lack of assisting staff		Inadequate or poorly qualified assisting staff	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	13.7	(2.7)	16.8	(2.8)	38.2	(3.8)	30.8	(3.5)	3.9	(1.2)	4.4	(1.0)	13.6	(1.6)	11.0	(1.4)	14.9	(1.8)	6.7	(1.7)	18.7	(2.0)	11.4	(1.9)
	Argentina	44.6	(3.1)	23.9	(3.0)	44.4	(4.3)	21.7	(3.2)	25.9	(2.7)	17.9	(2.6)	35.6	(2.8)	19.6	(2.3)	45.5	(2.7)	24.0	(2.5)	40.2	(2.9)	18.5	(2.4)
	Baku (Azerbaijan)	m	m	m	m	m	m	m	m	42.8	(4.5) †	27.9	(4.0) †	28.5	(3.9) †	17.0	(2.9) †	59.4	(3.9) †	41.0	(4.2) †	40.7	(4.4) †	23.3	(3.6) †
	Brazil	26.0	(2.3)	19.9	(2.6)	37.3	(2.4)	25.6	(2.5)	17.6	(1.8)	11.3	(1.6)	34.1	(2.2)	15.2	(1.8)	22.3	(2.1)	11.7	(1.7)	37.1	(2.3)	19.8	(2.0)
	Brunei Darussalam	m	m	m	m	m	m	m	m	15.0	(0.1)	6.5	(0.0)	27.5	(0.1)	19.9	(0.1)	45.0	(0.1)	20.0	(0.1)	33.8	(0.1)	20.7	(0.1)
	Bulgaria	6.8	(1.6)	7.2	(1.8)	2.7	(0.9)	3.3	(1.4)	8.0	(1.6)	5.9	(1.8)	4.3	(1.6)	3.0	(1.3)	17.9	(3.2)	9.3	(2.4)	5.6	(1.9)	4.6	(2.0)
	Cambodia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	59.4	(4.2)	27.2	(3.8)	46.2	(4.3)	18.8	(3.5)
	Croatia	20.5	(3.1)	20.5	(3.5)	43.0	(4.0)	18.9	(3.3)	18.3	(2.6)	15.5	(2.4)	45.1	(3.7)	18.1	(2.8)	45.7	(3.6)	20.2	(3.0)	42.4	(3.5)	13.7	(2.4)
	Cyprus	19.2	(0.1)	31.9	(0.1)	30.1	(0.1)	20.6	(0.1)	7.3	(0.1)	15.7	(0.1)	25.7	(0.1)	11.5	(0.2)	32.0	(0.5)	20.3	(0.3)	35.6	(0.7)	18.3	(0.5)
	Dominican Republic	29.6	(3.0)	21.5	(3.3)	29.5	(4.5)	14.8	(2.8)	27.6	(3.2)	19.1	(2.7)	31.7	(3.2)	11.8	(2.5)	55.1	(4.4) †	19.5	(3.1) †	48.8	(3.6) †	16.7	(2.7) †
	El Salvador	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	29.3	(2.9)	21.8	(2.6)	40.5	(3.4)	19.4	(2.8)
	Georgia	6.0	(1.4)	20.7	(3.0)	27.7	(2.9)	17.6	(2.4)	4.6	(1.2)	19.9	(2.9)	29.4	(3.1)	17.4	(2.3)	6.8	(1.7)	12.4	(2.5)	22.0	(2.7)	17.0	(2.5)
	Guatemala	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	36.9	(2.5)	11.7	(2.3)	37.7	(3.3)	13.7	(2.0)
	Hong Kong (China)*	22.3	(3.5)	11.5	(2.7)	24.9	(3.4)	7.4	(2.4)	23.7	(4.1)	10.6	(2.9)	40.1	(4.8)	19.7	(3.7)	44.7	(5.5) †	35.1	(5.4) †	30.5	(4.6) †	19.5	(3.7) †
	Indonesia	32.2	(3.1)	22.0	(2.9)	30.8	(2.9)	20.9	(2.8)	42.4	(4.7)	24.9	(4.0)	41.7	(4.4)	31.6	(4.1)	17.8	(2.7)	12.7	(2.4)	27.2	(3.2)	21.9	(2.9)
	Jamaica*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	34.8	(3.6) †	9.6	(2.6) †	49.5	(4.1) †	23.4	(3.3) †
	Jordan	56.3	(3.8)	57.1	(4.1)	48.5	(3.8)	43.4	(3.8)	40.9	(3.3)	40.3	(2.9)	50.4	(3.4)	42.5	(3.3)	57.5	(3.5)	50.3	(3.7)	48.8	(3.1)	45.0	(3.3)
	Kazakhstan	32.8	(3.8)	27.7	(3.5)	26.3	(3.2)	19.9	(3.1)	29.3	(2.4)	19.3	(2.3)	14.0	(1.6)	13.4	(2.1)	36.2	(2.2)	25.7	(2.4)	16.7	(1.5)	13.7	(1.9)
	Kosovo	19.9	(1.0)	15.0	(1.0)	33.2	(1.3)	20.0	(1.1)	19.1	(1.1)	10.3	(1.3)	29.1	(1.6)	16.6	(1.1)	27.1	(1.2)	12.9	(1.0)	46.9	(1.5)	22.7	(1.3)
	Macao (China)	33.8	(0.1)	45.7	(0.1)	26.3	(0.1)	22.5	(0.1)	12.0	(0.0)	23.9	(0.0)	11.7	(0.0)	20.1	(0.0)	21.0	(0.0)	27.3	(0.0)	28.9	(0.0)	29.6	(0.1)
	Malaysia	10.1	(2.1)	17.1	(3.2)	18.0	(3.1)	13.3	(2.7)	7.5	(2.0)	12.6	(2.5)	12.7	(2.5)	9.7	(2.3)	24.2	(3.1)	21.9	(3.3)	20.1	(3.0)	15.4	(2.6)
	Malta	12.1	(0.1)	10.6	(0.1)	48.5	(0.1)	24.1	(0.1)	16.4	(0.1)	15.3	(0.1)	24.2	(0.1)	15.6	(0.1)	41.4	(0.2)	19.1	(0.3)	28.5	(0.3)	20.0	(0.2)
	Moldova	25.7	(3.3)	25.1	(2.9)	12.6	(2.3)	15.3	(2.8)	28.7	(3.5)	12.9	(2.3)	22.9	(3.3)	18.4	(2.7)	37.8	(3.3)	14.0	(2.2)	14.9	(2.3)	16.0	(2.9)
	Mongolia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	38.3	(3.5)	37.8	(3.6)	25.5	(2.8)	20.8	(2.8)
	Montenegro	1.1	(0.3)	0.4	(0.3)	2.5	(0.4)	5.7	(0.2)	1.7	(0.2)	2.9	(0.3)	7.5	(0.3)	2.9	(0.0)	26.9	(0.4)	9.7	(0.3)	22.2	(0.4)	2.7	(0.3)
	Morocco	m	m	m	m	m	m	m	m	36.9	(3.8)	31.6	(3.8)	74.1	(2.8)	49.2	(4.0)	56.0	(3.9)	44.3	(4.3)	83.0	(2.9)	59.4	(4.0)
	North Macedonia	4.1	(0.1)	6.1	(0.1)	23.2	(0.2)	15.4	(0.1)	3.6	(0.1)	1.9	(0.0)	31.0	(0.1)	7.8	(0.0)	14.6	(0.1)	3.6	(0.0)	24.8	(0.1)	10.0	(0.1)
	Palestinian Authority	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	66.9	(3.1)	61.9	(3.3)	58.3	(3.0)	52.6	(3.3)
	Panama*	m	m	m	m	m	m	m	m	14.8	(2.1)	11.8	(1.8)	53.7	(2.6)	30.6	(2.4)	26.5	(4.2) †	11.9	(3.4) †	41.0	(4.6) †	22.0	(3.9) †
	Paraguay	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	22.7	(2.5)	10.5	(2.5)	56.7	(3.2)	13.3	(2.3)
	Peru	25.0	(2.6)	24.6	(2.8)	41.8	(3.1)	31.3	(3.2)	16.5	(2.2)	20.6	(2.3)	41.7	(2.6)	34.9	(2.7)	17.7	(2.3)	22.8	(2.6)	44.3	(2.7)	28.8	(2.7)
	Philippines	m	m	m	m	m	m	m	m	19.5	(2.6)	8.1	(2.2)	24.1	(3.2)	14.9	(2.8)	42.7	(3.5)	19.1	(3.4)	31.9	(3.6)	22.3	(3.1)
	Qatar	17.2	(0.1)	8.4	(0.0)	11.2	(0.1)	9.5	(0.1)	11.4	(0.0)	5.5	(0.0)	11.7	(0.0)	7.9	(0.0)	16.3	(0.1)	10.3	(0.1)	16.6	(0.1)	10.5	(0.1)
	Romania	5.4	(1.5)	3.0	(1.0)	29.8	(3.6)	30.0	(3.7)	8.8	(2.3)	4.2	(1.6)	20.2	(3.2)	18.0	(2.9)	12.7	(2.6)	9.8	(2.2)	29.9	(3.4)	8.6	(1.9)
	Saudi Arabia	m	m	m	m	m	m	m	m	49.5	(3.4)	39.6	(3.5)	47.6	(3.7)	40.9	(3.2)	55.3	(3.6)	38.9	(3.3)	53.7	(3.8)	39.2	(3.4)
	Serbia	m	m	m	m	m	m	m	m	2.3	(1.2)	3.6	(1.3)	20.8	(3.0)	2.4	(1.2)	18.4	(2.7)	10.1	(1.8)	16.9	(2.7)	3.6	(1.1)
	Singapore	10.7	(0.1)	12.5	(0.1)	12.7	(0.7)	7.8	(0.7)	5.3	(0.2)	6.3	(0.2)	7.2	(0.2)	4.3	(0.2)	26.1	(0.9)	7.8	(0.5)	9.4	(0.6)	3.3	(0.0)
	Chinese Taipei	39.4	(3.2)	18.7	(2.5)	32.6	(3.4)	11.5	(2.5)	19.6	(2.6)	15.9	(2.9)	12.9	(2.4)	7.7	(1.9)	29.4	(3.3)	19.9	(3.3)	16.4	(3.3)	7.7	(2.1)
	Thailand	53.0	(4.1)	29.4	(3.4)	47.9	(4.1)	25.5	(3.5)	37.7	(3.8)	17.4	(2.2)	33.6	(3.2)	19.8	(3.0)	43.2	(3.9)	15.9	(2.7)	29.0	(3.0)	11.9	(2.1)
	Ukrainian regions (18 of 27)	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	30.1	(4.8)	22.0	(3.8)	18.7	(3.5)	13.4	(3.1)
	United Arab Emirates	38.3	(2.5)	32.9	(2.4)	36.6	(2.1)	27.9	(2.0)	27.7	(1.4)	29.9	(1.4)	30.2	(1.2)	23.2	(1.3)	27.0	(0.7)	21.0	(0.3)	25.4	(0.3)	18.7	(0.3)
	Uruguay	44.9	(3.1)	29.9	(2.4)	55.1	(2.8)	39.4	(2.8)	28.6	(3.4)	26.7	(3.2)	53.2	(3.4)	41.1	(3.1)	40.3	(2.6)	28.4	(2.6)	59.4	(2.8)	51.8	(2.9)
	Uzbekistan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	24.3	(3.1)	27.7	(3.2)	14.4	(2.5)	11.2	(2.3)
	Viet Nam	28.6	(4.1)	21.1	(3.2)	34.8	(3.8)	27.6	(3.7)	23.8	(4.1)	15.0	(3.2)	30.9	(4.8)	21.9	(3.9)	42.4	(4.1)	29.2	(3.6)	36.7	(3.9)	23.0	(3.6)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.5.4. Shortage of education staff in 2015, 2018 and 2022 [3/4]

	Percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered to some extent or a lot by the following factors:															
	Change between 2015 and 2022 (PISA 2022 - PISA 2015)								Change between 2018 and 2022 (PISA 2022 - PISA 2018)							
	A lack of teaching staff		Inadequate or poorly qualified teaching staff		A lack of assisting staff		Inadequate or poorly qualified assisting staff		A lack of teaching staff		Inadequate or poorly qualified teaching staff		A lack of assisting staff		Inadequate or poorly qualified assisting staff	
	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.
OECD Australia*	**40.7**	(2.3)	**9.2**	(2.4)	**8.7**	(2.4)	0.5	(1.9)	**44.3**	(2.2)	**12.4**	(2.3)	**14.4**	(2.3)	**5.6**	(1.6)
Austria	**13.8**	(3.9)	4.5	(3.2)	-2.2	(4.6)	**-10.2**	(4.4)	**21.0**	(3.3)	**9.1**	(3.0)	-7.6	(4.1)	**-10.8**	(4.3)
Belgium	**46.2**	(4.0)	**20.5**	(4.4)	-6.2	(4.7)	-3.3	(3.7)	**36.5**	(4.0)	**25.2**	(4.5)	-1.7	(4.5)	-0.7	(3.7)
Canada*	**24.8**	(3.1)	**10.5**	(2.7)	4.4	(3.7)	3.4	(2.8)	**24.2**	(2.8)	**16.7**	(2.2)	**8.9**	(3.4)	**7.1**	(2.1)
Chile	**26.4**	(4.7)	3.5	(4.6)	**16.1**	(4.4)	5.0	(4.1)	**31.0**	(4.4)	4.7	(4.2)	**11.9**	(4.7)	3.0	(4.0)
Colombia	8.0	(4.9)	-2.5	(4.3)	**-13.8**	(4.4)	-6.5	(4.6)	**18.8**	(4.6)	7.5	(3.9)	-2.9	(4.6)	-1.7	(4.3)
Costa Rica	4.5	(5.8)	-0.1	(5.5)	-6.8	(5.4)	-10.3	(5.6)	**11.4**	(5.4)	9.3	(5.3)	4.6	(5.6)	-1.6	(5.5)
Czech Republic	**31.0**	(3.3)	**12.5**	(3.2)	3.4	(4.2)	2.5	(2.6)	**9.0**	(3.9)	**10.1**	(3.5)	-3.0	(4.0)	-3.1	(2.8)
Denmark*	4.1	(2.5)	0.8	(2.1)	-6.1	(3.8)	0.1	(2.5)	**4.8**	(2.3)	3.3	(1.8)	2.1	(3.1)	2.4	(2.3)
Estonia	**38.3**	(3.8)	**24.0**	(3.8)	-0.6	(3.6)	1.4	(3.0)	**29.2**	(3.2)	**18.1**	(3.4)	-0.2	(3.3)	-2.2	(2.8)
Finland	**20.3**	(3.1)	**9.0**	(2.7)	-6.5	(5.1)	-0.2	(4.9)	**15.8**	(3.5)	**6.7**	(2.9)	1.7	(4.9)	2.6	(4.2)
France	**32.3**	(4.6)	**10.0**	(4.4)	**10.3**	(4.5)	4.9	(3.8)	**49.9**	(4.5)	**19.1**	(4.1)	**12.8**	(4.8)	**9.5**	(3.6)
Germany	**18.1**	(4.7)	1.8	(4.6)	5.4	(4.8)	3.4	(3.6) †	**16.3**	(4.6)	**9.8**	(4.1)	**10.1**	(4.7)	2.9	(4.1)
Greece	**10.0**	(4.3)	5.4	(4.1)	-2.8	(4.2)	-0.4	(4.6)	**28.1**	(4.3)	**13.6**	(3.7)	5.6	(4.5)	5.4	(4.4)
Hungary	6.8	(4.8)	-2.4	(3.9)	**-13.0**	(5.2)	3.4	(2.9)	7.0	(5.0)	6.2	(3.8)	-2.5	(4.9)	0.8	(3.3)
Iceland	**-1.8**	(0.3)	**-6.3**	(0.2)	**-1.7**	(0.3)	**-3.9**	(0.2)	**1.5**	(0.3)	**4.8**	(0.2)	**8.4**	(0.3)	**-5.2**	(0.2)
Ireland*	**12.3**	(5.5)	**17.7**	(4.9)	-0.6	(5.6)	-1.7	(4.8)	**23.0**	(5.4)	**19.8**	(4.6)	**14.0**	(5.4)	6.6	(4.5)
Israel	4.5	(5.6)	3.3	(5.5)	3.2	(5.1)	6.2	(5.3)	8.0	(5.2)	10.1	(5.2)	0.5	(5.1)	5.0	(5.1)
Italy	**17.4**	(5.4) †	-2.7	(5.1) †	**-11.8**	(5.2) †	0.4	(5.2) †	**26.3**	(4.5)	**11.9**	(4.6)	**-15.2**	(4.9)	0.4	(4.7)
Japan	8.6	(4.9)	-0.8	(5.0)	6.6	(5.0)	-1.1	(4.0)	**10.9**	(5.1)	3.0	(4.8)	**10.9**	(5.0)	-2.5	(3.8)
Korea	12.1	(6.3)	4.3	(3.6)	**-17.0**	(5.9)	-1.7	(3.7)	**18.3**	(6.0)	-1.3	(3.9)	-0.4	(6.1)	-0.2	(3.5)
Latvia*	**46.2**	(3.6)	**14.6**	(3.5)	**8.1**	(3.9)	**6.8**	(3.2)	**39.5**	(3.3)	**19.1**	(3.0)	**18.3**	(3.6)	**11.3**	(2.8)
Lithuania	**15.4**	(2.4)	**-11.9**	(2.4)	**-6.6**	(3.0)	**-6.9**	(2.4)	**19.5**	(1.7)	0.1	(1.4)	**7.9**	(1.9)	0.7	(1.4)
Mexico	1.7	(4.1)	3.9	(3.3)	-3.2	(4.8)	-1.4	(3.5)	5.6	(3.6)	**9.3**	(3.1)	8.3	(4.6)	3.4	(3.4)
Netherlands*	**44.7**	(5.9) †	10.0	(6.9) †	**13.0**	(5.5) †	-4.3	(4.9) †	**36.1**	(6.0)	**22.0**	(6.4)	**13.1**	(5.5)	2.1	(4.2)
New Zealand*	**23.6**	(4.8) †	7.8	(4.7) †	3.3	(5.3) †	3.6	(3.7) †	7.3	(4.8) †	7.3	(4.3) †	3.1	(4.9) †	3.2	(3.4) †
Norway	**13.1**	(4.2)	-6.0	(3.1)	**14.3**	(3.9)	-4.4	(3.6)	**23.2**	(3.5)	**6.6**	(2.3)	**18.8**	(3.7)	4.9	(3.0)
Poland	**47.3**	(3.3)	**22.8**	(2.4)	-5.2	(3.6)	-3.9	(3.0)	**44.8**	(3.5)	**22.2**	(2.4)	3.1	(2.8)	2.9	(2.5)
Portugal	**22.4**	(4.8)	-4.0	(4.8)	**-20.2**	(4.0)	**-21.4**	(4.5)	**30.3**	(4.6)	4.0	(4.5)	**-14.3**	(4.1)	**-10.8**	(5.0)
Slovak Republic	**31.1**	(3.6)	**10.0**	(3.1)	**12.3**	(4.1)	4.7	(2.9)	**29.6**	(3.6)	**11.4**	(3.0)	**8.1**	(3.8)	2.7	(2.7)
Slovenia	**23.3**	(0.9)	**12.4**	(0.8)	0.9	(0.8)	**2.6**	(0.6)	**19.4**	(1.0)	**11.6**	(0.6)	**-8.2**	(0.7)	**2.5**	(0.5)
Spain	**-14.9**	(3.4)	-6.9	(3.8)	-4.8	(3.9)	3.3	(2.6)	-2.2	(3.1)	-1.0	(2.6)	-4.2	(3.3)	0.1	(2.2)
Sweden	-3.6	(5.0)	-1.4	(4.9)	-4.3	(4.9)	-0.3	(5.1)	5.4	(4.6)	4.8	(4.5)	9.2	(4.7)	-3.5	(5.1)
Switzerland	**10.1**	(4.8)	1.3	(4.2)	-1.1	(3.7)	3.0	(2.7) †	**22.9**	(4.5)	**11.6**	(3.4)	4.2	(3.3)	4.0	(2.6) †
Türkiye	**-12.9**	(4.5)	**-9.4**	(4.4)	**-12.5**	(5.6)	**-14.9**	(5.2)	1.7	(3.6)	-3.5	(4.3)	5.1	(5.3)	9.3	(5.0)
United Kingdom*	**10.7**	(5.3) †	-1.2	(4.6) †	**22.8**	(4.4) †	7.4	(3.9) †	**25.4**	(4.8)	**10.3**	(3.5)	**20.3**	(4.4)	**11.6**	(3.4)
United States*	**18.1**	(5.6)	4.2	(4.2)	**9.8**	(5.0)	7.6	(4.0)	**16.0**	(5.9)	5.2	(3.7)	7.1	(5.2)	5.4	(4.2)
OECD average	**17.7**	(0.7)	**4.6**	(0.7)	-0.1	(0.7)	-0.7	(0.6)	**20.5**	(0.7)	**9.8**	(0.6)	**4.7**	(0.7)	**2.0**	(0.6)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.5.4. Shortage of education staff in 2015, 2018 and 2022 [4/4]

	Percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered to some extent or a lot by the following factors:															
	Change between 2015 and 2022 (PISA 2022 - PISA 2015)								Change between 2018 and 2022 (PISA 2022 - PISA 2018)							
	A lack of teaching staff		Inadequate or poorly qualified teaching staff		A lack of assisting staff		Inadequate or poorly qualified assisting staff		A lack of teaching staff		Inadequate or poorly qualified teaching staff		A lack of assisting staff		Inadequate or poorly qualified assisting staff	
Partners	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.	% dif.	S.E.
Albania	1.2	(3.3)	**-10.1**	(3.3)	**-19.5**	(4.3)	**-19.4**	(4.0)	**11.0**	(2.2)	2.2	(2.0)	5.1	(2.6)	0.4	(2.3)
Argentina	0.9	(4.1)	0.0	(3.9)	-4.2	(5.2)	-3.2	(4.0)	**19.6**	(3.8)	6.1	(3.6)	4.6	(4.0)	-1.0	(3.3)
Baku (Azerbaijan)	m	m	m	m	m	m	m	m	**16.5**	(6.0) †	**13.1**	(5.7) †	**12.2**	(5.9) †	6.3	(4.6) †
Brazil	-3.7	(3.1)	**-8.2**	(3.1)	-0.2	(3.4)	-5.8	(3.2)	4.7	(2.8)	0.5	(2.3)	3.0	(3.2)	4.6	(2.7)
Brunei Darussalam	m	m	m	m	m	m	m	m	**30.0**	(0.1)	**13.5**	(0.1)	**6.4**	(0.1)	**0.8**	(0.1)
Bulgaria	**11.1**	(3.5)	2.0	(3.1)	3.0	(2.1)	1.4	(2.4)	**9.8**	(3.5)	3.4	(3.0)	1.3	(2.4)	1.7	(2.4)
Cambodia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	**25.2**	(4.8)	-0.4	(4.6)	-0.7	(5.3)	-5.2	(4.0)	**27.4**	(4.5)	4.6	(3.8)	-2.7	(5.1)	-4.5	(3.7)
Cyprus	**12.8**	(0.5)	**-11.6**	(0.3)	**5.5**	(0.7)	**-2.3**	(0.6)	**24.7**	(0.5)	**4.7**	(0.3)	**9.9**	(0.7)	**6.7**	(0.6)
Dominican Republic	**25.5**	(5.3) †	-1.9	(4.6) †	**19.3**	(5.7) †	2.0	(3.9) †	**27.6**	(5.4) †	0.5	(4.2) †	**17.1**	(4.8) †	4.9	(3.6) †
El Salvador	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Georgia	0.7	(2.2)	**-8.3**	(3.9)	-5.8	(4.0)	-0.6	(3.4)	2.2	(2.1)	-7.5	(3.9)	-7.4	(4.1)	-0.4	(3.4)
Guatemala	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Hong Kong (China)*	**22.4**	(6.5) †	**23.7**	(6.0) †	5.6	(5.7) †	**12.1**	(4.4) †	**21.0**	(6.8) †	**24.6**	(6.1) †	-9.6	(6.6) †	-0.2	(5.2) †
Indonesia	**-14.3**	(4.1)	**-9.2**	(3.8)	-3.6	(4.3)	1.0	(4.0)	**-24.6**	(5.4)	**-12.1**	(4.7)	**-14.5**	(5.4)	-9.6	(5.0)
Jamaica*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Jordan	1.2	(5.1)	-6.7	(5.5)	0.3	(4.9)	1.6	(5.1)	**16.6**	(4.8)	**10.0**	(4.7)	-1.6	(4.6)	2.5	(4.7)
Kazakhstan	3.4	(4.4)	-2.0	(4.2)	**-9.6**	(3.5)	-6.2	(3.6)	**6.8**	(3.3)	6.4	(3.3)	2.7	(2.2)	0.3	(2.8)
Kosovo	**7.2**	(1.6)	-2.1	(1.4)	**13.7**	(2.0)	2.7	(1.7)	**8.0**	(1.7)	2.6	(1.7)	**17.7**	(2.2)	**6.1**	(1.7)
Macao (China)	**-12.9**	(0.1)	**-18.5**	(0.1)	**2.6**	(0.1)	**7.1**	(0.1)	**8.9**	(0.1)	**3.4**	(0.1)	**17.2**	(0.1)	**9.5**	(0.1)
Malaysia	**14.1**	(3.8)	4.8	(4.6)	2.0	(4.3)	2.1	(3.7)	**16.7**	(3.7)	**9.3**	(4.2)	7.4	(3.9)	5.6	(3.5)
Malta	**29.3**	(0.2)	**8.6**	(0.3)	**-20.0**	(0.3)	**-4.1**	(0.3)	**25.0**	(0.2)	**3.8**	(0.3)	**4.3**	(0.3)	**4.3**	(0.3)
Moldova	**12.1**	(4.7)	**-11.2**	(3.6)	2.3	(3.3)	0.7	(4.1)	9.1	(4.8)	1.1	(3.2)	**-8.0**	(4.0)	-2.3	(3.9)
Mongolia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Montenegro	**25.8**	(0.5)	**9.3**	(0.4)	**19.7**	(0.6)	**-3.0**	(0.4)	**25.2**	(0.4)	**6.8**	(0.4)	**14.7**	(0.5)	-0.3	(0.3)
Morocco	m	m	m	m	m	m	m	m	**19.1**	(5.4)	**12.8**	(5.7)	**8.9**	(4.0)	10.2	(5.6)
North Macedonia	**10.5**	(0.1)	**-2.5**	(0.1)	**1.6**	(0.2)	**-5.4**	(0.1)	**11.0**	(0.1)	**1.6**	(0.0)	**-6.2**	(0.1)	**2.2**	(0.1)
Palestinian Authority	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Panama*	m	m	m	m	m	m	m	m	**11.7**	(4.7) †	0.1	(3.9) †	**-12.8**	(5.3) †	-8.6	(4.5) †
Paraguay	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Peru	**-7.3**	(3.5)	-1.8	(3.8)	2.5	(4.2)	-2.4	(4.2)	1.3	(3.2)	2.2	(3.5)	2.7	(3.8)	-6.1	(3.8)
Philippines	m	m	m	m	m	m	m	m	**23.2**	(4.4)	**10.9**	(4.0)	7.8	(4.8)	7.4	(4.2)
Qatar	**-0.9**	(0.1)	**1.9**	(0.1)	**5.3**	(0.1)	**1.0**	(0.1)	**5.0**	(0.1)	**4.8**	(0.1)	**4.9**	(0.1)	**2.6**	(0.1)
Romania	**7.2**	(3.0)	**6.8**	(2.5)	0.1	(5.0)	**-21.4**	(4.2)	3.8	(3.4)	**5.6**	(2.8)	**9.7**	(4.7)	**-9.4**	(3.5)
Saudi Arabia	m	m	m	m	m	m	m	m	5.7	(5.0)	-0.7	(4.8)	6.0	(5.3)	-1.7	(4.6)
Serbia	m	m	m	m	m	m	m	m	**16.1**	(2.9)	**6.5**	(2.3)	-3.9	(4.1)	1.3	(1.6)
Singapore	**15.4**	(0.9)	**-4.7**	(0.5)	**-3.3**	(0.9)	**-4.5**	(0.7)	**20.8**	(0.9)	**1.5**	(0.5)	**2.2**	(0.7)	**-1.0**	(0.2)
Chinese Taipei	**-10.0**	(4.6)	1.2	(4.1)	**-16.2**	(4.8)	-3.8	(3.3)	**9.8**	(4.2)	4.0	(4.4)	3.4	(4.1)	0.0	(2.9)
Thailand	-9.7	(5.7)	**-13.6**	(4.4)	**-18.9**	(5.1)	**-13.6**	(4.0)	5.6	(5.4)	-1.5	(3.4)	-4.6	(4.4)	**-7.9**	(3.7)
Ukrainian regions (18 of 27)	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
United Arab Emirates	**-11.3**	(2.6)	**-11.8**	(2.4)	**-11.2**	(2.1)	**-9.2**	(2.1)	-0.7	(1.5)	**-8.9**	(1.4)	**-4.8**	(1.3)	**-4.5**	(1.3)
Uruguay	-4.7	(4.0)	-1.5	(3.6)	4.3	(4.0)	**12.4**	(4.0)	**11.6**	(4.2)	1.7	(4.1)	6.2	(4.4)	**10.7**	(4.3)
Uzbekistan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Viet Nam	**13.7**	(5.8)	8.2	(4.8)	1.9	(5.4)	-4.6	(5.1)	**18.6**	(5.8)	**14.2**	(4.8)	5.8	(6.2)	1.1	(5.3)

Notes: Values that are statistically significant are indicated in bold (see Annex A3).
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.5.46. Student behaviour when using digital devices [1/6]

In hours; results based on students' reports

	Percentage of students who feel or act the following way:																							
	Turn off notifications from social networks and apps on my digital devices during class												Turn off notifications from social networks and apps on my digital devices when I go to sleep											
	Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable		Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																								
Australia*	18.9	(0.4)	8.1	(0.3)	9.4	(0.3)	8.6	(0.3)	48.5	(0.6)	6.6	(0.4)	23.5	(0.5)	8.4	(0.3)	8.6	(0.3)	8.3	(0.3)	47.2	(0.7)	4.0	(0.2)
Austria	28.7	(0.7)	9.3	(0.4)	6.6	(0.4)	7.5	(0.4)	39.4	(0.9)	8.5	(0.4)	30.6	(0.8)	6.8	(0.3)	5.2	(0.4)	6.6	(0.3)	41.4	(0.8)	9.5	(0.4)
Belgium	31.5	(0.7)	7.5	(0.4)	6.0	(0.3)	6.6	(0.3)	45.9	(0.8)	2.5	(0.2)	32.5	(0.8)	6.8	(0.3)	5.5	(0.3)	6.4	(0.3)	45.5	(0.8)	3.2	(0.2)
Canada*	23.4	(0.5) †	10.0	(0.3) †	10.7	(0.4) †	9.6	(0.3) †	42.2	(0.6) †	4.1	(0.2) †	27.0	(0.5) †	8.3	(0.3) †	8.0	(0.4) †	7.8	(0.3) †	45.5	(0.5) †	34	(0.2) †
Chile	28.4	(0.9) †	11.1	(0.6) †	10.5	(0.4) †	10.2	(0.4) †	36.0	(0.9) †	3.8	(0.4) †	31.1	(0.8) †	8.4	(0.4) †	7.5	(0.4) †	9.4	(0.5) †	39.5	(0.8) †	4.1	(0.3) †
Colombia	25.8	(0.8) †	9.4	(0.4) †	5.9	(0.3) †	7.5	(0.4) †	40.2	(0.9) †	11.3	(0.7) †	30.1	(0.7) †	8.6	(0.4) †	5.9	(0.3) †	7.1	(0.4) †	40.0	(0.8) †	83	(0.5) †
Costa Rica	31.9	(1.0) †	11.3	(0.6) †	10.1	(0.5) †	8.9	(0.4) †	33.8	(1.0) †	4.0	(0.4) †	36.6	(0.8) †	7.2	(0.4) †	8.3	(0.6) †	6.2	(0.4) †	37.8	(1.0) †	4.0	(0.3) †
Czech Republic	23.0	(0.7)	8.1	(0.3)	7.3	(0.4)	6.6	(0.3)	49.5	(0.8)	5.5	(0.4)	32.1	(0.6)	7.2	(0.3)	6.9	(0.3)	6.2	(0.3)	43.5	(0.7)	4.2	(0.3)
Denmark*	22.9	(0.6)	7.6	(0.5)	6.1	(0.4)	8.9	(0.5)	48.6	(1.0)	5.9	(0.4)	23.8	(0.7)	6.6	(0.4)	5.2	(0.4)	7.4	(0.5)	53.2	(0.9)	3.9	(0.3)
Estonia	40.6	(0.8)	10.0	(0.4)	7.6	(0.4)	7.2	(0.4)	32.1	(0.7)	2.5	(0.4)	35.9	(0.7)	9.4	(0.4)	7.0	(0.4)	7.9	(0.4)	37.9	(0.8)	2.0	(0.3)
Finland	34.3	(0.7)	9.7	(0.4)	9.1	(0.4)	8.0	(0.3)	35.4	(0.7)	3.5	(0.2)	29.3	(0.8)	8.4	(0.4)	7.5	(0.4)	7.3	(0.4)	44.2	(0.8)	3.2	(0.2)
France	27.3	(0.7)	7.4	(0.4)	6.9	(0.4)	7.5	(0.4)	47.8	(0.8)	3.0	(0.2)	31.2	(0.8)	5.7	(0.3)	4.6	(0.3)	6.4	(0.4)	48.7	(0.7)	3.4	(0.2)
Germany	25.7	(0.6) †	6.6	(0.4) †	4.1	(0.3) †	6.2	(0.4) †	52.6	(0.9) †	4.7	(0.4) †	35.7	(0.9) †	5.7	(0.4) †	4.1	(0.3) †	5.7	(0.4) †	42.5	(0.8) †	6.2	(0.4) †
Greece	25.9	(0.8)	10.7	(0.4)	9.3	(0.4)	8.3	(0.5)	40.6	(1.0)	5.2	(0.4)	27.9	(0.8)	8.9	(0.5)	6.8	(0.3)	7.5	(0.4)	43.4	(0.9)	5.5	(0.3)
Hungary	31.2	(0.7)	10.0	(0.5)	6.3	(0.4)	8.3	(0.5)	42.2	(0.8)	2.0	(0.2)	40.1	(0.8)	9.2	(0.4)	4.5	(0.3)	6.9	(0.4)	37.8	(0.9)	1.4	(0.2)
Iceland	28.8	(0.9) †	10.8	(0.6) †	8.3	(0.5) †	9.2	(0.6) †	38.2	(1.1) †	4.6	(0.5) †	26.0	(0.8)	8.3	(0.6)	6.7	(0.5)	8.2	(0.5)	47.0	(0.9)	3.8	(0.4)
Ireland*	14.7	(0.7)	6.0	(0.4)	6.9	(0.4)	7.3	(0.5)	62.5	(1.1)	2.6	(0.4)	24.3	(0.8)	8.2	(0.4)	7.9	(0.4)	9.1	(0.4)	49.1	(0.9)	1.4	(0.2)
Israel	28.1	(0.9) †	11.6	(0.5) †	8.6	(0.5) †	7.2	(0.5) †	38.1	(1.2) †	6.5	(0.4) †	28.4	(0.9) †	9.2	(0.5) †	7.4	(0.4) †	6.6	(0.4) †	41.7	(0.9) †	6.8	(0.5) †
Italy	26.9	(0.8)	9.0	(0.4)	6.2	(0.4)	7.3	(0.4)	49.4	(1.0)	1.3	(0.2)	32.1	(0.7)	7.7	(0.4)	5.2	(0.4)	6.8	(0.3)	46.6	(0.7)	1.6	(0.2)
Japan	13.0	(0.6)	1.5	(0.2)	1.4	(0.2)	1.7	(0.2)	74.0	(0.9)	8.3	(0.6)	43.6	(0.9)	3.1	(0.3)	3.6	(0.3)	3.6	(0.3)	40.1	(0.9)	6.0	(0.3)
Korea	8.8	(0.6)	3.6	(0.3)	6.2	(0.5)	5.7	(0.4)	66.4	(0.7)	9.4	(1.0)	24.6	(0.6)	6.7	(0.4)	9.5	(0.7)	7.7	(0.5)	46.8	(0.7)	4.7	(0.4)
Latvia*	25.3	(0.8)	13.0	(0.5)	9.7	(0.5)	8.9	(0.4)	40.8	(0.9)	2.3	(0.2)	31.0	(0.7)	10.7	(0.5)	7.4	(0.5)	7.2	(0.5)	41.3	(0.8)	2.4	(0.2)
Lithuania	29.9	(0.6)	12.7	(0.5)	9.0	(0.4)	9.8	(0.4)	34.7	(0.7)	3.9	(0.3)	32.7	(0.7)	9.9	(0.4)	7.1	(0.4)	8.3	(0.4)	38.3	(0.7)	3.7	(0.3)
Mexico	23.4	(0.7)	10.9	(0.6)	8.9	(0.4)	8.4	(0.4)	43.0	(1.1)	5.4	(0.7)	33.3	(0.8)	9.3	(0.5)	7.1	(0.4)	7.0	(0.4)	38.7	(0.8)	4.7	(0.3)
Netherlands*	28.3	(1.1)	8.4	(0.5)	7.3	(0.3)	7.2	(0.4)	45.5	(1.2)	3.3	(0.3)	28.8	(0.9)	6.4	(0.5)	4.3	(0.3)	6.1	(0.5)	50.4	(1.0)	4.0	(0.3)
New Zealand*	24.5	(0.7)	10.9	(0.5)	11.4	(0.6)	9.1	(0.6)	39.6	(0.9)	4.6	(0.4)	26.4	(0.8)	8.4	(0.5)	7.8	(0.5)	7.4	(0.5)	46.3	(0.8)	3.8	(0.3)
Norway	22.9	(0.8) †	5.8	(0.3) †	5.9	(0.3) †	6.6	(0.4) †	49.3	(1.0) †	9.5	(0.6) †	27.5	(0.6)	6.6	(0.3)	5.9	(0.4)	7.0	(0.3)	45.7	(0.7)	7.4	(0.4)
Poland	32.3	(0.8)	11.2	(0.4)	6.4	(0.4)	7.1	(0.4)	38.1	(0.9)	4.8	(0.4)	35.2	(0.7)	7.7	(0.5)	5.4	(0.3)	5.9	(0.4)	40.9	(0.8)	4.9	(0.4)
Portugal	21.4	(0.7)	6.4	(0.4)	5.2	(0.3)	7.4	(0.4)	55.7	(0.8)	3.9	(0.3)	30.8	(0.7)	5.4	(0.3)	3.7	(0.3)	5.4	(0.3)	49.8	(0.7)	4.9	(0.3)
Slovak Republic	31.9	(1.0)	11.9	(0.5)	7.5	(0.4)	6.8	(0.4)	38.0	(1.0)	3.9	(0.3)	35.5	(0.7)	8.0	(0.5)	4.4	(0.3)	4.0	(0.3)	43.8	(0.8)	4.2	(0.3)
Slovenia	24.8	(0.7)	10.5	(0.5)	8.9	(0.5)	8.8	(0.5)	41.0	(0.7)	6.0	(0.4)	26.6	(0.7)	8.0	(0.4)	6.6	(0.5)	8.5	(0.5)	45.9	(0.8)	4.3	(0.4)
Spain	21.4	(0.5)	5.1	(0.2)	4.2	(0.2)	4.4	(0.2)	58.3	(0.6)	6.7	(0.3)	32.1	(0.5)	6.1	(0.3)	5.3	(0.2)	6.0	(0.2)	47.6	(0.5)	2.9	(0.2)
Sweden	21.6	(0.8)	8.2	(0.4)	7.5	(0.4)	8.6	(0.5)	47.6	(0.9)	6.4	(0.6)	30.0	(0.7)	8.7	(0.4)	7.7	(0.3)	8.7	(0.4)	41.6	(0.7)	3.2	(0.3)
Switzerland	24.0	(0.8)	6.4	(0.3)	5.4	(0.4)	7.8	(0.5)	51.7	(1.1)	4.7	(0.3)	28.7	(0.7)	6.0	(0.3)	5.0	(0.3)	7.1	(0.4)	48.2	(0.9)	5.1	(0.4)
Türkiye	15.4	(0.6)	8.3	(0.4)	10.0	(0.4)	18.8	(0.5)	39.6	(0.8)	7.9	(0.4)	19.4	(0.6)	11.4	(0.4)	12.9	(0.5)	20.1	(0.5)	32.1	(0.6)	4.0	(0.3)
United Kingdom*	21.8	(0.8) †	8.4	(0.4) †	7.5	(0.4) †	7.3	(0.5) †	50.6	(1.2) †	4.3	(0.6) †	30.6	(0.8) †	9.0	(0.5) †	9.0	(0.4) †	8.7	(0.4) †	39.9	(0.7) †	2.8	(0.4) †
United States*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
OECD average	25.2	(0.1)	8.8	(0.1)	7.5	(0.1)	7.9	(0.1)	45.5	(0.2)	5.1	(0.1)	30.4	(0.1)	7.8	(0.1)	6.5	(0.1)	7.4	(0.1)	43.6	(0.1)	4.3	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.5.46. Student behaviour when using digital devices [2/6]

In hours; results based on students' reports

		Percentage of students who feel or act the following way:																							
		Turn off notifications from social networks and apps on my digital devices during class												Turn off notifications from social networks and apps on my digital devices when I go to sleep											
		Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable		Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	30.4	(0.9) †	10.7	(0.6) †	8.2	(0.5) †	5.9	(0.4) †	32.1	(0.9) †	12.7	(0.7) †	29.7	(0.9) †	15.2	(0.5) †	12.5	(0.6) †	8.6	(0.5) †	26.6	(0.8) †	7.4	(0.5) †
	Argentina	37.6	(0.9) †	14.0	(0.6) †	9.1	(0.4) †	5.8	(0.4) †	29.6	(0.9) †	3.9	(0.3) †	45.2	(0.8) †	11.0	(0.4) †	6.9	(0.4) †	5.7	(0.3) †	28.2	(0.7) †	3.2	(0.3) †
	Baku (Azerbaijan)	25.9	(0.8) †	10.9	(0.5) †	7.1	(0.5) †	6.9	(0.4) †	38.7	(0.9) †	10.4	(0.6) †	32.4	(0.8) †	10.6	(0.5) †	7.3	(0.4) †	6.7	(0.4) †	35.9	(0.9) †	7.1	(0.4) †
	Brazil	30.4	(0.7) †	9.6	(0.4) †	6.8	(0.3) †	6.0	(0.3) †	40.3	(0.8) †	7.0	(0.3) †	40.4	(0.6) †	9.1	(0.4) †	5.5	(0.3) †	5.3	(0.3) †	33.9	(0.6) †	5.8	(0.3) †
	Brunei Darussalam	19.9	(0.6)	7.4	(0.3)	7.5	(0.4)	5.4	(0.4)	29.6	(0.7)	30.2	(0.7)	29.7	(0.6)	11.7	(0.4)	9.8	(0.4)	7.5	(0.4)	37.2	(0.7)	4.2	(0.3)
	Bulgaria	32.4	(0.8) †	15.1	(0.7) †	8.9	(0.5) †	9.7	(0.5) †	31.0	(0.9) †	2.9	(0.3) †	34.8	(0.8) †	14.0	(0.7) †	7.6	(0.4) †	8.6	(0.5) †	31.8	(0.8) †	3.4	(0.3) †
	Cambodia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Croatia	24.1	(0.7)	10.2	(0.5)	9.2	(0.4)	8.3	(0.4)	45.8	(0.9)	2.4	(0.2)	35.0	(0.8)	9.6	(0.5)	9.0	(0.4)	7.9	(0.5)	36.0	(0.8)	2.4	(0.3)
	Cyprus	35.0	(0.6) †	10.7	(0.5) †	7.8	(0.4) †	7.4	(0.4) †	32.7	(0.7) †	6.3	(0.4) †	33.2	(0.8) †	12.9	(0.5) †	7.5	(0.4) †	8.5	(0.4) †	32.4	(0.6) †	5.5	(0.4) †
	Dominican Republic	28.8	(0.8) †	10.5	(0.5) †	5.8	(0.4) †	4.9	(0.3) †	35.6	(1.0) †	14.5	(0.9) †	33.3	(0.8) †	10.6	(0.5) †	6.0	(0.4) †	6.1	(0.3) †	36.6	(0.8) †	7.3	(0.4) †
	El Salvador	25.0	(0.8) †	10.2	(0.5) †	6.0	(0.4) †	4.8	(0.4) †	38.0	(1.2) †	16.1	(1.1) †	31.4	(0.8) †	10.8	(0.6) †	5.9	(0.4) †	5.4	(0.3) †	39.1	(1.0) †	7.4	(0.4) †
	Georgia	29.0	(0.8) †	14.7	(0.6) †	8.1	(0.5) †	9.2	(0.4) †	32.8	(1.2) †	6.1	(0.4) †	32.8	(0.7) †	13.6	(0.5) †	7.1	(0.4) †	9.1	(0.5) †	31.6	(0.9) †	5.9	(0.4) †
	Guatemala	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Hong Kong (China)*	17.6	(0.7)	6.2	(0.4)	6.3	(0.4)	7.9	(0.6)	49.9	(1.2)	12.1	(0.8)	35.8	(0.7)	7.4	(0.3)	6.9	(0.4)	7.7	(0.4)	35.6	(0.8)	6.6	(0.4)
	Indonesia	26.6	(1.1)	13.3	(0.7)	10.5	(0.5)	5.2	(0.3)	38.7	(1.2)	5.8	(0.5)	31.0	(0.8)	9.9	(0.5)	7.1	(0.4)	3.7	(0.3)	41.6	(1.0)	6.8	(0.5)
	Jamaica*	17.9	(0.9) †	7.7	(0.7) †	8.5	(0.5) †	6.6	(0.6) †	49.7	(1.5) †	9.5	(0.8) †	34.4	(0.9) †	11.2	(0.7) †	10.6	(0.8) †	7.5	(0.6) †	30.9	(0.8) †	5.4	(0.5) †
	Jordan	38.5	(0.7) †	7.3	(0.4) †	5.6	(0.4) †	5.1	(0.3) †	20.0	(0.8) †	23.4	(0.8) †	30.8	(0.6) †	13.4	(0.7) †	10.5	(0.4) †	7.5	(0.3) †	25.2	(0.8) †	12.5	(0.5) †
	Kazakhstan	25.6	(0.5)	13.8	(0.4)	9.1	(0.3)	7.8	(0.3)	25.6	(0.5)	17.9	(0.5)	27.1	(0.4)	12.7	(0.3)	9.4	(0.3)	8.9	(0.3)	28.3	(0.5)	13.5	(0.3)
	Kosovo	35.7	(0.8) †	12.4	(0.6) †	10.9	(0.5) †	7.0	(0.4) †	26.7	(0.7) †	7.4	(0.4) †	33.2	(0.8) †	15.8	(0.6) †	13.1	(0.6) †	8.4	(0.5) †	23.9	(0.7) †	5.6	(0.4) †
	Macao (China)	15.6	(0.6)	5.2	(0.4)	4.6	(0.4)	6.6	(0.5)	54.0	(0.9)	14.0	(0.6)	32.5	(0.9)	8.4	(0.5)	7.3	(0.4)	8.9	(0.5)	39.1	(0.9)	3.8	(0.3)
	Malaysia	29.3	(0.8)	8.0	(0.3)	6.0	(0.3)	4.6	(0.3)	20.1	(1.0)	31.9	(0.8)	28.8	(0.7)	15.2	(0.6)	10.3	(0.4)	8.5	(0.4)	29.0	(0.8)	8.2	(0.4)
	Malta	17.8	(0.8) †	4.1	(0.4) †	5.2	(0.5) †	2.6	(0.3) †	27.6	(0.8) †	42.7	(0.8) †	36.4	(1.0) †	9.0	(0.6) †	7.4	(0.5) †	5.8	(0.5) †	36.3	(1.1) †	5.2	(0.5) †
	Moldova	20.6	(0.7)	13.4	(0.5)	9.9	(0.4)	7.8	(0.4)	43.0	(0.8)	5.3	(0.3)	27.7	(0.7)	13.6	(0.5)	8.6	(0.4)	8.1	(0.4)	36.4	(0.8)	5.6	(0.4)
	Mongolia	23.7	(0.6)	13.2	(0.6)	11.3	(0.5)	12.2	(0.4)	31.0	(0.8)	8.6	(0.4)	23.2	(0.6)	11.2	(0.5)	9.4	(0.4)	9.9	(0.4)	38.6	(0.8)	7.7	(0.3)
	Montenegro	26.6	(0.6) †	11.3	(0.5) †	9.3	(0.5) †	9.4	(0.5) †	39.3	(0.8) †	4.0	(0.3) †	32.3	(0.8) †	10.8	(0.6) †	8.8	(0.5) †	7.8	(0.4) †	36.1	(1.0) †	4.2	(0.3) †
	Morocco	32.8	(0.9) †	9.4	(0.6) †	5.4	(0.4) †	5.3	(0.3) †	37.2	(1.3) †	9.9	(0.5) †	30.5	(0.7) †	12.1	(0.7) †	8.6	(0.4) †	7.1	(0.4) †	34.2	(1.1) †	7.5	(0.4) †
	North Macedonia	28.5	(0.6) †	12.8	(0.6) †	8.9	(0.4) †	9.1	(0.4) †	37.1	(0.7) †	3.5	(0.2) †	32.2	(0.7) †	13.7	(0.4) †	9.4	(0.5) †	8.8	(0.4) †	32.0	(0.8) †	3.8	(0.3) †
	Palestinian Authority	39.2	(0.7) †	8.6	(0.5) †	5.3	(0.3) †	3.5	(0.2) †	19.1	(0.8) †	24.3	(0.9) †	30.4	(0.8) †	13.3	(0.5) †	9.4	(0.5) †	7.2	(0.4) †	26.6	(0.8) †	13.1	(0.5) †
	Panama*	19.1	(0.9) †	8.4	(0.6) †	5.1	(0.5) †	5.5	(0.5) †	50.7	(1.3) †	11.3	(1.0) †	28.7	(1.0) †	9.0	(0.6) †	5.4	(0.4) †	6.1	(0.5) †	43.6	(1.1) †	7.1	(0.5) †
	Paraguay	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Peru	17.8	(0.7)	6.2	(0.3)	4.2	(0.3)	5.2	(0.3)	43.3	(1.1)	23.2	(1.1)	24.0	(0.7)	8.9	(0.5)	6.3	(0.4)	7.5	(0.3)	43.3	(0.9)	10.0	(0.5)
	Philippines	21.2	(0.7)	15.8	(0.6)	12.0	(0.5)	7.6	(0.3)	37.9	(0.9)	5.5	(0.3)	22.0	(0.6)	16.4	(0.6)	13.1	(0.5)	9.5	(0.4)	34.5	(0.7)	4.5	(0.3)
	Qatar	30.5	(0.8) †	7.4	(0.5) †	6.0	(0.4) †	5.1	(0.4) †	25.7	(0.8) †	25.3	(0.8) †	29.2	(0.8) †	12.0	(0.5) †	9.0	(0.5) †	7.8	(0.4) †	31.8	(0.7) †	10.3	(0.4) †
	Romania	20.9	(0.6)	10.8	(0.5)	7.3	(0.3)	7.9	(0.4)	46.5	(0.9)	6.7	(0.3)	28.1	(0.7)	9.7	(0.5)	7.6	(0.4)	6.5	(0.3)	38.9	(0.7)	9.2	(0.4)
	Saudi Arabia	38.0	(0.7)	10.0	(0.4)	10.5	(0.4)	7.8	(0.4)	22.3	(0.7)	11.4	(0.5)	36.6	(0.7)	9.4	(0.4)	8.6	(0.4)	7.8	(0.4)	31.1	(0.6)	6.6	(0.3)
	Serbia	21.3	(0.6)	8.8	(0.4)	6.5	(0.3)	8.3	(0.4)	52.2	(1.0)	2.8	(0.3)	32.5	(0.8)	9.8	(0.5)	6.6	(0.4)	7.4	(0.3)	40.6	(0.9)	3.1	(0.3)
	Singapore	19.2	(0.5)	6.7	(0.3)	8.0	(0.4)	8.1	(0.3)	53.3	(0.6)	4.6	(0.3)	28.2	(0.6)	7.1	(0.3)	7.3	(0.4)	6.8	(0.3)	47.7	(0.7)	2.9	(0.2)
	Chinese Taipei	18.8	(0.8)	5.9	(0.5)	6.2	(0.4)	7.2	(0.4)	47.7	(1.2)	14.2	(0.8)	31.3	(0.8)	6.6	(0.4)	5.9	(0.4)	7.3	(0.5)	40.8	(0.9)	8.1	(0.4)
	Thailand	24.2	(0.7)	17.8	(0.6)	12.0	(0.5)	9.1	(0.4)	28.6	(0.9)	8.3	(0.6)	28.0	(0.8)	17.1	(0.6)	11.4	(0.5)	8.2	(0.4)	27.0	(0.8)	8.3	(0.5)
	Ukrainian regions (18 of 27)	27.8	(1.4) †	12.7	(0.9) †	10.0	(0.7) †	8.9	(0.5) †	36.5	(1.3) †	4.1	(0.4) †	31.7	(0.9) †	12.1	(0.9) †	6.9	(0.6) †	7.1	(0.5) †	38.4	(1.4) †	3.7	(0.4) †
	United Arab Emirates	20.2	(0.5) †	7.3	(0.3) †	7.8	(0.2) †	6.9	(0.3) †	41.2	(0.5) †	16.7	(0.3) †	24.4	(0.4) †	11.7	(0.4) †	10.2	(0.3) †	8.6	(0.3) †	37.8	(0.5) †	7.4	(0.2) †
	Uruguay	28.6	(0.7) †	9.9	(0.5) †	6.8	(0.4) †	6.0	(0.3) †	45.2	(0.8) †	3.5	(0.3) †	36.3	(0.8) †	7.4	(0.4) †	5.4	(0.3) †	6.1	(0.4) †	40.9	(0.8) †	3.8	(0.3) †
	Uzbekistan	33.9	(0.8)	8.6	(0.4)	3.4	(0.3)	3.6	(0.3)	18.1	(0.7)	32.4	(0.8)	35.2	(0.7)	10.3	(0.4)	4.8	(0.3)	4.5	(0.3)	15.0	(0.6)	30.1	(0.9)
	Viet Nam	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.5.46. Student behaviour when using digital devices [3/6]

In hours; results based on students' reports

		Percentage of students who feel or act the following way:																							
		Keep my digital devices near me to answer messages when I am home												Have my digital devices open in class so I can take notes or search for information											
		Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable		Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	5.1	(0.2)	6.6	(0.3)	12.9	(0.4)	20.1	(0.5)	53.1	(0.5)	2.2	(0.1)	23.6	(0.6)	14.9	(0.4)	17.9	(0.5)	18.6	(0.5)	22.0	(0.6)	3.0	(0.2)
	Austria	6.3	(0.4)	6.5	(0.4)	11.7	(0.5)	19.0	(0.6)	49.7	(0.8)	6.8	(0.4)	25.6	(0.7)	13.9	(0.5)	11.1	(0.5)	13.0	(0.5)	25.1	(0.7)	11.3	(0.5)
	Belgium	8.5	(0.4)	8.0	(0.3)	11.8	(0.4)	18.2	(0.5)	51.7	(0.8)	1.8	(0.2)	50.3	(0.9)	17.3	(0.5)	7.5	(0.4)	6.3	(0.4)	13.5	(0.6)	5.2	(0.3)
	Canada*	6.9	(0.3) †	5.9	(0.3) †	13.5	(0.4) †	19.0	(0.5) †	52.5	(0.6) †	2.2	(0.2) †	28.1	(0.6) †	22.5	(0.5) †	17.1	(0.4) †	13.6	(0.4) †	15.9	(0.5) †	2.8	(0.2) †
	Chile	7.7	(0.4) †	6.8	(0.4) †	11.8	(0.5) †	17.4	(0.6) †	54.9	(1.0) †	1.4	(0.2) †	22.7	(0.8) †	17.7	(0.7) †	17.1	(0.6) †	13.2	(0.5) †	25.4	(0.8) †	3.9	(0.3) †
	Colombia	14.8	(0.6) †	12.4	(0.5) †	12.1	(0.5) †	14.4	(0.6) †	39.7	(0.9) †	6.7	(0.5) †	35.9	(0.8) †	16.4	(0.6) †	11.0	(0.5) †	9.7	(0.5) †	15.1	(0.5) †	11.8	(0.7) †
	Costa Rica	10.4	(0.6) †	9.9	(0.5) †	13.7	(0.6) †	13.7	(0.5) †	49.9	(0.8) †	2.4	(0.3) †	22.0	(0.8) †	19.3	(0.8) †	17.8	(0.6) †	13.1	(0.7) †	23.9	(0.7) †	3.9	(0.3) †
	Czech Republic	5.1	(0.4)	6.9	(0.3)	10.7	(0.3)	17.2	(0.5)	57.8	(0.7)	2.3	(0.2)	36.1	(0.8)	18.8	(0.5)	11.4	(0.4)	8.4	(0.4)	17.4	(0.5)	8.0	(0.4)
	Denmark*	5.0	(0.4)	4.0	(0.3)	8.4	(0.5)	19.3	(0.7)	60.1	(0.9)	3.2	(0.3)	19.2	(0.8)	13.8	(0.6)	15.7	(0.6)	22.5	(0.8)	24.4	(0.9)	4.4	(0.4)
	Estonia	6.8	(0.4)	9.4	(0.4)	14.7	(0.5)	21.8	(0.6)	45.6	(0.8)	1.6	(0.2)	41.8	(0.9)	29.2	(0.6)	12.2	(0.6)	6.8	(0.4)	7.6	(0.5)	2.5	(0.3)
	Finland	6.3	(0.3)	6.8	(0.4)	13.0	(0.4)	19.4	(0.5)	52.2	(0.7)	2.3	(0.2)	38.8	(0.9)	29.1	(0.7)	13.2	(0.5)	6.6	(0.4)	6.3	(0.3)	6.0	(0.3)
	France	8.2	(0.4)	6.4	(0.3)	12.2	(0.5)	17.3	(0.5)	54.1	(0.7)	1.8	(0.2)	53.7	(1.0)	14.7	(0.5)	7.6	(0.4)	6.9	(0.4)	14.3	(0.6)	2.9	(0.3)
	Germany	5.0	(0.3) †	6.9	(0.3) †	10.7	(0.5) †	21.9	(0.8) †	53.4	(0.9) †	2.0	(0.2) †	35.4	(0.8) †	12.2	(0.6) †	8.5	(0.5) †	8.3	(0.5) †	23.6	(0.8) †	12.0	(0.6) †
	Greece	8.3	(0.4)	10.6	(0.4)	15.0	(0.5)	17.7	(0.6)	44.1	(0.8)	4.3	(0.3)	55.0	(0.9)	10.1	(0.5)	6.3	(0.4)	4.2	(0.3)	6.9	(0.4)	17.4	(0.5)
	Hungary	5.4	(0.3)	10.2	(0.5)	12.1	(0.5)	18.8	(0.6)	52.3	(0.8)	1.3	(0.2)	40.0	(1.1)	26.2	(0.7)	11.7	(0.5)	8.2	(0.5)	12.2	(0.5)	1.6	(0.2)
	Iceland	10.7	(0.6)	7.6	(0.6)	12.0	(0.7)	17.7	(0.7)	48.7	(1.0)	3.3	(0.4)	26.9	(0.8)	23.2	(0.8)	17.5	(0.8)	14.0	(0.7)	13.4	(0.7)	5.0	(0.4)
	Ireland*	4.3	(0.3)	4.1	(0.3)	12.3	(0.4)	19.3	(0.7)	59.2	(0.8)	0.9	(0.1)	49.3	(1.8)	20.2	(0.9)	10.0	(0.7)	7.1	(0.7)	10.2	(0.8)	3.1	(0.3)
	Israel	6.6	(0.4) †	9.8	(0.5) †	12.5	(0.5) †	18.2	(0.7) †	49.5	(0.9) †	3.4	(0.3) †	37.8	(0.9) †	19.6	(0.7) †	12.5	(0.5) †	8.7	(0.5) †	12.6	(0.7) †	8.8	(0.6) †
	Italy	6.0	(0.4)	6.8	(0.4)	13.0	(0.5)	20.1	(0.5)	53.2	(0.8)	0.9	(0.1)	41.8	(1.1)	20.5	(0.7)	13.0	(0.5)	10.1	(0.5)	11.6	(0.6)	3.0	(0.3)
	Japan	14.5	(0.6)	7.7	(0.5)	13.0	(0.5)	13.4	(0.6)	48.8	(1.0)	2.6	(0.3)	46.5	(1.2)	12.4	(0.7)	9.5	(0.6)	6.7	(0.4)	14.4	(0.8)	10.6	(0.7)
	Korea	10.6	(0.6)	9.6	(0.7)	17.6	(0.7)	22.1	(0.9)	37.6	(1.2)	2.6	(0.3)	42.8	(1.1)	15.0	(0.8)	12.7	(0.8)	9.0	(0.5)	10.9	(0.8)	9.7	(1.0)
	Latvia*	5.3	(0.4)	8.3	(0.4)	14.1	(0.6)	19.2	(0.6)	51.3	(0.8)	1.8	(0.2)	29.3	(0.9)	27.5	(0.8)	14.8	(0.5)	10.1	(0.5)	15.5	(0.6)	2.9	(0.2)
	Lithuania	9.2	(0.4)	9.5	(0.4)	12.8	(0.4)	19.3	(0.6)	46.5	(0.7)	2.6	(0.2)	34.5	(0.8)	20.0	(0.5)	13.1	(0.5)	12.7	(0.4)	15.0	(0.6)	4.8	(0.3)
	Mexico	12.3	(0.5)	11.3	(0.5)	12.9	(0.5)	16.3	(0.7)	44.7	(0.8)	2.5	(0.3)	29.1	(0.9)	19.9	(0.7)	13.1	(0.6)	11.0	(0.5)	20.3	(0.7)	6.5	(0.6)
	Netherlands*	8.7	(0.6)	6.1	(0.4)	8.8	(0.5)	17.9	(0.7)	56.4	(1.0)	2.2	(0.3)	33.8	(1.4)	21.4	(0.9)	14.8	(0.7)	11.8	(0.6)	14.1	(0.9)	4.1	(0.5)
	New Zealand*	7.3	(0.4)	6.6	(0.4)	13.5	(0.6)	18.9	(0.7)	51.4	(0.9)	2.3	(0.2)	20.0	(1.0)	18.7	(0.8)	21.7	(0.7)	16.9	(0.8)	20.3	(0.9)	2.4	(0.3)
	Norway	8.9	(0.4) †	4.1	(0.3) †	7.7	(0.5) †	13.1	(0.5) †	60.6	(0.8) †	5.5	(0.3) †	30.8	(0.8) †	15.0	(0.6) †	15.2	(0.6) †	13.4	(0.6) †	17.3	(0.7) †	8.3	(0.4) †
	Poland	7.9	(0.4)	12.4	(0.5)	14.1	(0.5)	18.2	(0.6)	44.8	(0.8)	2.6	(0.2)	31.4	(0.8)	20.3	(0.6)	10.6	(0.4)	10.6	(0.5)	20.8	(0.7)	6.4	(0.4)
	Portugal	5.1	(0.3)	5.8	(0.3)	12.4	(0.4)	20.9	(0.6)	53.6	(0.7)	2.1	(0.2)	37.7	(0.9)	17.6	(0.6)	10.1	(0.5)	9.1	(0.4)	17.2	(0.8)	8.2	(0.4)
	Slovak Republic	8.8	(0.5)	7.4	(0.5)	7.9	(0.4)	9.0	(0.4)	63.0	(1.0)	3.8	(0.3)	35.3	(1.0)	17.6	(0.8)	13.2	(0.6)	9.4	(0.5)	19.5	(0.8)	5.2	(0.4)
	Slovenia	6.9	(0.4)	9.3	(0.4)	17.6	(0.7)	24.7	(0.8)	39.7	(0.8)	1.7	(0.2)	42.2	(0.9)	21.2	(0.7)	11.3	(0.5)	8.2	(0.5)	10.9	(0.5)	6.3	(0.4)
	Spain	7.6	(0.3)	9.7	(0.3)	15.5	(0.4)	19.5	(0.4)	46.3	(0.5)	1.4	(0.1)	49.9	(0.8)	12.9	(0.4)	9.1	(0.3)	7.4	(0.3)	13.8	(0.4)	6.8	(0.3)
	Sweden	7.9	(0.4)	5.3	(0.3)	9.1	(0.4)	15.8	(0.6)	59.8	(0.8)	2.1	(0.2)	27.3	(0.9)	16.7	(0.6)	16.3	(0.7)	14.5	(0.5)	19.7	(0.7)	5.4	(0.5)
	Switzerland	6.3	(0.4)	7.4	(0.4)	14.1	(0.5)	22.6	(0.6)	47.6	(0.9)	2.0	(0.2)	41.8	(1.0)	12.6	(0.6)	8.5	(0.5)	9.3	(0.5)	17.7	(0.7)	10.0	(0.6)
	Türkiye	8.1	(0.5)	9.7	(0.4)	15.8	(0.6)	33.3	(0.6)	30.1	(0.6)	3.0	(0.3)	58.0	(1.2)	10.8	(0.6)	7.3	(0.5)	5.6	(0.4)	5.0	(0.4)	13.4	(0.6)
	United Kingdom*	5.7	(0.3) †	4.4	(0.3) †	10.7	(0.6) †	16.0	(0.6) †	61.0	(0.9) †	2.3	(0.3) †	59.4	(1.1) †	16.9	(0.8) †	7.8	(0.5) †	4.3	(0.3) †	6.3	(0.6) †	5.3	(0.5) †
	United States*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	OECD average	7.7	(0.1)	7.8	(0.1)	12.5	(0.1)	18.6	(0.1)	50.7	(0.1)	2.6	(0.0)	37.0	(0.2)	18.2	(0.1)	12.5	(0.1)	10.2	(0.1)	15.6	(0.1)	6.5	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.5.46. Student behaviour when using digital devices [4/6]

In hours; results based on students' reports

	Percentage of students who feel or act the following way:																							
	Keep my digital devices near me to answer messages when I am home												Have my digital devices open in class so I can take notes or search for information											
	Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable		Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																								
Albania	15.4	(0.6) †	16.1	(0.7) †	19.3	(0.7) †	13.3	(0.6) †	30.8	(0.9) †	5.0	(0.4) †	43.7	(0.9) †	15.7	(0.7) †	12.1	(0.6) †	8.1	(0.4) †	8.9	(0.5) †	11.6	(0.6) †
Argentina	12.7	(0.5) †	9.8	(0.4) †	12.4	(0.5) †	12.2	(0.4) †	50.9	(0.8) †	2.1	(0.2) †	26.4	(0.8) †	22.5	(0.6) †	19.8	(0.6) †	10.3	(0.4) †	16.7	(0.6) †	4.3	(0.3) †
Baku (Azerbaijan)	14.4	(0.6) †	12.8	(0.5) †	12.6	(0.6) †	12.7	(0.5) †	42.1	(0.9) †	5.4	(0.4) †	37.8	(0.9) †	13.7	(0.5) †	11.0	(0.5) †	7.7	(0.4) †	18.5	(0.8) †	11.4	(0.6) †
Brazil	12.8	(0.5) †	9.8	(0.4) †	11.5	(0.4) †	12.3	(0.4) †	49.7	(0.7) †	3.9	(0.2) †	45.1	(0.7) †	19.9	(0.5) †	11.0	(0.4) †	6.6	(0.3) †	9.5	(0.4) †	7.9	(0.4) †
Brunei Darussalam	8.7	(0.4)	8.5	(0.4)	13.4	(0.5)	14.3	(0.6)	51.4	(0.8)	3.6	(0.3)	42.2	(0.7)	11.2	(0.4)	8.9	(0.4)	5.4	(0.3)	6.8	(0.4)	25.5	(0.7)
Bulgaria	10.7	(0.5) †	11.4	(0.5) †	14.5	(0.5) †	16.4	(0.6) †	41.7	(0.9) †	5.3	(0.4) †	40.0	(1.0) †	25.6	(0.8) †	13.0	(0.6) †	7.9	(0.5) †	8.3	(0.6) †	5.2	(0.4) †
Cambodia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Croatia	8.1	(0.4)	9.2	(0.4)	15.8	(0.5)	20.9	(0.6)	44.4	(0.6)	1.6	(0.2)	47.6	(0.9)	25.4	(0.6)	11.8	(0.4)	5.6	(0.4)	5.6	(0.3)	3.9	(0.3)
Cyprus	11.6	(0.5) †	8.2	(0.3) †	10.7	(0.5) †	15.7	(0.5) †	50.2	(0.7) †	3.6	(0.3) †	41.1	(0.8) †	14.3	(0.5) †	10.0	(0.5) †	8.9	(0.4) †	12.2	(0.6) †	13.5	(0.5) †
Dominican Republic	18.9	(0.6) †	15.3	(0.6) †	11.4	(0.5) †	10.8	(0.4) †	37.7	(0.8) †	5.7	(0.3) †	41.3	(1.0) †	15.1	(0.7) †	9.2	(0.5) †	6.0	(0.3) †	14.1	(0.7) †	14.3	(0.8) †
El Salvador	19.9	(0.7) †	15.8	(0.6) †	12.3	(0.5) †	11.3	(0.5) †	34.2	(0.9) †	6.5	(0.5) †	41.5	(1.0) †	14.9	(0.7) †	8.1	(0.6) †	6.2	(0.5) †	13.0	(0.7) †	16.4	(1.1) †
Georgia	10.0	(0.5) †	13.3	(0.6) †	13.1	(0.6) †	17.7	(0.6) †	42.5	(0.9) †	3.4	(0.3) †	25.9	(0.9) †	19.6	(0.6) †	13.6	(0.5) †	13.1	(0.6) †	20.1	(0.8) †	7.7	(0.5) †
Guatemala	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Hong Kong (China)*	9.6	(0.5)	8.7	(0.5)	12.4	(0.5)	20.6	(0.7)	44.6	(0.7)	4.2	(0.3)	35.9	(1.4)	14.2	(0.8)	11.8	(0.6)	9.7	(0.7)	14.2	(0.7)	14.2	(0.8)
Indonesia	24.8	(0.9)	11.8	(0.5)	10.0	(0.4)	6.3	(0.4)	40.5	(1.0)	6.7	(0.4)	34.5	(1.3)	16.3	(0.7)	15.3	(0.7)	7.9	(0.4)	18.6	(0.8)	7.5	(0.5)
Jamaica*	11.6	(0.6) †	9.3	(0.7) †	14.5	(0.8) †	14.3	(0.7) †	46.4	(1.1) †	3.9	(0.4) †	35.0	(1.1) †	21.6	(0.9) †	16.8	(0.7) †	8.0	(0.6) †	12.0	(0.8) †	6.5	(0.6) †
Jordan	20.8	(0.7) †	14.7	(0.5) †	14.8	(0.5) †	12.4	(0.5) †	27.3	(0.8) †	10.0	(0.5) †	45.5	(0.8) †	9.2	(0.4) †	8.6	(0.4) †	6.6	(0.4) †	5.8	(0.3) †	24.3	(0.8) †
Kazakhstan	10.7	(0.3)	13.5	(0.4)	15.8	(0.4)	17.2	(0.4)	36.7	(0.5)	6.1	(0.3)	24.5	(0.5)	22.6	(0.4)	16.2	(0.4)	10.5	(0.3)	13.7	(0.3)	12.6	(0.4)
Kosovo	11.3	(0.5) †	15.6	(0.7) †	19.4	(0.8) †	15.2	(0.6) †	35.4	(0.8) †	3.1	(0.3) †	43.5	(0.9) †	17.8	(0.7) †	13.3	(0.6) †	7.6	(0.5) †	8.3	(0.5) †	9.5	(0.4) †
Macao (China)	7.6	(0.4)	8.0	(0.4)	13.2	(0.5)	19.9	(0.7)	49.5	(0.9)	1.8	(0.2)	45.5	(0.7)	16.0	(0.6)	6.4	(0.4)	5.3	(0.3)	8.0	(0.4)	18.7	(0.6)
Malaysia	14.1	(0.6)	11.9	(0.5)	15.8	(0.5)	16.1	(0.5)	35.4	(0.9)	6.7	(0.4)	47.2	(0.9)	9.3	(0.4)	6.8	(0.4)	5.7	(0.4)	5.3	(0.4)	25.7	(0.7)
Malta	7.1	(0.5) †	6.3	(0.5) †	11.8	(0.6) †	15.4	(0.7) †	55.3	(1.1) †	4.1	(0.5) †	40.9	(1.0)	6.7	(0.6)	5.3	(0.5)	3.2	(0.4)	5.9	(0.5)	38.0	(0.9)
Moldova	11.3	(0.4)	16.8	(0.7)	15.8	(0.5)	15.3	(0.5)	37.1	(0.8)	3.7	(0.3)	31.2	(0.8)	27.6	(0.7)	13.4	(0.5)	9.4	(0.5)	10.6	(0.4)	7.7	(0.4)
Mongolia	14.4	(0.6)	13.1	(0.5)	14.7	(0.5)	16.6	(0.5)	34.3	(0.7)	6.8	(0.3)	29.9	(0.8)	20.2	(0.5)	15.7	(0.6)	11.1	(0.5)	15.1	(0.5)	8.0	(0.3)
Montenegro	11.9	(0.5) †	15.0	(0.6) †	16.1	(0.6) †	17.3	(0.6) †	36.4	(0.8) †	3.4	(0.3) †	52.2	(0.8) †	15.7	(0.6) †	10.2	(0.5) †	7.2	(0.4) †	9.8	(0.4) †	4.9	(0.3) †
Morocco	21.8	(0.7) †	16.8	(0.5) †	14.8	(0.5) †	11.2	(0.5) †	28.8	(1.0) †	6.6	(0.4) †	59.9	(1.0) †	8.0	(0.4) †	6.4	(0.4) †	4.5	(0.3) †	5.7	(0.3) †	15.5	(0.6) †
North Macedonia	13.2	(0.5) †	11.8	(0.5) †	13.9	(0.6) †	15.6	(0.6) †	41.7	(0.8) †	3.9	(0.3) †	42.9	(0.8) †	24.4	(0.7) †	13.5	(0.5) †	8.0	(0.5) †	7.2	(0.4) †	4.0	(0.3) †
Palestinian Authority	20.4	(0.6) †	16.0	(0.6) †	15.3	(0.5) †	10.3	(0.5) †	28.2	(0.7) †	9.7	(0.4) †	48.8	(0.9) †	7.4	(0.4) †	7.2	(0.4) †	6.2	(0.4) †	5.4	(0.5) †	25.0	(0.8) †
Panama*	13.8	(0.8) †	12.1	(0.7) †	12.9	(0.7) †	14.3	(0.7) †	41.6	(1.0) †	5.4	(0.5) †	41.6	(1.4) †	14.9	(0.7) †	8.8	(0.7) †	7.2	(0.7) †	15.2	(0.9) †	12.2	(1.1) †
Paraguay	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Peru	17.5	(0.6)	16.7	(0.6)	15.7	(0.5)	13.0	(0.5)	28.6	(0.8)	8.5	(0.5)	41.9	(0.9)	13.2	(0.6)	7.2	(0.5)	5.2	(0.4)	9.6	(0.5)	22.9	(1.0)
Philippines	15.5	(0.6)	16.8	(0.6)	17.5	(0.5)	13.9	(0.5)	32.5	(1.0)	3.8	(0.3)	31.5	(0.7)	18.8	(0.6)	16.3	(0.5)	11.9	(0.4)	15.4	(0.6)	6.1	(0.4)
Qatar	16.6	(0.7) †	12.0	(0.5) †	14.5	(0.7) †	13.7	(0.6) †	35.3	(0.7) †	7.8	(0.4) †	39.4	(0.8) †	10.9	(0.5) †	9.7	(0.4) †	7.6	(0.4) †	7.9	(0.5) †	24.5	(0.8) †
Romania	6.6	(0.3)	11.3	(0.5)	14.6	(0.4)	15.5	(0.5)	47.9	(0.9)	4.1	(0.3)	30.9	(0.7)	27.0	(0.7)	13.5	(0.5)	8.3	(0.4)	11.2	(0.6)	9.2	(0.5)
Saudi Arabia	17.9	(0.7) †	10.9	(0.4) †	11.9	(0.5) †	12.0	(0.5) †	43.0	(0.7) †	4.3	(0.3) †	53.5	(0.7)	8.7	(0.5)	5.8	(0.3)	4.8	(0.2)	6.6	(0.3)	20.6	(0.6)
Serbia	10.1	(0.5)	10.4	(0.4)	12.4	(0.5)	18.3	(0.7)	46.4	(0.8)	2.4	(0.2)	50.7	(1.1)	18.9	(0.7)	10.6	(0.5)	6.1	(0.5)	7.2	(0.4)	6.5	(0.4)
Singapore	10.1	(0.5)	8.3	(0.4)	16.0	(0.5)	19.1	(0.6)	44.9	(0.7)	1.6	(0.1)	25.5	(0.7)	20.9	(0.6)	19.4	(0.5)	12.8	(0.5)	18.1	(0.6)	3.3	(0.2)
Chinese Taipei	9.7	(0.5)	11.4	(0.5)	14.4	(0.5)	18.2	(0.7)	41.7	(1.0)	4.5	(0.3)	45.5	(1.0)	20.1	(0.8)	7.8	(0.5)	3.9	(0.3)	7.7	(0.5)	15.0	(0.7)
Thailand	16.0	(0.6)	13.3	(0.6)	13.3	(0.4)	13.7	(0.5)	37.1	(0.9)	6.6	(0.4)	17.8	(0.6)	23.3	(0.6)	22.1	(0.5)	15.0	(0.6)	13.2	(0.6)	8.6	(0.5)
Ukrainian regions (18 of 27)	9.5	(0.7) †	9.9	(0.6) †	11.8	(0.9) †	15.5	(0.9) †	51.2	(1.4) †	2.1	(0.3) †	25.9	(1.2) †	25.2	(1.2) †	14.9	(0.7) †	11.2	(0.8) †	19.2	(0.8) †	3.6	(0.5) †
United Arab Emirates	13.0	(0.3) †	11.1	(0.4) †	16.7	(0.4) †	14.7	(0.3) †	38.7	(0.5) †	5.8	(0.2) †	25.9	(0.4) †	13.4	(0.3) †	15.3	(0.3) †	12.4	(0.3) †	19.7	(0.4) †	13.4	(0.3) †
Uruguay	11.6	(0.4) †	8.7	(0.6) †	10.3	(0.4) †	14.5	(0.5) †	52.4	(0.8) †	2.5	(0.2) †	33.5	(0.8) †	22.3	(0.6) †	14.9	(0.4) †	9.8	(0.5) †	14.9	(0.6) †	4.6	(0.3) †
Uzbekistan	28.7	(0.8)	13.5	(0.6)	8.4	(0.4)	6.5	(0.4)	17.3	(0.6)	25.6	(0.7)	38.5	(0.7)	11.4	(0.5)	7.7	(0.4)	5.9	(0.3)	9.1	(0.4)	27.3	(0.8)
Viet Nam	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.5.46. Student behaviour when using digital devices [5/6]

In hours; results based on students' reports

		Percentage of students who feel or act the following way:																							
		Feel pressured to be online and answer messages when I am in class												Feel nervous/anxious when I don't have my digital devices near me											
		Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable		Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	61.4	(0.5)	19.9	(0.5)	7.1	(0.2)	3.3	(0.2)	3.9	(0.2)	4.4	(0.2)	48.4	(0.5)	23.3	(0.5)	11.0	(0.4)	6.9	(0.3)	8.0	(0.3)	2.4	(0.2)
	Austria	47.6	(0.8)	15.8	(0.6)	7.4	(0.4)	5.1	(0.4)	4.7	(0.3)	19.4	(0.6)	43.4	(0.7)	15.3	(0.5)	7.8	(0.4)	5.4	(0.3)	6.0	(0.5)	22.0	(0.7)
	Belgium	59.7	(0.7)	17.0	(0.5)	7.0	(0.3)	4.8	(0.3)	6.7	(0.4)	4.8	(0.3)	51.3	(0.7)	18.4	(0.5)	9.1	(0.4)	6.7	(0.3)	10.5	(0.5)	4.0	(0.2)
	Canada*	55.8	(0.6) †	22.0	(0.5) †	9.2	(0.3) †	5.2	(0.2) †	4.5	(0.2) †	3.3	(0.2) †	45.9	(0.7) †	22.2	(0.4) †	12.1	(0.3) †	7.6	(0.3) †	9.7	(0.3) †	2.5	(0.2) †
	Chile	59.6	(0.9) †	18.4	(0.6) †	7.1	(0.5) †	3.3	(0.3) †	3.1	(0.3) †	8.4	(0.5) †	46.8	(1.0) †	17.8	(0.7) †	11.0	(0.6) †	7.2	(0.4) †	9.8	(0.5) †	7.4	(0.4) †
	Colombia	68.0	(0.8) †	8.7	(0.5) †	3.4	(0.3) †	2.1	(0.2) †	2.3	(0.2) †	15.6	(0.6) †	59.1	(0.8) †	11.5	(0.5) †	5.5	(0.3) †	3.8	(0.3) †	6.7	(0.4) †	13.4	(0.6) †
	Costa Rica	64.2	(0.8) †	14.8	(0.6) †	5.5	(0.3) †	3.2	(0.3) †	5.2	(0.4) †	7.1	(0.5) †	61.5	(0.8) †	13.9	(0.6) †	6.4	(0.4) †	3.4	(0.3) †	7.1	(0.4) †	7.6	(0.4) †
	Czech Republic	33.7	(0.8)	22.2	(0.6)	14.4	(0.5)	9.1	(0.4)	13.6	(0.5)	7.0	(0.4)	47.9	(0.8)	16.8	(0.5)	8.9	(0.3)	5.2	(0.3)	9.9	(0.5)	11.3	(0.4)
	Denmark*	69.5	(0.9)	16.6	(0.7)	4.2	(0.3)	2.7	(0.3)	2.5	(0.3)	4.5	(0.4)	47.6	(0.7)	23.4	(0.6)	11.0	(0.5)	7.3	(0.4)	6.3	(0.4)	4.3	(0.4)
	Estonia	56.5	(0.7)	20.9	(0.8)	8.4	(0.4)	5.0	(0.3)	5.6	(0.3)	3.6	(0.4)	49.6	(0.8)	21.3	(0.7)	10.1	(0.5)	7.4	(0.5)	9.0	(0.4)	2.5	(0.3)
	Finland	47.3	(0.8)	27.8	(0.7)	10.2	(0.4)	4.6	(0.3)	4.0	(0.3)	6.1	(0.3)	44.2	(0.6)	24.1	(0.5)	12.5	(0.4)	6.7	(0.3)	6.3	(0.3)	6.2	(0.3)
	France	68.4	(0.8)	15.3	(0.6)	5.9	(0.4)	3.3	(0.3)	4.3	(0.3)	2.8	(0.3)	54.2	(0.7)	16.9	(0.5)	9.1	(0.5)	6.8	(0.4)	10.4	(0.5)	2.5	(0.2)
	Germany	55.6	(0.8) †	13.9	(0.6) †	5.1	(0.3) †	3.2	(0.3) †	3.5	(0.3) †	18.8	(0.7) †	46.6	(0.7) †	14.6	(0.6) †	7.1	(0.4) †	5.1	(0.3) †	6.2	(0.4) †	20.5	(0.8) †
	Greece	53.4	(0.9)	11.0	(0.5)	4.9	(0.3)	3.3	(0.3)	5.0	(0.3)	22.4	(0.7)	37.4	(0.7)	16.5	(0.5)	8.5	(0.4)	6.8	(0.3)	10.9	(0.4)	20.0	(0.6)
	Hungary	55.9	(0.9)	23.3	(0.7)	7.3	(0.4)	5.2	(0.3)	6.1	(0.4)	2.3	(0.2)	53.3	(0.7)	19.7	(0.6)	7.2	(0.3)	6.3	(0.4)	11.0	(0.6)	2.4	(0.2)
	Iceland	42.0	(1.1) †	22.9	(0.9) †	11.2	(0.7) †	7.8	(0.6) †	9.1	(0.6) †	7.0	(0.5) †	49.6	(1.1) †	18.6	(0.8) †	10.0	(0.6) †	7.1	(0.5) †	6.6	(0.5) †	8.1	(0.5) †
	Ireland*	75.7	(0.8)	12.5	(0.6)	4.2	(0.4)	2.2	(0.2)	2.8	(0.3)	2.6	(0.3)	53.9	(0.7)	21.2	(0.6)	10.3	(0.4)	6.3	(0.4)	6.9	(0.4)	1.4	(0.2)
	Israel	47.9	(0.9) †	19.3	(0.6) †	9.8	(0.5) †	6.4	(0.3) †	7.2	(0.4) †	9.5	(0.5) †	38.6	(0.9) †	19.3	(0.7) †	11.4	(0.5) †	9.4	(0.5) †	13.4	(0.6) †	7.9	(0.5) †
	Italy	41.0	(0.9)	26.0	(0.7)	13.5	(0.5)	8.5	(0.4)	8.9	(0.5)	2.1	(0.2)	49.2	(0.8)	22.8	(0.5)	9.9	(0.4)	7.4	(0.4)	8.8	(0.5)	1.9	(0.2)
	Japan	78.6	(0.9)	3.2	(0.3)	1.8	(0.2)	1.4	(0.2)	2.1	(0.2)	12.9	(0.8)	51.7	(1.0)	14.2	(0.5)	11.2	(0.5)	7.7	(0.4)	8.1	(0.4)	7.1	(0.5)
	Korea	37.9	(1.0)	14.3	(0.6)	13.3	(0.9)	9.2	(0.6)	12.1	(0.5)	13.2	(1.0)	44.8	(0.9)	24.5	(0.8)	15.6	(0.8)	6.7	(0.5)	2.8	(0.3)	5.7	(0.4)
	Latvia*	53.2	(1.0)	23.2	(0.8)	8.6	(0.4)	5.2	(0.3)	5.2	(0.3)	4.6	(0.3)	40.5	(0.7)	22.6	(0.7)	11.4	(0.5)	8.8	(0.5)	12.1	(0.5)	4.6	(0.4)
	Lithuania	53.5	(0.7)	18.7	(0.5)	9.6	(0.4)	6.1	(0.3)	5.8	(0.3)	6.3	(0.3)	45.5	(0.8)	19.6	(0.6)	10.6	(0.4)	7.6	(0.4)	11.2	(0.5)	5.5	(0.3)
	Mexico	66.7	(0.8)	11.3	(0.5)	3.4	(0.3)	2.0	(0.2)	2.9	(0.3)	13.8	(0.7)	54.4	(0.7)	15.3	(0.5)	6.5	(0.4)	4.8	(0.3)	8.4	(0.4)	10.7	(0.4)
	Netherlands*	57.5	(1.0)	20.5	(0.7)	8.3	(0.6)	5.1	(0.3)	4.0	(0.4)	4.6	(0.5)	59.1	(0.7)	18.3	(0.5)	7.9	(0.4)	4.9	(0.4)	5.4	(0.5)	4.5	(0.4)
	New Zealand*	60.6	(0.8)	20.6	(0.7)	7.5	(0.4)	4.2	(0.3)	3.7	(0.3)	3.6	(0.3)	50.9	(0.9)	22.5	(0.7)	10.6	(0.5)	6.3	(0.4)	7.1	(0.4)	2.6	(0.3)
	Norway	70.6	(0.7) †	11.1	(0.6) †	3.2	(0.2) †	2.5	(0.2) †	2.9	(0.2) †	9.7	(0.5) †	47.8	(0.7) †	17.8	(0.5) †	9.5	(0.4) †	7.6	(0.3) †	9.6	(0.4) †	7.6	(0.4) †
	Poland	42.2	(1.0)	23.8	(0.6)	10.0	(0.5)	7.2	(0.4)	10.8	(0.5)	5.9	(0.4)	40.5	(0.8)	15.7	(0.6)	9.8	(0.5)	9.4	(0.4)	17.1	(0.6)	7.4	(0.4)
	Portugal	65.2	(0.7)	12.8	(0.5)	5.1	(0.3)	3.5	(0.3)	4.2	(0.3)	9.2	(0.4)	54.7	(0.8)	16.6	(0.5)	7.1	(0.4)	5.7	(0.4)	7.9	(0.5)	8.0	(0.3)
	Slovak Republic	43.6	(0.8)	15.5	(0.5)	10.1	(0.5)	8.3	(0.5)	12.3	(0.7)	10.3	(0.5)	41.0	(0.9)	15.8	(0.5)	8.5	(0.5)	8.2	(0.4)	18.9	(0.8)	7.6	(0.5)
	Slovenia	63.4	(0.8)	16.2	(0.6)	6.7	(0.5)	4.1	(0.3)	4.0	(0.3)	5.6	(0.4)	56.8	(0.8)	19.9	(0.7)	8.6	(0.5)	5.4	(0.4)	6.1	(0.4)	3.2	(0.3)
	Spain	64.0	(0.6)	16.4	(0.4)	6.9	(0.2)	3.5	(0.2)	4.0	(0.2)	5.2	(0.3)	53.8	(0.5)	20.2	(0.4)	9.7	(0.3)	5.7	(0.3)	7.7	(0.3)	2.9	(0.2)
	Sweden	60.9	(0.7)	17.3	(0.6)	6.9	(0.4)	4.3	(0.3)	4.8	(0.4)	5.7	(0.4)	47.6	(0.8)	21.0	(0.6)	10.4	(0.5)	7.5	(0.4)	9.9	(0.5)	3.7	(0.3)
	Switzerland	60.3	(0.9)	14.1	(0.6)	4.8	(0.4)	3.3	(0.3)	3.1	(0.2)	14.5	(0.6)	51.3	(0.9)	17.2	(0.5)	7.3	(0.4)	5.5	(0.4)	5.3	(0.3)	13.4	(0.5)
	Türkiye	59.6	(0.8)	11.9	(0.5)	7.5	(0.4)	4.8	(0.4)	4.7	(0.3)	11.5	(0.5)	29.9	(0.6)	18.5	(0.5)	18.4	(0.6)	13.8	(0.5)	14.3	(0.5)	5.1	(0.4)
	United Kingdom*	74.9	(0.8) †	12.2	(0.6) †	3.6	(0.3) †	2.1	(0.3) †	2.8	(0.2) †	4.3	(0.5) †	48.6	(0.8) †	20.3	(0.7) †	11.1	(0.6) †	7.9	(0.5) †	9.5	(0.5) †	2.6	(0.3) †
	United States*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	OECD average	57.7	(0.1)	17.0	(0.1)	7.3	(0.1)	4.6	(0.1)	5.3	(0.1)	8.1	(0.1)	48.5	(0.1)	18.8	(0.1)	9.8	(0.1)	6.8	(0.1)	9.0	(0.1)	7.0	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.5.46. Student behaviour when using digital devices [6/6]

In hours; results based on students' reports

		Percentage of students who feel or act the following way:																						
		Feel pressured to be online and answer messages when I am in class												Feel nervous/anxious when I don't have my digital devices near me											
		Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable		Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time		Not applicable	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	49.1	(0.9) †	10.9	(0.5) †	9.0	(0.5) †	7.2	(0.4) †	10.4	(0.5) †	13.5	(0.7) †	50.2	(1.0) †	12.1	(0.6) †	8.6	(0.5) †	7.1	(0.6) †	10.6	(0.6) †	11.5	(0.6) †
	Argentina	52.4	(0.8) †	17.9	(0.6) †	8.4	(0.4) †	4.5	(0.3) †	9.0	(0.4) †	7.8	(0.5) †	51.2	(0.8) †	15.7	(0.6) †	9.8	(0.5) †	4.9	(0.3) †	13.1	(0.5) †	5.3	(0.3) †
	Baku (Azerbaijan)	53.5	(1.0) †	11.4	(0.6) †	5.9	(0.4) †	5.1	(0.4) †	9.6	(0.5) †	14.6	(0.8) †	38.3	(0.9) †	13.4	(0.6) †	8.2	(0.4) †	8.4	(0.5) †	21.1	(0.7) †	10.6	(0.6) †
	Brazil	60.0	(0.7) †	12.4	(0.4) †	5.7	(0.4) †	3.8	(0.2) †	6.6	(0.3) †	11.4	(0.4) †	42.7	(0.5) †	15.3	(0.4) †	8.9	(0.4) †	7.0	(0.3) †	17.8	(0.5) †	8.3	(0.3) †
	Brunei Darussalam	36.3	(0.8)	11.8	(0.5)	10.1	(0.4)	6.8	(0.4)	11.2	(0.5)	23.9	(0.7)	34.3	(0.8)	20.5	(0.7)	15.1	(0.6)	8.8	(0.4)	15.2	(0.6)	6.1	(0.3)
	Bulgaria	35.6	(0.7) †	19.1	(0.7) †	12.6	(0.6) †	11.3	(0.5) †	15.2	(0.7) †	6.2	(0.4) †	44.2	(0.9) †	18.4	(0.6) †	10.7	(0.5) †	8.8	(0.4) †	13.0	(0.6) †	4.9	(0.4) †
	Cambodia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Croatia	62.6	(0.9)	18.1	(0.7)	8.0	(0.4)	4.4	(0.3)	4.4	(0.3)	2.6	(0.2)	50.3	(0.8)	19.0	(0.6)	11.3	(0.5)	7.4	(0.4)	9.0	(0.5)	2.9	(0.2)
	Cyprus	43.4	(0.8) †	13.9	(0.5) †	7.3	(0.4) †	7.5	(0.4) †	9.1	(0.4) †	18.8	(0.6) †	34.4	(0.7) †	17.5	(0.6) †	9.6	(0.5) †	8.9	(0.4) †	14.2	(0.5) †	15.4	(0.5) †
	Dominican Republic	65.3	(0.7) †	7.7	(0.5) †	3.1	(0.3) †	2.4	(0.2) †	3.4	(0.3) †	18.0	(0.7) †	53.5	(0.9) †	12.1	(0.6) †	5.4	(0.4) †	4.2	(0.4) †	11.0	(0.5) †	13.7	(0.5) †
	El Salvador	66.0	(0.9) †	6.6	(0.4) †	2.6	(0.2) †	1.9	(0.2) †	3.1	(0.3) †	19.7	(0.9) †	58.3	(0.8) †	11.1	(0.5) †	5.1	(0.3) †	3.6	(0.3) †	7.6	(0.5) †	14.3	(0.6) †
	Georgia	43.5	(0.8) †	20.0	(0.6) †	8.4	(0.5) †	5.7	(0.5) †	8.7	(0.5) †	13.8	(0.6) †	42.6	(1.0) †	12.3	(0.4) †	7.6	(0.4) †	6.8	(0.4) †	11.9	(0.5) †	18.8	(0.7) †
	Guatemala	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Hong Kong (China)*	42.0	(1.1)	11.3	(0.6)	7.4	(0.5)	5.5	(0.4)	9.0	(0.6)	24.9	(1.0)	36.9	(0.8)	22.9	(0.7)	13.8	(0.5)	9.2	(0.5)	9.7	(0.5)	7.4	(0.6)
	Indonesia	47.0	(1.1)	18.9	(0.7)	8.4	(0.5)	4.9	(0.3)	9.0	(0.5)	11.7	(0.5)	39.2	(1.0)	11.6	(0.6)	7.4	(0.4)	4.9	(0.3)	26.5	(1.0)	10.4	(0.5)
	Jamaica*	57.6	(1.0) †	11.1	(0.7) †	6.7	(0.5) †	4.5	(0.5) †	10.0	(0.8) †	10.1	(0.8) †	40.7	(1.2) †	13.5	(0.7) †	11.2	(0.6) †	7.0	(0.6) †	21.4	(1.0) †	6.3	(0.6) †
	Jordan	47.1	(0.7) †	7.3	(0.4) †	6.2	(0.5) †	7.8	(0.5) †	5.3	(0.3) †	26.3	(0.8) †	40.4	(0.8) †	11.7	(0.5) †	9.0	(0.4) †	7.6	(0.4) †	11.6	(0.5) †	19.7	(0.7) †
	Kazakhstan	45.9	(0.5)	13.4	(0.3)	7.5	(0.3)	5.4	(0.2)	8.5	(0.3)	19.4	(0.5)	49.1	(0.6)	14.7	(0.3)	8.2	(0.2)	6.7	(0.3)	10.0	(0.3)	11.3	(0.3)
	Kosovo	52.8	(1.0) †	12.2	(0.6) †	8.6	(0.5) †	7.0	(0.4) †	7.8	(0.5) †	11.7	(0.6) †	53.1	(0.9) †	13.7	(0.7) †	9.1	(0.5) †	6.6	(0.4) †	8.7	(0.4) †	8.8	(0.4) †
	Macao (China)	38.0	(0.7)	11.3	(0.5)	6.3	(0.4)	5.4	(0.4)	11.3	(0.5)	27.6	(0.7)	33.9	(0.8)	22.9	(0.7)	15.7	(0.6)	11.3	(0.5)	11.1	(0.5)	5.1	(0.4)
	Malaysia	40.3	(0.7)	10.9	(0.5)	7.2	(0.4)	5.0	(0.3)	6.3	(0.3)	30.2	(0.8)	31.6	(0.7)	19.6	(0.5)	11.5	(0.5)	8.7	(0.4)	14.6	(0.5)	14.0	(0.6)
	Malta	45.3	(1.1) †	6.8	(0.4) †	4.4	(0.4) †	3.5	(0.3) †	5.3	(0.5) †	34.7	(1.0) †	36.9	(0.8)	20.1	(0.7)	14.0	(0.7)	8.9	(0.6)	13.0	(0.7)	7.1	(0.6)
	Moldova	43.3	(0.6)	16.9	(0.6)	8.9	(0.4)	7.2	(0.4)	12.1	(0.5)	11.7	(0.5)	45.4	(0.8)	18.8	(0.6)	8.8	(0.5)	6.4	(0.4)	11.4	(0.5)	9.2	(0.4)
	Mongolia	66.3	(0.8)	8.8	(0.4)	4.8	(0.3)	3.3	(0.2)	4.6	(0.3)	12.1	(0.4)	49.3	(0.7)	14.8	(0.5)	9.3	(0.4)	6.0	(0.3)	7.2	(0.3)	13.3	(0.5)
	Montenegro	49.1	(0.9) †	19.6	(0.7) †	9.7	(0.6) †	7.8	(0.4) †	9.0	(0.4) †	4.9	(0.4) †	50.6	(0.7) †	13.7	(0.7) †	9.1	(0.5) †	7.2	(0.4) †	12.8	(0.5) †	6.5	(0.4) †
	Morocco	51.5	(0.9) †	8.0	(0.4) †	5.3	(0.4) †	5.2	(0.5) †	9.2	(0.4) †	20.8	(0.7) †	49.1	(0.9) †	10.5	(0.4) †	7.4	(0.4) †	5.1	(0.3) †	13.6	(0.6) †	14.4	(0.5) †
	North Macedonia	57.3	(0.7) †	16.6	(0.5) †	8.0	(0.4) †	6.5	(0.3) †	6.2	(0.3) †	5.5	(0.4) †	49.8	(0.7) †	17.5	(0.6) †	9.5	(0.4) †	7.4	(0.4) †	11.3	(0.5) †	4.6	(0.3) †
	Palestinian Authority	50.3	(0.9) †	7.2	(0.4) †	5.3	(0.3) †	5.6	(0.5) †	5.1	(0.4) †	26.5	(0.9) †	42.5	(0.8) †	10.9	(0.4) †	8.4	(0.4) †	5.9	(0.4) †	11.7	(0.5) †	20.5	(0.7) †
	Panama*	71.4	(1.4) †	7.1	(0.8) †	2.3	(0.3) †	2.1	(0.4) †	2.6	(0.3) †	14.4	(1.0) †	57.7	(1.3) †	11.9	(0.8) †	5.8	(0.5) †	4.6	(0.5) †	8.3	(0.7) †	11.7	(0.8) †
	Paraguay	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Peru	66.1	(0.8)	5.9	(0.3)	2.0	(0.2)	1.2	(0.2)	1.8	(0.2)	23.0	(0.7)	57.8	(0.8)	12.7	(0.5)	5.1	(0.3)	3.1	(0.3)	5.1	(0.3)	16.2	(0.6)
	Philippines	31.1	(0.8)	20.1	(0.6)	14.1	(0.5)	10.4	(0.5)	17.2	(0.6)	7.1	(0.4)	37.1	(0.6)	20.5	(0.5)	12.8	(0.6)	8.2	(0.4)	13.9	(0.6)	7.6	(0.4)
	Qatar	43.8	(0.9) †	11.6	(0.6) †	7.1	(0.4) †	6.0	(0.4) †	7.6	(0.5) †	23.9	(0.8) †	41.3	(0.8) †	15.3	(0.6) †	9.9	(0.4) †	7.4	(0.4) †	12.0	(0.6) †	14.1	(0.5) †
	Romania	38.3	(0.8)	24.0	(0.5)	9.9	(0.5)	6.6	(0.3)	8.7	(0.4)	12.6	(0.5)	41.7	(0.9)	15.1	(0.6)	8.1	(0.4)	6.8	(0.4)	12.8	(0.6)	15.5	(0.7)
	Saudi Arabia	53.9	(0.7)	7.7	(0.4)	5.9	(0.4)	4.5	(0.3)	6.3	(0.4)	21.7	(0.6)	43.6	(0.7)	12.0	(0.5)	7.8	(0.4)	7.4	(0.4)	16.4	(0.5)	12.8	(0.5)
	Serbia	53.3	(0.8)	15.0	(0.5)	8.2	(0.4)	6.2	(0.4)	9.9	(0.5)	7.5	(0.4)	48.1	(0.8)	14.5	(0.5)	8.8	(0.4)	7.5	(0.4)	15.8	(0.6)	5.3	(0.4)
	Singapore	59.8	(0.6)	16.3	(0.5)	7.1	(0.3)	4.2	(0.3)	6.8	(0.3)	5.8	(0.3)	43.1	(0.6)	25.4	(0.5)	13.2	(0.4)	7.6	(0.3)	8.4	(0.4)	2.4	(0.2)
	Chinese Taipei	45.5	(0.8)	9.9	(0.6)	6.3	(0.4)	5.5	(0.4)	11.8	(0.5)	21.0	(0.8)	47.1	(1.0)	20.8	(0.7)	10.8	(0.5)	6.1	(0.3)	6.8	(0.4)	8.4	(0.5)
	Thailand	47.1	(0.8)	17.0	(0.6)	8.4	(0.4)	4.7	(0.3)	4.1	(0.2)	18.7	(0.6)	36.8	(0.8)	19.0	(0.6)	11.6	(0.5)	7.9	(0.5)	10.8	(0.5)	13.9	(0.6)
	Ukrainian regions (18 of 27)	39.3	(1.1) †	25.5	(1.0) †	12.2	(0.6) †	8.0	(0.5) †	10.8	(0.8) †	4.3	(0.3) †	41.4	(1.0) †	19.4	(0.9) †	9.8	(0.6) †	7.8	(0.6) †	16.6	(0.8) †	5.0	(0.6) †
	United Arab Emirates	44.3	(0.5) †	11.2	(0.3) †	8.6	(0.2) †	7.1	(0.2) †	11.2	(0.3) †	17.7	(0.3) †	39.7	(0.5) †	16.4	(0.3) †	11.4	(0.3) †	7.9	(0.2) †	13.8	(0.3) †	10.8	(0.3) †
	Uruguay	64.9	(0.8) †	16.1	(0.6) †	5.0	(0.4) †	3.0	(0.2) †	4.4	(0.3) †	6.5	(0.4) †	51.7	(0.8) †	18.3	(0.6) †	8.1	(0.5) †	5.6	(0.3) †	10.1	(0.5) †	6.1	(0.3) †
	Uzbekistan	35.7	(0.7)	8.4	(0.4)	5.2	(0.3)	4.2	(0.3)	11.0	(0.6)	35.5	(0.8)	45.5	(0.6)	6.4	(0.4)	3.3	(0.2)	3.2	(0.3)	6.3	(0.4)	35.4	(0.9)
	Viet Nam	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.5.64. Mean mathematics performance per time spent learning on digital devices at school [1/2]

In hours; results based on students' reports

		Mean mathematics score of students who spent the following amount of time per day when using digital devices in the following situations:													
		Learning activities at school													
		None		Up to 1 hour		More than 1 hour and up to 2 hours		More than 2 hours and up to 3 hours		More than 3 hours and up to 5 hours		More than 5 hours and up to 7 hours		More than 7 hours	
		Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.
OECD	Australia*	411	(3.6)	451	(3.1)	479	(3.0)	513	(2.8)	522	(2.4)	492	(3.3)	472	(7.2)
	Austria	491	(3.4)	499	(3.0)	486	(3.9)	492	(4.7)	491	(5.9)	479	(6.2)	479	(8.1)
	Belgium	487	(3.5)	521	(2.9)	491	(3.4)	497	(6.0)	478	(5.2)	478	(6.2)	465	(7.3)
	Canada*	473	(3.1)	497	(2.3)	511	(2.1)	520	(3.3)	521	(3.8)	503	(4.6)	480	(7.0)
	Chile	411	(4.3)	425	(2.3)	422	(3.2)	416	(4.1)	413	(5.0)	414	(7.4)	386	(6.9)
	Colombia	366	(4.0)	382	(3.5)	392	(2.8)	404	(4.4)	405	(3.8)	373	(6.2)	385	(7.8)
	Costa Rica	369	(3.0)	383	(2.6)	390	(3.3)	397	(3.6)	401	(5.3)	402	(7.3)	373	(5.1)
	Czech Republic	463	(3.8)	511	(2.5)	493	(2.8)	478	(4.1)	469	(6.8)	446	(9.5)	439	(7.9)
	Denmark*	436	(5.5)	455	(4.7)	463	(5.0)	492	(4.5)	513	(2.7)	505	(2.5)	485	(7.6)
	Estonia	515	(5.2)	530	(2.5)	504	(3.3)	494	(3.9)	483	(5.1)	472	(5.4)	481	(6.6)
	Finland	444	(5.1)	496	(3.4)	503	(2.8)	496	(3.3)	482	(3.7)	464	(4.5)	488	(3.2)
	France	470	(3.9)	498	(3.0)	481	(3.6)	474	(4.6)	471	(6.1)	472	(6.3)	431	(10.4)
	Germany	484	(3.8)	488	(3.6)	475	(3.9)	460	(5.6)	495	(6.1)	491	(7.5)	448	(12.2)
	Greece	431	(2.9)	446	(2.8)	433	(2.9)	423	(4.6)	424	(5.5)	408	(9.8)	405	(7.1)
	Hungary	467	(4.7)	498	(3.2)	473	(3.5)	465	(4.8)	449	(5.6)	438	(6.6)	434	(11.0)
	Iceland	425	(9.0)	472	(4.1)	478	(3.5)	477	(3.8)	469	(3.1)	446	(4.1)	451	(7.3)
	Ireland*	473	(4.5)	492	(2.4)	506	(3.3)	503	(4.9)	501	(4.5)	490	(6.0)	474	(11.7)
	Israel	433	(5.1)	481	(4.0)	471	(4.5)	468	(6.5)	456	(6.9)	457	(10.2)	474	(12.2)
	Italy	465	(5.3)	487	(3.6)	471	(3.6)	472	(4.3)	471	(4.2)	459	(5.1)	488	(5.1)
	Japan	519	(6.3)	548	(3.4)	546	(4.4)	541	(5.1)	535	(7.3)	504	(5.6)	512	(12.7)
	Korea	508	(6.8)	542	(4.1)	539	(3.9)	538	(5.8)	523	(10.0)	518	(6.7)	520	(7.7)
	Latvia*	481	(5.1)	509	(2.5)	486	(3.1)	475	(3.5)	458	(4.2)	449	(4.1)	455	(5.3)
	Lithuania	476	(4.5)	501	(2.4)	489	(2.7)	468	(4.0)	458	(4.5)	446	(3.5)	454	(5.2)
	Mexico	382	(3.3)	389	(2.8)	400	(3.1)	411	(3.0)	409	(3.9)	407	(5.9)	388	(6.6)
	Netherlands*	460	(9.0)	518	(5.4)	506	(4.6)	515	(4.2)	502	(5.4)	494	(7.6)	473	(12.4)
	New Zealand*	430	(5.7)	443	(6.1)	473	(3.9)	511	(3.0)	512	(3.0)	478	(4.7)	481	(11.0)
	Norway	414	(4.7)	440	(4.0)	461	(3.8)	497	(3.8)	501	(2.6)	476	(4.4)	452	(8.0)
	Poland	497	(3.5)	510	(2.8)	483	(3.9)	490	(4.2)	480	(5.0)	471	(5.6)	459	(5.0)
	Portugal	470	(5.0)	485	(2.8)	474	(3.5)	475	(4.1)	460	(6.3)	454	(5.9)	444	(10.8)
	Slovak Republic	449	(5.3)	492	(3.4)	475	(4.5)	468	(5.0)	465	(5.7)	435	(7.2)	458	(6.6)
	Slovenia	481	(3.9)	507	(2.0)	478	(2.7)	472	(4.3)	463	(6.9)	468	(8.8)	454	(8.5)
	Spain	467	(2.6)	474	(1.8)	471	(2.0)	482	(3.3)	494	(3.6)	482	(4.5)	474	(7.2)
	Sweden	448	(4.5)	467	(4.4)	489	(3.7)	499	(3.9)	509	(3.1)	500	(3.6)	472	(5.9)
	Switzerland	501	(2.9)	510	(3.0)	493	(4.4)	508	(5.1)	538	(5.3)	548	(5.9)	526	(9.5)
	Türkiye	445	(3.0)	458	(2.5)	456	(2.4)	467	(3.4)	454	(4.8)	449	(5.4)	438	(5.8)
	United Kingdom*	478	(5.5)	502	(3.5)	502	(3.2)	497	(5.3)	511	(7.2)	483	(9.8)	495	(11.4)
	United States*	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	OECD average	456	(0.8)	481	(0.6)	476	(0.6)	479	(0.7)	477	(0.9)	465	(1.1)	458	(1.4)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.5.64. Mean mathematics performance per time spent learning on digital devices at school [2/2]

In hours; results based on students' reports

		Mean mathematics score of students who spent the following amount of time per day when using digital devices in the following situations:													
		Learning activities at school													
		None		Up to 1 hour		More than 1 hour and up to 2 hours		More than 2 hours and up to 3 hours		More than 3 hours and up to 5 hours		More than 5 hours and up to 7 hours		More than 7 hours	
		Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.
Partners	Albania	368	(4.7)	377	(3.4)	378	(3.4)	388	(4.8)	380	(5.1)	350	(6.6)	370	(11.0)
	Argentina	358	(3.7)	378	(3.1)	390	(2.7)	403	(3.9)	398	(4.6)	389	(5.7)	411	(6.3)
	Baku (Azerbaijan)	427	(3.6)	427	(4.5)	408	(3.8)	412	(4.2)	413	(4.0)	390	(3.3)	384	(8.7)
	Brazil	372	(2.6)	386	(2.3)	391	(2.6)	400	(3.2)	385	(3.3)	375	(4.5)	372	(6.7)
	Brunei Darussalam	467	(2.4)	433	(1.7)	438	(2.9)	461	(4.1)	452	(4.0)	426	(4.9)	410	(8.1)
	Bulgaria	411	(5.3)	448	(5.3)	429	(5.0)	430	(4.8)	424	(6.4)	396	(6.9)	398	(6.4)
	Cambodia	352	(4.1)	359	(5.6)	376	(8.1)	335	(7.9)	344	(5.8)	344	(10.1)	330	(8.2)
	Croatia	458	(3.7)	478	(3.0)	461	(3.8)	463	(3.7)	459	(4.1)	442	(6.7)	454	(5.6)
	Cyprus	424	(2.5)	446	(2.5)	430	(3.8)	422	(5.4)	428	(6.8)	444	(7.5)	410	(9.4)
	Dominican Republic	340	(2.1)	339	(2.2)	347	(2.2)	357	(4.0)	359	(3.7)	352	(4.1)	340	(4.5)
	El Salvador	338	(3.2)	339	(2.4)	353	(2.6)	363	(3.5)	359	(3.9)	351	(5.4)	342	(6.1)
	Georgia	405	(3.5)	404	(2.8)	399	(4.0)	399	(5.7)	395	(4.6)	384	(7.3)	399	(7.8)
	Guatemala	347	(2.9)	358	(4.7)	361	(4.9)	370	(7.0)	366	(4.1)	377	(8.3)	358	(10.7)
	Hong Kong (China)*	514	(5.0)	557	(4.1)	540	(3.8)	549	(6.1)	554	(8.2)	553	(5.8)	535	(6.5)
	Indonesia	361	(4.2)	360	(3.4)	369	(2.8)	372	(4.1)	372	(3.0)	364	(3.0)	361	(5.4)
	Jamaica*	382	(4.7)	383	(3.5)	389	(5.4)	393	(4.9)	389	(6.3)	379	(6.9)	368	(8.0)
	Jordan	369	(2.5)	367	(2.7)	366	(3.0)	365	(3.7)	360	(3.8)	358	(4.4)	337	(4.8)
	Kazakhstan	414	(3.3)	433	(2.2)	433	(2.3)	435	(2.6)	419	(2.4)	408	(2.5)	410	(4.6)
	Kosovo	351	(3.0)	365	(2.1)	359	(2.3)	374	(3.7)	363	(4.4)	342	(4.0)	344	(6.6)
	Macao (China)	534	(4.2)	560	(2.8)	557	(3.1)	549	(5.0)	544	(5.6)	548	(5.1)	548	(4.3)
	Malaysia	419	(2.6)	405	(3.1)	402	(3.1)	413	(4.3)	414	(6.2)	403	(5.4)	417	(5.4)
	Malta	469	(3.6)	471	(3.1)	484	(5.0)	489	(8.2)	477	(5.6)	469	(6.6)	451	(12.3)
	Moldova	405	(3.9)	425	(2.5)	423	(3.3)	421	(4.3)	414	(4.9)	393	(4.2)	388	(7.6)
	Mongolia	421	(3.2)	444	(3.0)	432	(4.9)	439	(5.2)	430	(4.7)	402	(2.9)	417	(4.4)
	Montenegro	419	(3.0)	412	(2.1)	408	(2.8)	402	(3.7)	412	(3.7)	406	(7.1)	388	(9.0)
	Morocco	369	(3.5)	363	(3.0)	366	(3.5)	373	(4.9)	362	(4.1)	367	(5.6)	375	(7.3)
	North Macedonia	394	(3.2)	400	(1.8)	398	(2.4)	410	(3.0)	406	(3.4)	361	(4.7)	358	(6.2)
	Palestinian Authority	368	(2.9)	372	(2.3)	374	(2.9)	372	(3.4)	361	(3.5)	356	(4.4)	345	(7.0)
	Panama*	349	(3.7)	362	(4.0)	374	(4.5)	372	(5.4)	386	(6.9)	358	(7.2)	352	(6.9)
	Paraguay	358	(2.8)	367	(3.0)	371	(4.4)	352	(6.8)	350	(6.6)	389	(21.5)	349	(12.3)
	Peru	391	(2.9)	389	(2.7)	397	(2.9)	403	(3.6)	412	(4.0)	400	(7.2)	404	(16.9)
	Philippines	328	(4.1)	347	(2.2)	348	(2.8)	365	(3.0)	375	(4.4)	380	(8.2)	370	(5.6)
	Qatar	409	(3.2)	417	(2.4)	421	(3.1)	431	(4.9)	452	(4.9)	455	(6.7)	419	(10.1)
	Romania	404	(6.1)	442	(4.6)	445	(4.4)	437	(5.5)	430	(5.2)	393	(6.6)	401	(9.7)
	Saudi Arabia	390	(2.1)	393	(2.3)	396	(3.1)	390	(3.7)	384	(3.2)	378	(3.6)	385	(5.7)
	Serbia	440	(4.3)	448	(3.9)	445	(3.5)	436	(5.2)	441	(4.4)	427	(7.8)	421	(10.7)
	Singapore	527	(7.4)	567	(2.5)	577	(2.6)	587	(2.7)	594	(3.3)	564	(5.4)	554	(7.9)
	Chinese Taipei	529	(5.3)	568	(4.4)	552	(5.2)	548	(7.5)	522	(8.4)	527	(8.1)	546	(5.7)
	Thailand	373	(4.1)	386	(3.1)	393	(3.0)	406	(4.3)	411	(4.7)	403	(5.0)	397	(4.1)
	Ukrainian regions (18 of 27)	444	(8.9)	458	(5.4)	455	(7.0)	445	(5.7)	421	(6.0)	430	(4.7)	437	(8.6)
	United Arab Emirates	421	(2.0)	431	(1.7)	437	(2.3)	445	(3.0)	463	(2.3)	453	(2.5)	419	(4.1)
	Uruguay	375	(4.5)	428	(3.0)	424	(2.6)	422	(3.6)	406	(4.9)	380	(6.9)	370	(7.9)
	Uzbekistan	371	(4.2)	366	(2.5)	363	(2.3)	375	(3.5)	367	(4.1)	357	(2.9)	367	(6.3)
	Viet Nam	481	(4.3)	476	(5.4)	454	(7.6)	471	(5.4)	469	(4.2)	487	(5.5)	458	(7.6)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.31. Reasons for transferring students to another school [1/4]

Results based on principals' reports

		Percentage of students in schools where students would be transferred to another school for the following reasons:																	
		Low academic achievement						High academic achievement						Behavioural problems					
		Not likely		Likely		Very likely		Not likely		Likely		Very likely		Not likely		Likely		Very likely	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	95.9	(1.0)	4.1	(1.0)	0.0	(0.0)	90.9	(1.3)	6.8	(0.9)	2.3	(0.8)	77.9	(1.9)	21.3	(1.8)	0.8	(0.4)
	Austria	71.5	(2.9)	21.2	(2.5)	7.2	(1.7)	94.4	(0.9)	4.1	(0.9)	1.4	(0.4)	76.8	(2.4)	20.9	(2.4)	2.3	(0.9)
	Belgium	56.0	(3.3)	36.1	(3.3)	7.9	(2.0)	94.6	(1.7)	4.8	(1.8)	0.7	(0.6)	46.1	(3.2)	46.9	(3.0)	7.0	(1.8)
	Canada*	91.5	(1.3)	7.5	(1.2)	1.0	(0.5)	98.6	(0.5)	1.1	(0.4)	0.3	(0.3)	79.3	(1.7)	18.8	(1.6)	1.9	(0.6)
	Chile	92.2	(2.2)	7.8	(2.2)	0.0	c	91.0	(2.3)	8.2	(2.3)	0.8	(0.6)	65.3	(3.5)	31.6	(3.4)	3.1	(1.5)
	Colombia	71.8	(3.3)	24.6	(3.2)	3.7	(1.5)	80.1	(2.9)	16.9	(2.6)	2.9	(1.1)	51.3	(3.4)	42.4	(3.7)	6.3	(1.7)
	Costa Rica	40.8	(4.1)	53.3	(4.2)	5.9	(1.9)	51.7	(4.4)	40.9	(4.4)	7.4	(1.9)	34.5	(4.1)	51.8	(4.0)	13.7	(2.9)
	Czech Republic	58.5	(2.4)	35.1	(2.5)	6.4	(1.5)	88.6	(1.6)	9.8	(1.5)	1.6	(0.7)	61.0	(2.6)	34.8	(2.9)	4.2	(1.4)
	Denmark*	92.4	(1.9)	7.6	(1.9)	0.0	c	94.7	(1.4)	4.8	(1.3)	0.5	(0.5)	53.1	(3.4)	45.8	(3.5)	1.1	(0.7)
	Estonia	87.0	(2.0)	11.4	(1.9)	1.6	(0.6)	82.6	(1.9)	14.0	(1.7)	3.4	(0.9)	75.6	(2.2)	21.3	(2.1)	3.0	(1.0)
	Finland	97.6	(1.1)	2.4	(1.1)	0.0	c	98.5	(0.9)	1.0	(0.7)	0.5	(0.5)	94.1	(1.6)	5.9	(1.6)	0.0	c
	France	77.2	(3.0)	17.5	(2.7)	5.3	(1.7)	93.0	(1.8)	6.5	(1.7)	0.5	(0.5)	46.0	(3.6)	45.7	(3.7)	8.4	(1.8)
	Germany	67.5	(2.6)	26.4	(2.7)	6.1	(1.7)	87.2	(2.4)	10.5	(2.1)	2.4	(1.4)	79.7	(2.5)	18.5	(2.3)	1.7	(1.0)
	Greece	48.1	(3.1)	42.3	(3.3)	9.6	(2.1)	77.0	(3.1)	22.4	(3.1)	0.7	(0.5)	25.4	(2.8)	65.0	(3.0)	9.6	(1.9)
	Hungary	56.3	(3.5)	41.2	(3.5)	2.5	(1.3)	92.9	(1.7)	6.3	(1.7)	0.7	(0.4)	50.3	(4.0)	45.1	(4.1)	4.6	(1.7)
	Iceland	98.9	(0.1)	0.0	c	1.1	(0.1)	97.8	(0.1)	1.1	(0.1)	1.1	(0.1)	97.2	(0.1)	1.8	(0.1)	1.1	(0.1)
	Ireland*	96.9	(1.4)	2.5	(1.3)	0.6	(0.6)	96.9	(1.4)	3.1	(1.4)	0.0	c	94.6	(1.8)	4.4	(1.7)	1.0	(0.7)
	Israel	79.1	(3.3)	18.1	(3.3)	2.8	(1.3)	95.3	(1.7)	4.7	(1.7)	0.0	c	33.9	(3.4)	57.1	(3.5)	9.0	(1.9)
	Italy	35.2	(3.6)	55.5	(3.9)	9.2	(2.4)	97.0	(1.3)	3.0	(1.3)	0.0	(0.0)	65.1	(4.0)	31.9	(4.0)	3.1	(1.3)
	Japan	21.5	(3.2)	72.1	(3.5)	6.4	(1.6)	97.2	(1.2)	2.8	(1.2)	0.0	c	41.4	(3.5)	56.4	(3.6)	2.3	(1.0)
	Korea	72.4	(3.7)	25.2	(3.5)	2.4	(1.1)	82.7	(2.7)	15.9	(2.7)	1.4	(0.8)	45.6	(5.4)	46.8	(5.4)	7.6	(1.8)
	Latvia*	79.4	(2.3)	20.4	(2.3)	0.2	(0.2)	84.1	(2.4)	13.3	(2.4)	2.5	(0.9)	74.4	(2.7)	24.4	(2.7)	1.1	(0.3)
	Lithuania	85.8	(1.5)	12.7	(1.5)	1.5	(0.5)	85.6	(1.5)	12.0	(1.4)	2.4	(0.9)	70.6	(1.8)	26.4	(1.8)	3.0	(1.0)
	Mexico	72.3	(3.2)	23.8	(3.0)	3.9	(1.3)	78.0	(2.9)	16.9	(2.6)	5.1	(1.6)	60.9	(3.4)	34.1	(3.2)	5.1	(1.4)
	Netherlands*	59.4	(4.4)	33.3	(4.2)	7.3	(3.1)	83.1	(3.6)	16.5	(3.6)	0.3	(0.4)	71.6	(4.6)	26.2	(4.1)	2.1	(2.3)
	New Zealand*	98.8	(1.2)	1.2	(1.2)	0.0	c	98.4	(1.2)	1.6	(1.2)	0.0	c	79.9	(3.2)	16.7	(3.1)	3.4	(1.2)
	Norway	99.5	(0.5)	0.5	(0.5)	0.0	c	99.3	(0.5)	0.5	(0.5)	0.2	(0.1)	92.4	(1.8)	7.6	(1.8)	0.0	c
	Poland	48.0	(2.9)	48.5	(2.9)	3.5	(1.2)	83.2	(2.7)	15.6	(2.6)	1.2	(0.7)	49.7	(2.9)	48.4	(2.9)	1.9	(0.9)
	Portugal	89.7	(2.3)	10.3	(2.3)	0.0	c	97.6	(1.0)	2.4	(1.0)	0.0	c	75.3	(3.0)	24.0	(2.9)	0.8	(0.6)
	Slovak Republic	72.9	(2.8)	24.9	(2.8)	2.3	(1.2)	89.2	(1.9)	9.5	(1.8)	1.3	(0.6)	68.7	(3.0)	29.1	(3.0)	2.2	(1.1)
	Slovenia	26.3	(0.5)	59.4	(0.5)	14.3	(0.2)	82.6	(0.3)	17.1	(0.3)	0.3	(0.0)	48.4	(0.6)	49.3	(0.6)	2.2	(0.1)
	Spain	97.2	(0.7)	2.8	(0.7)	0.0	(0.1)	98.0	(0.7)	1.8	(0.7)	0.2	(0.1)	74.9	(2.2)	23.8	(2.2)	1.3	(0.5)
	Sweden	99.3	(0.5)	0.7	(0.5)	0.0	c	99.2	(0.6)	0.0	c	0.8	(0.6)	93.5	(1.7)	6.5	(1.7)	0.0	c
	Switzerland	72.4	(3.1)	17.1	(2.6)	10.5	(2.2)	76.4	(3.2)	18.8	(3.0)	4.8	(1.6)	61.6	(3.6)	36.4	(3.9)	1.9	(0.9)
	Türkiye	77.5	(3.2)	19.9	(3.0)	2.6	(1.3)	72.8	(3.0)	24.4	(3.0)	2.7	(1.2)	27.3	(3.6)	57.8	(3.8)	14.9	(2.6)
	United Kingdom†	98.6	(0.8)	0.6	(0.5)	0.8	(0.6)	98.1	(1.1)	1.3	(0.9)	0.6	(0.6)	72.1	(3.4)	25.3	(3.3)	2.6	(1.4)
	United States*	94.4	(2.2)	5.3	(2.2)	0.3	(0.3)	98.0	(1.0)	1.9	(1.0)	0.2	(0.2)	72.0	(3.5)	27.0	(3.5)	1.0	(0.8)
	OECD average	75.1	(0.4)	21.4	(0.4)	3.4	(0.2)	89.4	(0.3)	9.2	(0.3)	1.4	(0.1)	64.5	(0.5)	31.8	(0.5)	3.7	(0.2)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.31. Reasons for transferring students to another school [2/4]

Results based on principals' reports

	Percentage of students in schools where students would be transferred to another school for the following reasons:																	
	Low academic achievement						High academic achievement						Behavioural problems					
	Not likely		Likely		Very likely		Not likely		Likely		Very likely		Not likely		Likely		Very likely	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																		
Albania	69.7	(2.5)	27.2	(2.3)	3.1	(0.8)	81.9	(2.1)	16.4	(2.0)	1.7	(0.9)	52.2	(2.8)	42.9	(3.0)	4.9	(1.1)
Argentina	84.3	(2.4)	13.4	(2.1)	2.3	(1.0)	94.9	(1.4)	4.4	(1.3)	0.7	(0.5)	64.9	(2.8)	31.2	(2.8)	3.9	(1.1)
Baku (Azerbaijan)	62.7	(4.3) †	28.9	(3.9) †	8.4	(2.6) †	58.2	(4.1) †	35.4	(4.1) †	6.4	(1.8) †	49.1	(4.3) †	39.3	(4.0) †	11.6	(3.0) †
Brazil	88.0	(1.3)	10.3	(1.2)	1.7	(0.6)	90.9	(1.3)	7.9	(1.4)	1.2	(0.6)	56.5	(2.3)	39.2	(2.4)	4.3	(1.0)
Brunei Darussalam	81.1	(0.1)	18.6	(0.1)	0.3	(0.0)	87.0	(0.1)	13.0	(0.1)	0.0	c	57.5	(0.1)	36.3	(0.1)	6.2	(0.0)
Bulgaria	79.0	(3.4)	18.6	(3.2)	2.4	(1.2)	95.3	(1.7)	4.7	(1.7)	0.0	c	26.1	(3.2)	53.6	(3.8)	20.3	(3.0)
Cambodia	76.9	(4.6)	20.5	(4.3)	2.6	(1.5)	76.3	(4.5)	17.9	(4.1)	5.8	(2.4)	73.8	(4.8)	18.1	(4.7)	8.2	(3.1)
Croatia	64.0	(3.7)	29.0	(3.4)	7.0	(2.1)	91.3	(2.0)	8.7	(2.0)	0.0	c	67.9	(3.3)	28.9	(3.2)	3.2	(1.4)
Cyprus	76.0	(0.3)	20.5	(0.3)	3.5	(0.1)	92.2	(0.1)	6.0	(0.1)	1.8	(0.1)	17.0	(0.3)	66.2	(0.3)	16.8	(0.3)
Dominican Republic	76.4	(3.4) †	19.9	(3.1) †	3.7	(1.6) †	88.1	(2.6) †	8.0	(2.4) †	3.8	(1.5) †	50.7	(4.0) †	39.4	(4.1) †	9.9	(2.5) †
El Salvador	85.6	(2.3)	11.5	(2.0)	2.9	(1.3)	78.3	(2.6)	14.4	(2.3)	7.3	(1.6)	73.2	(2.7)	19.7	(2.4)	7.1	(1.8)
Georgia	65.4	(3.1)	31.0	(3.4)	3.6	(1.3)	79.0	(2.5)	17.7	(2.4)	3.3	(1.4)	63.5	(3.4)	32.8	(3.3)	3.6	(1.1)
Guatemala	76.3	(2.3)	20.5	(2.4)	3.2	(1.2)	79.0	(2.8)	13.6	(2.2)	7.5	(1.8)	59.0	(3.3)	33.6	(3.2)	7.4	(1.9)
Hong Kong (China)*	33.2	(4.3) †	53.6	(4.3) †	13.2	(3.0) †	55.8	(4.9) †	39.7	(5.0) †	4.5	(2.2) †	39.6	(3.6) †	51.8	(3.6) †	8.5	(2.9) †
Indonesia	76.2	(3.0)	22.3	(2.9)	1.5	(0.9)	85.6	(2.1)	12.6	(2.1)	1.8	(0.8)	20.0	(2.8)	53.6	(3.6)	26.4	(3.6)
Jamaica*	81.4	(2.3) †	18.4	(2.3) †	0.2	(0.2) †	65.5	(3.5) †	23.3	(2.9) †	11.1	(1.8) †	30.6	(4.2) †	54.4	(4.0) †	15.1	(2.6) †
Jordan	69.3	(2.8)	25.1	(2.7)	5.5	(1.3)	58.5	(2.9)	31.5	(2.9)	9.9	(2.2)	9.8	(2.1)	57.6	(3.5)	32.7	(3.4)
Kazakhstan	71.4	(2.2)	25.6	(2.1)	3.0	(0.8)	62.6	(2.5)	32.2	(2.6)	5.2	(1.2)	64.1	(2.3)	31.4	(2.3)	4.5	(0.7)
Kosovo	51.3	(1.2)	47.4	(1.2)	1.3	(0.4)	60.3	(1.3)	32.0	(1.3)	7.7	(0.6)	7.8	(0.7)	64.2	(1.3)	28.0	(1.2)
Macao (China)	16.2	(0.0)	55.2	(0.1)	28.6	(0.1)	58.1	(0.1)	38.1	(0.1)	3.9	(0.0)	10.4	(0.0)	65.7	(0.1)	23.8	(0.1)
Malaysia	84.5	(2.4)	12.4	(2.3)	3.1	(1.3)	53.4	(3.0)	27.1	(3.1)	19.5	(3.0)	41.5	(3.4)	44.6	(3.6)	13.9	(2.4)
Malta	100.0	c	0.0	c	0.0	c	93.2	(0.1)	3.3	(0.1)	3.4	(0.1)	87.5	(0.1)	12.5	(0.1)	0.0	c
Moldova	95.2	(1.5)	4.5	(1.5)	0.3	(0.2)	90.2	(2.0)	7.1	(1.8)	2.7	(0.9)	91.4	(2.1)	8.0	(2.0)	0.6	(0.4)
Mongolia	61.0	(3.2)	36.2	(3.2)	2.9	(1.1)	43.4	(3.3)	48.5	(3.2)	8.2	(1.8)	50.7	(3.2)	45.6	(3.2)	3.8	(1.3)
Montenegro	91.9	(0.3)	5.6	(0.3)	2.5	(0.0)	85.3	(0.4)	14.7	(0.4)	0.0	c	74.2	(0.5)	24.4	(0.7)	1.4	(0.4)
Morocco	86.5	(2.7)	11.1	(2.4)	2.4	(1.2)	73.2	(3.5)	18.0	(3.0)	8.9	(2.4)	42.3	(4.2)	47.0	(4.1)	10.7	(1.8)
North Macedonia	44.1	(0.1)	49.3	(0.1)	6.6	(0.0)	61.6	(0.1)	35.5	(0.1)	2.9	(0.0)	7.0	(0.0)	78.8	(0.1)	14.3	(0.1)
Palestinian Authority	77.3	(2.4)	20.3	(2.4)	2.5	(0.9)	66.8	(3.0)	24.5	(2.9)	8.7	(1.8)	11.3	(1.9)	60.8	(3.3)	27.9	(3.0)
Panama*	63.3	(4.6) †	32.2	(4.6) †	4.6	(1.2) †	82.1	(3.9) †	14.3	(3.9) †	3.6	(1.7) †	24.4	(4.2) †	56.3	(4.7) †	19.4	(4.1) †
Paraguay	74.1	(3.4)	23.5	(3.2)	2.4	(1.1)	80.3	(3.1)	15.3	(2.9)	4.4	(1.6)	53.6	(3.6)	38.8	(3.6)	7.5	(1.8)
Peru	89.3	(1.8)	10.5	(1.8)	0.2	(0.2)	76.2	(2.1)	19.2	(2.1)	4.5	(1.2)	73.3	(2.3)	23.1	(2.3)	3.6	(1.1)
Philippines	87.0	(2.7)	12.5	(2.8)	0.5	(0.5)	79.7	(3.6)	16.2	(3.5)	4.1	(1.4)	57.7	(3.5)	34.7	(3.2)	7.6	(1.9)
Qatar	60.8	(0.1)	35.4	(0.1)	3.8	(0.0)	75.2	(0.1)	16.6	(0.1)	8.1	(0.1)	29.1	(0.1)	57.2	(0.1)	13.7	(0.1)
Romania	63.2	(3.3)	33.0	(3.4)	3.8	(1.2)	70.2	(3.4)	26.2	(3.1)	3.6	(1.4)	59.6	(3.8)	36.4	(3.5)	4.0	(1.6)
Saudi Arabia	63.1	(3.3)	32.2	(3.3)	4.7	(1.2)	74.0	(3.6)	23.5	(3.4)	2.5	(1.1)	29.2	(3.2)	50.2	(3.5)	20.6	(3.1)
Serbia	71.5	(3.2)	21.5	(3.2)	7.1	(1.8)	88.2	(2.5)	10.3	(2.4)	1.5	(0.9)	37.0	(3.1)	51.0	(3.3)	12.1	(2.5)
Singapore	95.9	(1.1)	3.3	(1.1)	0.8	(0.0)	97.4	(0.0)	1.4	(0.0)	1.2	(0.0)	89.7	(1.3)	10.3	(1.3)	0.0	c
Chinese Taipei	32.4	(4.1)	50.5	(3.9)	17.1	(2.5)	77.9	(3.6)	22.0	(3.6)	0.0	(0.0)	18.6	(3.3)	61.6	(4.0)	19.8	(3.0)
Thailand	45.7	(3.8)	53.6	(3.9)	0.7	(0.4)	53.3	(4.2)	40.6	(3.7)	6.1	(1.9)	13.4	(2.4)	81.8	(2.8)	4.8	(1.8)
Ukrainian regions (18 of 27)	84.9	(3.0)	10.9	(2.5)	4.2	(1.7)	87.9	(2.7)	10.8	(2.6)	1.3	(0.9)	80.7	(3.4)	18.2	(3.3)	1.1	(0.9)
United Arab Emirates	76.4	(0.3)	20.1	(0.5)	3.4	(0.7)	86.2	(0.2)	10.9	(0.1)	3.0	(0.1)	42.4	(0.8)	47.0	(0.9)	10.6	(0.1)
Uruguay	90.8	(1.9)	8.2	(1.8)	1.1	(0.8)	93.7	(1.5)	6.3	(1.5)	0.0	c	74.8	(2.7)	23.9	(2.6)	1.3	(0.8)
Uzbekistan	79.5	(2.6)	13.8	(2.3)	6.7	(1.5)	65.4	(3.1)	27.2	(3.1)	7.4	(1.9)	66.1	(3.4)	27.0	(3.1)	6.9	(1.6)
Viet Nam	42.1	(3.9)	52.5	(3.9)	5.4	(2.1)	43.8	(3.8)	47.9	(3.9)	8.3	(1.7)	45.6	(4.2)	50.6	(4.1)	3.9	(1.9)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.31. Reasons for transferring students to another school [3/4]

Results based on principals' reports

		Percentage of students in schools where students would be transferred to another school for the following reasons:											
		Special learning needs						Parents' or guardians' request					
		Not likely		Likely		Very likely		Not likely		Likely		Very likely	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	89.2	(1.3)	10.3	(1.2)	0.5	(0.3)	50.4	(2.2)	38.7	(1.8)	10.9	(1.4)
	Austria	79.0	(2.5)	17.7	(2.3)	3.3	(1.0)	46.2	(2.9)	31.7	(2.5)	22.1	(2.3)
	Belgium	65.2	(2.8)	31.8	(2.7)	3.0	(1.0)	34.5	(3.2)	46.5	(3.5)	19.0	(2.6)
	Canada*	81.6	(1.4)	17.0	(1.4)	1.4	(0.6)	46.1	(2.2)	45.9	(2.2)	8.0	(1.3)
	Chile	85.7	(2.6)	13.5	(2.4)	0.8	(0.8)	26.0	(3.5)	56.8	(3.9)	17.2	(2.6)
	Colombia	90.7	(2.1)	8.7	(2.0)	0.6	(0.4)	5.2	(1.5)	46.4	(3.8)	48.4	(3.6)
	Costa Rica	61.1	(4.4)	32.6	(4.3)	6.3	(2.2)	3.0	(1.5)	62.3	(3.9)	34.7	(4.0)
	Czech Republic	86.6	(1.8)	12.8	(1.8)	0.5	(0.3)	38.5	(2.9)	56.2	(3.0)	5.3	(1.2)
	Denmark*	46.0	(3.5)	52.0	(3.4)	2.0	(1.0)	25.3	(2.9)	61.8	(2.9)	12.9	(2.2)
	Estonia	67.5	(2.7)	29.4	(2.6)	3.1	(1.1)	16.7	(1.9)	58.5	(2.9)	24.8	(2.5)
	Finland	92.7	(1.6)	6.6	(1.6)	0.7	(0.5)	49.2	(3.3)	47.6	(3.4)	3.2	(1.2)
	France	80.7	(2.8)	17.2	(2.7)	2.1	(0.9)	30.7	(3.7)	51.5	(4.0)	17.9	(2.7)
	Germany	79.6	(2.6)	18.7	(2.4)	1.7	(1.0)	35.9	(3.7)	51.4	(3.7)	12.7	(2.4)
	Greece	51.0	(3.4)	44.3	(3.3)	4.7	(1.3)	8.9	(1.9)	60.9	(3.3)	30.1	(3.0)
	Hungary	93.5	(1.8)	5.8	(1.8)	0.6	(0.7)	33.9	(3.4)	47.7	(3.5)	18.5	(3.1)
	Iceland	95.4	(0.1)	3.6	(0.1)	1.1	(0.1)	39.6	(0.3)	51.8	(0.3)	8.7	(0.1)
	Ireland*	96.0	(1.5)	3.0	(1.4)	0.9	(0.7)	75.4	(3.2)	22.4	(3.2)	2.3	(1.1)
	Israel	47.0	(3.5)	46.8	(3.5)	6.2	(1.8)	16.5	(2.7)	62.8	(3.6)	20.7	(2.9)
	Italy	91.3	(1.7)	8.2	(1.6)	0.5	(0.5)	11.5	(2.2)	60.2	(3.6)	28.3	(3.4)
	Japan	49.1	(3.4)	50.7	(3.5)	0.3	(0.3)	32.3	(3.4)	66.9	(3.4)	0.8	(0.6)
	Korea	80.9	(3.2)	17.2	(3.0)	1.9	(1.0)	39.2	(4.9)	45.7	(4.4)	15.1	(4.6)
	Latvia*	55.1	(3.0)	40.6	(2.8)	4.3	(1.4)	16.1	(2.0)	48.3	(2.7)	35.5	(2.9)
	Lithuania	77.9	(2.0)	20.6	(2.0)	1.5	(0.7)	10.5	(1.7)	38.8	(2.8)	50.7	(2.5)
	Mexico	62.8	(3.7)	30.3	(3.3)	6.9	(1.7)	12.5	(3.0)	48.6	(3.3)	38.9	(3.1)
	Netherlands*	49.0	(5.4)	42.0	(4.7)	9.1	(3.6)	55.2	(4.6)	32.8	(4.6)	11.9	(3.1)
	New Zealand*	97.8	(1.5)	2.2	(1.5)	0.0	c	59.9	(4.2)	27.1	(3.7)	13.0	(2.7)
	Norway	86.8	(2.4)	12.7	(2.4)	0.5	(0.5)	58.4	(3.2)	35.5	(3.3)	6.1	(1.2)
	Poland	63.4	(2.9)	34.1	(2.6)	2.5	(1.0)	4.6	(1.1)	66.8	(3.2)	28.6	(3.1)
	Portugal	91.3	(1.6)	8.1	(1.8)	0.6	(0.6)	16.2	(2.5)	53.2	(3.6)	30.6	(3.2)
	Slovak Republic	83.8	(2.6)	15.2	(2.5)	1.0	(0.5)	49.7	(3.4)	42.3	(3.3)	8.0	(2.0)
	Slovenia	60.4	(0.7)	35.6	(0.7)	4.1	(0.2)	10.8	(0.3)	59.5	(0.5)	29.7	(0.5)
	Spain	82.5	(1.8)	16.0	(1.8)	1.4	(0.6)	43.0	(2.3)	47.2	(2.5)	9.8	(1.3)
	Sweden	90.7	(1.9)	9.3	(1.9)	0.0	c	57.5	(3.4)	33.2	(3.3)	9.2	(2.1)
	Switzerland	61.2	(3.2)	36.3	(3.3)	2.4	(1.1)	58.6	(3.8)	36.0	(3.7)	5.5	(1.8)
	Türkiye	43.8	(3.6)	50.9	(3.6)	5.3	(1.6)	2.8	(1.3)	53.6	(3.8)	43.6	(3.7)
	United Kingdom*	91.4	(2.0)	6.7	(1.9)	1.9	(1.1)	60.4	(3.4)	36.0	(3.4)	3.6	(1.1)
	United States*	90.0	(2.5)	9.5	(2.6)	0.6	(0.5)	66.4	(4.3)	26.1	(4.2)	7.5	(2.1)
	OECD average	75.6	(0.4)	22.1	(0.4)	2.3	(0.2)	33.7	(0.5)	47.5	(0.5)	18.8	(0.4)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.31. Reasons for transferring students to another school [4/4]

Results based on principals' reports

		Percentage of students in schools where students would be transferred to another school for the following reasons:											
		Special learning needs						Parents' or guardians' request					
		Not likely		Likely		Very likely		Not likely		Likely		Very likel y	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	60.3	(2.8)	37.2	(2.9)	2.6	(0.9)	8.9	(1.5)	68.0	(2.6)	23.1	(2.4)
	Argentina	77.1	(2.8)	20.1	(2.5)	2.8	(1.1)	12.7	(1.9)	49.6	(2.7)	37.7	(2.6)
	Baku (Azerbaijan)	40.8	(4.3) †	53.6	(4.3) †	5.6	(2.1) †	6.3	(2.1) †	52.6	(4.0) †	41.1	(4.0) †
	Brazil	82.0	(2.2)	15.8	(2.1)	2.3	(0.7)	8.2	(1.1)	42.5	(2.1)	49.3	(2.2)
	Brunei Darussalam	62.7	(0.1)	37.0	(0.1)	0.3	(0.0)	14.0	(0.1)	63.5	(0.1)	22.5	(0.1)
	Bulgaria	86.4	(2.6)	9.0	(2.2)	4.6	(1.7)	17.1	(3.2)	41.2	(3.8)	41.7	(3.7)
	Cambodia	42.5	(5.7)	40.9	(5.9)	16.6	(3.8)	5.5	(2.1)	33.5	(5.2)	61.0	(5.6)
	Croatia	58.9	(3.8)	38.5	(3.7)	2.6	(1.3)	15.2	(2.4)	55.6	(3.7)	29.2	(3.4)
	Cyprus	64.4	(0.7)	30.4	(0.7)	5.2	(0.2)	7.7	(0.2)	65.7	(0.3)	26.6	(0.4)
	Dominican Republic	62.5	(3.7) †	28.4	(4.0) †	9.1	(2.4) †	11.0	(2.3) †	35.2	(3.6) †	53.8	(3.8) †
	El Salvador	52.1	(3.4)	35.3	(3.3)	12.6	(2.4)	10.7	(2.0)	41.3	(3.5)	48.0	(3.5)
	Georgia	84.6	(2.5)	14.7	(2.4)	0.7	(0.5)	14.2	(2.4)	59.3	(3.3)	26.5	(3.0)
	Guatemala	72.6	(3.2)	20.2	(2.5)	7.2	(1.8)	10.4	(1.6)	51.8	(3.4)	37.7	(3.4)
	Hong Kong (China)*	54.8	(4.1) †	43.7	(4.1) †	1.5	(1.2) †	20.1	(3.6) †	70.0	(4.1) †	9.9	(2.7) †
	Indonesia	65.9	(3.6)	28.9	(3.2)	5.2	(1.6)	4.1	(1.3)	44.4	(3.3)	51.5	(3.5)
	Jamaica*	51.9	(3.7) †	34.7	(3.5) †	13.4	(1.7) †	5.7	(2.2) †	48.3	(4.3) †	46.0	(4.4) †
	Jordan	23.0	(2.7)	56.4	(3.1)	20.6	(2.5)	5.6	(1.7)	31.9	(3.5)	62.4	(3.7)
	Kazakhstan	51.3	(2.6)	43.8	(2.5)	4.8	(1.2)	5.0	(0.9)	60.1	(2.4)	35.0	(2.3)
	Kosovo	43.3	(1.4)	53.9	(1.4)	2.8	(0.3)	3.5	(0.3)	71.7	(1.4)	24.9	(1.4)
	Macao (China)	18.3	(0.1)	73.2	(0.1)	8.5	(0.0)	20.5	(0.0)	59.7	(0.1)	19.8	(0.0)
	Malaysia	43.5	(3.5)	38.5	(3.5)	18.0	(2.8)	1.4	(0.8)	29.7	(3.4)	68.8	(3.5)
	Malta	90.9	(0.2)	9.1	(0.2)	0.0	c	64.5	(0.1)	35.5	(0.1)	0.0	c
	Moldova	89.8	(2.4)	9.4	(2.4)	0.9	(0.4)	13.7	(2.5)	39.9	(3.0)	46.4	(3.2)
	Mongolia	37.8	(3.3)	55.3	(3.5)	6.9	(1.9)	11.6	(2.3)	63.3	(3.1)	25.1	(2.6)
	Montenegro	84.1	(0.5)	14.6	(0.5)	1.2	(0.0)	10.8	(0.6)	49.3	(0.6)	39.9	(0.7)
	Morocco	27.5	(3.3)	58.1	(3.6)	14.4	(2.6)	2.3	(1.2)	32.0	(3.4)	65.7	(3.5)
	North Macedonia	46.3	(0.1)	45.1	(0.1)	8.7	(0.1)	2.4	(0.0)	71.2	(0.1)	26.4	(0.1)
	Palestinian Authority	27.8	(3.0)	55.6	(3.2)	16.6	(2.3)	3.9	(1.2)	49.5	(3.3)	46.5	(3.1)
	Panama*	69.0	(3.6) †	27.2	(3.6) †	3.8	(1.2) †	8.2	(2.6) †	37.3	(4.5) †	54.4	(4.6) †
	Paraguay	70.5	(3.1)	24.3	(2.8)	5.2	(1.6)	8.8	(2.0)	45.4	(3.7)	45.9	(3.7)
	Peru	91.8	(1.5)	7.0	(1.4)	1.2	(0.6)	7.3	(1.0)	39.8	(2.8)	52.9	(2.8)
	Philippines	60.6	(4.0)	33.9	(3.9)	5.4	(1.7)	10.3	(2.3)	54.2	(3.8)	35.5	(3.8)
	Qatar	54.4	(0.1)	30.3	(0.1)	15.3	(0.1)	13.7	(0.1)	60.9	(0.1)	25.4	(0.1)
	Romania	72.9	(3.7)	25.0	(3.6)	2.1	(1.1)	6.9	(1.8)	36.2	(3.6)	57.0	(3.7)
	Saudi Arabia	24.5	(3.5)	48.3	(4.2)	27.2	(3.4)	3.9	(1.5)	30.9	(3.4)	65.3	(3.5)
	Serbia	79.6	(3.2)	17.6	(2.9)	2.8	(1.3)	8.2	(1.7)	40.2	(3.8)	51.6	(3.8)
	Singapore	93.4	(0.9)	5.9	(0.9)	0.8	(0.0)	60.5	(0.8)	34.4	(1.0)	5.1	(0.6)
	Chinese Taipei	27.0	(3.6)	59.6	(4.2)	13.4	(2.9)	16.0	(2.8)	64.6	(4.1)	19.4	(3.5)
	Thailand	47.0	(3.5)	52.2	(3.6)	0.8	(0.6)	4.8	(1.6)	74.6	(3.5)	20.6	(3.0)
	Ukrainian regions (18 of 27)	76.3	(4.4)	22.4	(4.3)	1.3	(0.9)	5.5	(2.6)	64.0	(5.6)	30.5	(5.3)
	United Arab Emirates	64.0	(0.6)	29.4	(0.5)	6.5	(0.1)	12.2	(0.2)	53.1	(0.9)	34.7	(1.0)
	Uruguay	63.7	(2.8)	33.6	(2.9)	2.7	(1.1)	4.7	(1.3)	55.3	(3.0)	40.0	(2.7)
	Uzbekistan	37.7	(3.7)	45.3	(3.6)	16.9	(2.7)	5.9	(1.6)	54.6	(3.5)	39.5	(3.7)
	Viet Nam	41.4	(4.1)	47.9	(4.1)	10.8	(2.4)	0.0	c	48.1	(4.0)	51.9	(4.0)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.38. Assessment practices at school [1/8]

Results based on principals' reports

	Percentage of students in schools where students are assessed in the following ways:																			
	Mandatory standardised tests																			
	Never				1-2 times per year				3-5 times per year				Monthly				More than once a month			
	In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD Australia*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Austria	51.0	(3.1)	61.1	(3.2)	30.3	(2.7)	26.0	(2.6)	13.2	(2.0)	9.7	(1.9)	3.7	(1.1)	2.6	(0.9)	1.7	(0.7)	0.6	(0.4)
Belgium	66.4	(2.9)	74.4	(3.0)	30.8	(2.9)	24.2	(2.9)	0.3	(0.4)	0.4	(0.4)	0.5	(0.5)	0.0	c	1.9	(1.0)	1.0	(0.7)
Canada*	17.0	(1.3)	35.1	(1.8)	75.9	(1.7)	62.1	(1.9)	5.7	(1.0)	1.0	(0.3)	0.6	(0.3)	0.6	(0.4)	0.8	(0.5)	1.2	(0.7)
Chile	2.5	(0.9)	3.0	(1.0)	76.9	(3.6)	80.5	(3.1)	16.8	(3.4)	13.5	(2.6)	2.5	(1.2)	2.5	(1.2)	1.3	(0.8)	0.5	(0.4)
Colombia	22.4	(2.6)	19.6	(2.8)	50.9	(3.1)	53.1	(2.9)	13.7	(2.3)	12.9	(2.2)	6.7	(2.0)	6.6	(1.7)	6.4	(1.2)	7.8	(1.9)
Costa Rica	68.6	(3.9)	70.6	(3.7)	28.4	(3.8)	25.7	(3.3)	0.7	(0.7)	2.4	(1.4)	0.1	(0.1)	0.9	(0.9)	2.1	(1.0)	0.5	(0.5)
Czech Republic	24.9	(2.4)	33.0	(2.6)	66.5	(2.5)	62.4	(2.6)	4.0	(1.1)	3.3	(1.1)	2.1	(1.0)	0.3	(0.3)	2.5	(1.0)	1.0	(0.6)
Denmark*	19.8	(2.9)	22.9	(2.9)	69.2	(3.5)	66.3	(3.3)	10.1	(1.9)	10.3	(2.1)	0.9	(0.6)	0.3	(0.2)	0.0	c	0.1	(0.0)
Estonia	1.9	(0.4)	2.0	(0.4)	94.8	(1.4)	97.7	(0.5)	2.7	(1.2)	0.0	c	0.5	(0.5)	0.0	c	0.0	c	0.3	(0.3)
Finland	44.1	(3.2)	48.6	(3.2)	49.7	(3.3)	46.7	(3.3)	3.9	(1.3)	3.3	(1.0)	2.3	(1.1)	1.3	(0.7)	0.0	c	0.0	c
France	4.9	(1.4)	7.5	(1.7)	87.1	(2.1)	87.7	(2.3)	4.8	(1.7)	2.7	(1.2)	0.9	(0.6)	1.7	(1.0)	2.3	(1.1)	0.5	(0.5)
Germany	39.7	(3.4)	50.3	(3.4)	59.5	(3.5)	48.1	(3.4)	0.8	(0.6)	0.9	(0.3)	0.0	c	0.7	(0.7)	0.0	c	0.0	c
Greece	17.4	(2.4)	35.7	(3.2)	55.5	(3.3)	46.2	(3.7)	14.7	(2.4)	10.3	(2.1)	6.1	(1.3)	6.3	(1.4)	6.3	(1.5)	1.5	(0.9)
Hungary	11.2	(2.5)	19.6	(3.6)	85.3	(2.8)	77.2	(3.7)	3.0	(1.3)	2.0	(1.2)	0.2	(0.2)	1.3	(0.8)	0.2	(0.2)	0.0	c
Iceland	70.0	(0.3)	75.7	(0.2)	24.0	(0.2)	24.2	(0.2)	5.9	(0.1)	0.1	(0.0)	0.0	c	0.0	c	0.0	(0.0)	0.0	c
Ireland*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Israel	25.4	(3.6)	35.0	(3.8)	52.2	(4.0)	47.5	(4.0)	13.7	(2.3)	10.8	(2.4)	5.5	(1.9)	5.0	(1.8)	3.2	(1.3)	1.8	(1.0)
Italy	4.3	(1.4)	9.4	(1.9)	92.0	(1.9)	87.7	(1.9)	1.2	(0.7)	2.3	(1.1)	2.1	(1.0)	0.7	(0.7)	0.4	(0.4)	0.0	c
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	24.4	(4.2)	47.0	(5.1)	65.2	(4.4)	26.9	(4.1)	10.4	(2.1)	25.1	(4.9)	0.0	c	0.0	c	0.0	c	1.0	(0.7)
Latvia*	2.0	(0.8)	0.3	(0.3)	88.6	(2.2)	97.5	(1.1)	6.1	(1.6)	1.9	(1.0)	1.6	(1.0)	0.3	(0.3)	1.7	(1.1)	0.0	c
Lithuania	42.0	(2.4)	33.8	(2.2)	56.1	(2.4)	50.5	(2.5)	1.1	(0.6)	5.7	(1.3)	0.3	(0.3)	7.6	(1.6)	0.5	(0.0)	2.4	(0.7)
Mexico	18.9	(3.2)	22.0	(3.0)	72.5	(3.6)	72.3	(3.2)	3.7	(1.1)	3.4	(1.0)	2.9	(1.3)	1.6	(0.9)	1.9	(0.6)	0.7	(0.7)
Netherlands*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
New Zealand*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Norway	21.1	(3.0)	29.6	(3.4)	70.5	(2.9)	64.3	(3.5)	6.5	(1.6)	5.3	(1.4)	1.9	(0.9)	0.8	(0.6)	0.0	c	0.0	c
Poland	44.4	(3.3)	50.1	(3.5)	41.8	(3.4)	38.6	(3.3)	8.8	(1.7)	5.3	(1.6)	2.1	(0.9)	2.7	(1.1)	2.9	(1.0)	3.3	(1.3)
Portugal	36.3	(3.6)	44.6	(3.4)	40.4	(3.3)	38.0	(3.6)	14.8	(2.8)	9.8	(1.9)	6.1	(1.7)	7.2	(1.9)	2.3	(1.1)	0.4	(0.4)
Slovak Republic	21.7	(2.8)	31.0	(3.2)	70.7	(2.9)	64.2	(3.2)	5.5	(1.4)	4.1	(1.3)	1.8	(0.9)	0.7	(0.5)	0.4	(0.4)	0.0	c
Slovenia	51.8	(0.3)	57.0	(0.3)	39.0	(0.6)	32.2	(0.6)	8.7	(0.4)	9.0	(0.4)	0.4	(0.1)	1.5	(0.1)	0.1	(0.1)	0.3	(0.0)
Spain	38.5	(2.0)	42.8	(2.0)	49.7	(2.3)	49.5	(2.1)	8.0	(1.2)	4.9	(1.0)	1.4	(0.5)	1.8	(0.6)	2.5	(0.9)	1.0	(0.4)
Sweden	0.0	c	0.0	c	58.1	(3.5)	82.7	(2.7)	34.1	(3.6)	14.6	(2.7)	5.2	(1.4)	2.1	(1.0)	2.6	(1.1)	0.6	(0.6)
Switzerland	34.4	(3.5)	39.6	(3.7)	60.8	(3.5)	57.0	(3.8)	1.4	(1.0)	2.4	(1.2)	1.9	(1.2)	1.0	(0.7)	1.5	(0.8)	0.0	c
Türkiye	41.8	(4.0)	46.5	(3.7)	23.1	(2.9)	20.9	(3.2)	16.0	(2.7)	17.2	(2.8)	11.4	(2.7)	7.2	(2.0)	7.6	(1.7)	8.2	(1.8)
United Kingdom*	4.6	(1.4)	5.6	(1.3)	87.8	(2.3)	89.9	(1.9)	6.5	(1.8)	3.7	(1.5)	0.5	(0.4)	0.7	(0.6)	0.7	(0.6)	0.0	(0.0)
United States*	7.7	(2.4)	9.1	(2.4)	54.7	(4.4)	66.2	(3.9)	34.6	(4.1)	21.1	(3.6)	2.1	(1.5)	1.4	(1.3)	0.9	(0.8)	2.2	(1.1)
OECD average	27.5	(0.5)	33.2	(0.5)	59.6	(0.5)	56.7	(0.5)	8.8	(0.3)	6.9	(0.3)	2.3	(0.2)	2.1	(0.2)	1.7	(0.1)	1.2	(0.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.38. Assessment practices at school [2/8]

Results based on principals' reports

		Percentage of students in schools where students are assessed in the following ways:																			
		Mandatory standardised tests																			
		Never				1-2 times per year				3-5 times per year				Monthly				More than once a month			
		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	22.7	(1.9)	26.6	(1.9)	52.7	(2.8)	59.0	(2.3)	19.3	(2.6)	10.2	(1.7)	3.1	(1.1)	3.3	(1.0)	2.1	(0.8)	0.8	(0.6)
	Argentina	19.3	(2.5)	28.2	(3.0)	72.1	(3.1)	68.3	(3.0)	3.3	(0.9)	1.9	(0.9)	2.1	(0.9)	1.0	(0.6)	3.2	(1.1)	0.5	(0.5)
	Baku (Azerbaijan)	1.4	(1.0) †	1.7	(1.2) †	5.8	(1.4) †	8.2	(2.1) †	19.7	(3.2) †	13.0	(2.5) †	52.3	(4.2) †	55.3	(4.4) †	20.9	(3.4) †	21.8	(3.8) †
	Brazil	11.0	(1.4)	10.7	(1.5)	72.2	(2.2)	72.8	(2.2)	10.6	(1.4)	9.8	(1.4)	3.1	(0.9)	5.3	(1.2)	3.0	(0.7)	1.4	(0.6)
	Brunei Darussalam	11.0	(0.1)	14.3	(0.1)	57.7	(0.1)	50.5	(0.1)	28.8	(0.1)	35.2	(0.1)	2.5	(0.0)	0.0	c	0.0	c	0.0	c
	Bulgaria	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Cambodia	29.6	(5.1)	28.5	(4.8)	27.1	(4.8)	31.1	(5.1)	9.2	(3.5)	4.5	(1.9)	34.1	(5.2)	35.4	(5.4)	0.0	c	0.6	(0.6)
	Croatia	52.5	(3.8)	57.7	(3.6)	23.5	(2.9)	26.6	(3.3)	16.2	(2.7)	11.7	(2.4)	5.5	(1.8)	2.8	(1.3)	2.3	(1.0)	1.2	(0.9)
	Cyprus	14.1	(0.6)	17.2	(0.4)	75.4	(0.6)	71.0	(0.3)	5.5	(0.1)	9.2	(0.3)	0.4	(0.0)	1.6	(0.0)	4.5	(0.0)	1.0	(0.0)
	Dominican Republic	24.1	(4.0) †	31.8	(4.2) †	60.3	(3.8) †	51.1	(3.9) †	5.7	(1.9) †	8.0	(2.3) †	6.3	(1.8) †	7.4	(2.3) †	3.5	(1.6) †	1.6	(1.0) †
	El Salvador	38.2	(3.4)	35.0	(3.5)	54.7	(3.6)	57.6	(3.7)	3.0	(1.1)	1.7	(0.8)	3.1	(0.9)	3.6	(1.1)	1.0	(0.7)	2.0	(1.1)
	Georgia	15.0	(2.4)	17.0	(2.7)	30.3	(3.5)	30.0	(2.9)	28.8	(3.1)	29.2	(2.8)	19.7	(2.9)	18.4	(2.6)	6.2	(1.9)	5.3	(1.5)
	Guatemala	12.5	(2.2)	20.1	(2.7)	41.9	(3.5)	38.7	(3.0)	28.0	(3.0)	23.2	(3.1)	10.6	(2.1)	9.2	(1.7)	7.1	(1.8)	8.8	(2.0)
	Hong Kong (China)*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Indonesia	11.0	(2.4)	13.5	(2.4)	73.6	(3.1)	69.8	(2.9)	11.9	(2.3)	12.2	(2.2)	1.1	(0.8)	2.9	(1.3)	2.4	(1.1)	1.6	(0.9)
	Jamaica*	46.7	(3.8) †	51.6	(4.3) †	41.8	(4.6) †	40.2	(3.6) †	1.4	(0.1) †	4.1	(1.1) †	9.5	(3.9) †	3.9	(3.9) †	0.6	(0.1) †	0.2	(0.0) †
	Jordan	9.2	(1.8)	10.8	(2.1)	77.1	(2.7)	77.3	(2.7)	6.4	(1.8)	5.8	(1.6)	4.7	(1.5)	4.0	(1.3)	2.6	(1.2)	2.1	(0.9)
	Kazakhstan	13.9	(1.6)	16.4	(1.9)	38.0	(2.7)	36.5	(2.6)	17.9	(2.0)	20.6	(2.3)	20.2	(1.8)	16.9	(1.8)	9.9	(1.2)	9.5	(1.3)
	Kosovo	12.3	(0.3)	15.8	(0.4)	68.4	(1.1)	56.8	(1.0)	13.8	(1.0)	15.7	(0.9)	4.3	(0.2)	10.0	(0.2)	1.2	(0.3)	1.7	(0.4)
	Macao (China)	10.3	(0.0)	19.4	(0.0)	73.0	(0.0)	62.0	(0.1)	14.5	(0.0)	16.2	(0.0)	2.2	(0.0)	2.2	(0.0)	0.0	c	0.2	(0.0)
	Malaysia	0.6	(0.6)	0.1	(0.1)	67.6	(3.5)	63.7	(3.6)	31.0	(3.5)	32.6	(3.3)	0.5	(0.3)	3.2	(1.5)	0.3	(0.4)	0.5	(0.4)
	Malta	0.0	c	2.2	(0.0)	89.1	(0.1)	92.5	(0.1)	5.4	(0.1)	3.3	(0.0)	5.5	(0.1)	2.0	(0.0)	0.0	c	0.0	c
	Moldova	1.4	(0.7)	1.6	(0.7)	70.4	(2.9)	77.8	(2.7)	14.0	(2.2)	8.9	(1.9)	8.2	(1.4)	6.5	(1.7)	6.0	(1.3)	5.2	(1.3)
	Mongolia	1.4	(0.9)	1.4	(0.8)	72.9	(2.9)	79.3	(2.9)	19.4	(2.9)	13.6	(2.6)	5.3	(1.6)	3.1	(1.3)	1.0	(0.7)	2.6	(1.2)
	Montenegro	37.5	(0.3)	43.5	(0.4)	16.5	(0.4)	12.3	(0.7)	31.2	(0.7)	24.7	(0.6)	14.6	(0.3)	15.1	(0.7)	0.1	(0.0)	4.4	(0.3)
	Morocco	17.0	(2.9)	15.8	(2.7)	75.5	(3.6)	68.6	(3.7)	5.6	(2.1)	9.0	(2.3)	1.2	(0.9)	6.3	(2.0)	0.7	(0.6)	0.3	(0.3)
	North Macedonia	m	m	30.2	(0.1)	m	m	27.4	(0.1)	m	m	23.0	(0.1)	m	m	15.5	(0.1)	m	m	3.9	(0.0)
	Palestinian Authority	26.5	(2.7)	33.9	(3.2)	61.7	(2.7)	56.9	(3.2)	5.5	(1.5)	3.8	(1.3)	4.3	(1.4)	2.1	(1.0)	2.0	(0.6)	3.2	(1.1)
	Panama*	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Paraguay	18.3	(2.6)	23.1	(3.1)	72.0	(3.5)	70.8	(3.5)	5.3	(1.6)	5.2	(1.8)	2.5	(1.3)	0.8	(0.8)	1.9	(1.0)	0.1	(0.1)
	Peru	26.8	(2.8)	20.2	(2.4)	65.5	(2.9)	68.7	(2.7)	4.0	(1.1)	4.8	(1.2)	2.3	(0.8)	3.1	(0.9)	1.4	(0.7)	3.2	(1.0)
	Philippines	42.2	(3.9)	29.6	(3.5)	50.6	(3.8)	39.8	(3.5)	3.2	(1.2)	9.9	(2.0)	1.3	(0.9)	12.0	(2.5)	2.7	(1.2)	8.8	(1.9)
	Qatar	25.7	(0.1)	51.3	(0.1)	43.1	(0.1)	31.5	(0.1)	24.1	(0.1)	10.1	(0.1)	4.9	(0.0)	6.3	(0.1)	2.2	(0.0)	0.8	(0.0)
	Romania	11.0	(2.5)	11.9	(2.6)	75.1	(3.5)	69.3	(3.6)	6.5	(1.9)	7.0	(1.7)	4.2	(1.6)	6.4	(2.1)	3.3	(1.3)	5.3	(1.7)
	Saudi Arabia	31.8	(3.6)	34.5	(3.6)	45.7	(4.0)	39.5	(4.0)	16.2	(2.7)	13.4	(2.6)	5.2	(1.6)	7.6	(2.1)	1.0	(0.7)	5.0	(1.4)
	Serbia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Singapore	2.4	(0.0)	6.4	(0.1)	85.6	(0.9)	86.2	(1.1)	10.2	(0.9)	6.4	(1.1)	1.2	(0.0)	0.4	(0.2)	0.6	(0.0)	0.6	(0.0)
	Chinese Taipei	0.0	c	1.2	(0.8)	3.2	(1.5)	0.7	(0.5)	66.5	(3.8)	68.2	(3.8)	29.7	(3.5)	28.7	(3.8)	0.5	(0.6)	1.2	(0.9)
	Thailand	16.5	(2.2)	19.1	(2.6)	69.7	(3.4)	67.7	(3.5)	7.5	(1.5)	7.6	(2.1)	3.4	(1.4)	2.5	(1.0)	3.0	(0.9)	3.2	(1.4)
	Ukrainian regions (18 of 27)	22.3	(3.8)	m	m	69.3	(4.4)	m	m	3.5	(1.4)	m	m	3.4	(1.5)	m	m	1.4	(0.9)	m	m
	United Arab Emirates	3.3	(0.1)	4.5	(0.1)	47.6	(0.9)	51.1	(0.9)	40.2	(1.0)	35.8	(1.0)	4.2	(0.1)	4.8	(0.1)	4.6	(0.1)	3.9	(0.1)
	Uruguay	44.5	(3.2)	56.7	(2.9)	38.6	(3.3)	26.0	(2.7)	6.5	(1.5)	6.5	(1.6)	6.9	(1.3)	10.0	(1.6)	3.5	(1.3)	0.8	(0.4)
	Uzbekistan	0.0	c	2.2	(1.1)	3.8	(1.4)	17.9	(2.7)	29.0	(3.5)	40.0	(3.2)	31.6	(3.1)	19.4	(2.7)	35.6	(3.3)	20.5	(3.0)
	Viet Nam	0.7	(0.6)	0.0	(0.0)	41.0	(4.1)	47.1	(3.8)	43.1	(4.3)	37.5	(4.3)	10.6	(2.4)	10.3	(2.4)	4.6	(1.8)	5.1	(2.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.38. Assessment practices at school [3/8]

Results based on principals' reports

	Percentage of students in schools where students are assessed in the following ways:																			
	Non-mandatory standardised tests																			
	Never				1-2 times per year				3-5 times per year				Monthly				More than once a month			
	In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																				
Australia*	24.1	(1.8)	23.9	(2.0)	65.8	(2.1)	65.6	(2.3)	7.3	(1.3)	6.5	(1.2)	2.3	(0.7)	2.6	(0.8)	0.4	(0.3)	1.4	(0.6)
Austria	36.8	(2.8)	50.6	(3.0)	51.5	(3.1)	39.5	(2.8)	9.3	(1.7)	7.7	(1.8)	2.0	(0.8)	0.9	(0.5)	0.5	(0.3)	1.3	(0.4)
Belgium	52.2	(3.8)	55.8	(3.6)	42.1	(3.7)	38.5	(3.5)	3.5	(1.5)	2.3	(0.9)	1.0	(0.6)	0.4	(0.5)	1.2	(0.9)	3.1	(1.3)
Canada*	77.4	(2.0)	77.6	(2.0)	18.1	(1.8)	13.7	(1.6)	2.0	(0.7)	4.2	(1.0)	1.2	(0.5)	3.9	(1.1)	1.3	(0.6)	0.7	(0.4)
Chile	27.3	(3.4)	32.3	(3.6)	36.7	(3.8)	32.9	(3.3)	28.0	(3.7)	28.1	(3.3)	6.6	(2.1)	5.5	(1.8)	1.4	(0.8)	1.2	(0.6)
Colombia	26.2	(3.3)	25.6	(3.4)	48.8	(3.5)	37.9	(3.3)	11.7	(2.5)	18.8	(2.6)	7.5	(1.9)	11.7	(2.2)	5.7	(1.8)	6.0	(1.2)
Costa Rica	82.5	(3.3)	81.6	(3.8)	15.7	(3.1)	9.3	(2.9)	1.3	(0.8)	6.0	(2.5)	0.0	c	2.2	(1.4)	0.5	(0.5)	0.9	(0.6)
Czech Republic	51.5	(2.6)	50.4	(3.1)	44.5	(2.8)	46.6	(3.0)	2.5	(0.8)	2.6	(0.8)	1.1	(0.8)	0.2	(0.2)	0.3	(0.2)	0.2	(0.2)
Denmark*	9.9	(2.3)	17.1	(3.1)	59.1	(3.3)	59.2	(3.6)	22.6	(2.8)	20.2	(2.8)	7.4	(1.5)	2.2	(0.9)	1.1	(0.7)	1.3	(0.7)
Estonia	15.0	(1.5)	14.5	(1.8)	64.7	(2.5)	56.2	(2.6)	18.9	(2.0)	18.0	(2.1)	1.4	(0.6)	9.9	(1.7)	0.0	c	1.3	(0.1)
Finland	14.5	(2.5)	17.5	(2.5)	79.3	(2.5)	79.1	(2.5)	4.4	(1.5)	3.3	(1.3)	1.9	(0.9)	0.1	(0.0)	0.0	c	0.0	c
France	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Germany	71.4	(3.6)	77.0	(3.1)	26.4	(3.4)	20.5	(3.1)	1.3	(1.1)	2.2	(1.0)	0.7	(0.7)	0.3	(0.3)	0.3	(0.3)	0.0	c
Greece	46.4	(3.2)	40.7	(3.3)	32.9	(2.9)	29.8	(3.2)	11.1	(2.1)	15.5	(2.5)	6.4	(1.9)	9.5	(2.3)	3.1	(1.2)	4.4	(1.3)
Hungary	48.2	(3.3)	58.0	(3.4)	46.1	(3.1)	36.2	(3.1)	4.6	(1.5)	5.7	(1.8)	1.1	(0.8)	0.0	c	0.0	c	0.0	c
Iceland	13.2	(0.1)	80.5	(0.2)	31.6	(0.3)	12.1	(0.2)	51.1	(0.3)	4.2	(0.1)	2.4	(0.0)	0.6	(0.1)	1.7	(0.0)	2.6	(0.1)
Ireland*	42.5	(3.5)	55.7	(3.8)	57.5	(3.5)	40.9	(3.9)	0.0	c	1.9	(1.1)	0.0	c	1.5	(1.1)	0.0	c	0.0	c
Israel	10.1	(2.0)	12.7	(2.7)	26.8	(3.6)	29.0	(3.3)	41.4	(3.4)	38.3	(4.0)	13.6	(2.7)	12.5	(2.4)	8.1	(2.3)	7.5	(2.1)
Italy	57.7	(3.9)	61.1	(3.5)	30.3	(3.6)	24.8	(3.1)	8.7	(2.2)	11.1	(2.6)	2.8	(1.1)	2.9	(1.2)	0.4	(0.4)	0.0	c
Japan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Korea	20.4	(4.5)	24.3	(4.0)	41.3	(4.1)	35.6	(4.3)	37.7	(3.1)	37.7	(3.7)	0.5	(0.5)	1.1	(0.7)	0.0	c	1.4	(0.8)
Latvia*	9.2	(1.7)	9.4	(2.0)	51.1	(3.3)	49.2	(3.3)	33.4	(3.3)	34.8	(3.0)	6.0	(1.2)	6.6	(1.6)	0.4	(0.3)	0.0	c
Lithuania	2.6	(0.8)	22.7	(2.1)	84.4	(1.8)	55.6	(2.4)	11.6	(1.6)	13.5	(1.7)	0.9	(0.4)	7.0	(1.5)	0.5	(0.5)	1.2	(0.7)
Mexico	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Netherlands*	31.4	(4.9) †	31.2	(4.8) †	60.9	(5.4) †	61.3	(4.9) †	7.7	(3.1) †	5.6	(2.4) †	0.0	c †	0.0	c †	0.0	c †	1.8	(1.3) †
New Zealand*	1.0	(0.8) †	1.7	(1.9) †	30.1	(4.2) †	13.1	(2.8) †	34.6	(3.0) †	58.6	(3.6) †	12.4	(3.0) †	23.1	(3.2) †	21.9	(2.9) †	3.6	(1.5) †
Norway	31.0	(3.4)	37.3	(3.5)	47.7	(3.5)	44.4	(3.6)	13.8	(2.0)	13.4	(2.5)	6.5	(1.6)	4.9	(1.4)	1.0	(0.7)	0.0	c
Poland	14.9	(2.2)	15.4	(2.2)	56.7	(3.5)	54.9	(3.3)	19.6	(2.7)	19.6	(2.8)	6.3	(1.7)	6.7	(1.7)	2.6	(0.8)	3.4	(1.3)
Portugal	37.3	(3.3)	41.0	(3.5)	36.6	(3.5)	37.8	(3.5)	17.0	(2.6)	15.3	(2.2)	7.1	(1.8)	4.7	(1.5)	1.9	(1.0)	1.2	(0.7)
Slovak Republic	40.1	(3.2)	42.8	(3.4)	44.9	(3.6)	46.1	(3.4)	11.6	(2.3)	8.0	(1.6)	2.9	(1.1)	2.7	(1.2)	0.4	(0.3)	0.4	(0.3)
Slovenia	41.7	(0.6)	45.5	(0.6)	39.7	(0.6)	37.4	(0.6)	15.9	(0.6)	15.2	(0.7)	1.1	(0.2)	0.7	(0.1)	1.5	(0.5)	1.2	(0.4)
Spain	51.3	(2.4)	66.4	(2.4)	39.4	(2.3)	26.4	(2.3)	5.4	(0.9)	3.5	(1.0)	1.7	(0.7)	1.7	(0.7)	2.2	(0.8)	2.0	(0.7)
Sweden	31.8	(3.3)	33.0	(3.2)	31.5	(3.3)	36.1	(3.6)	20.3	(3.0)	22.2	(3.1)	13.8	(2.5)	7.5	(1.9)	2.6	(1.2)	1.1	(0.8)
Switzerland	59.5	(3.7)	64.6	(3.6) †	31.8	(3.7)	28.8	(3.5) †	4.2	(1.5)	5.0	(1.7) †	3.3	(1.3)	1.6	(0.8) †	1.1	(0.7)	0.0	c †
Türkiye	15.1	(2.6)	14.9	(2.7)	20.4	(3.0)	23.7	(3.5)	26.5	(3.2)	30.9	(3.2)	24.9	(3.7)	18.1	(3.0)	13.1	(2.5)	12.5	(2.2)
United Kingdom*	31.7	(3.8)	30.3	(3.5)	51.2	(4.2)	40.3	(3.9)	16.1	(2.9)	25.1	(3.9)	0.6	(0.6)	3.6	(1.4)	0.5	(0.5)	0.7	(0.6)
United States*	4.8	(1.9)	21.9	(3.9)	74.5	(4.2)	48.0	(4.8)	16.4	(3.7)	14.0	(3.4)	1.4	(1.0)	11.2	(3.4)	3.0	(1.8)	4.9	(1.9)
OECD average	33.3	(0.5)	39.3	(0.5)	44.7	(0.6)	38.5	(0.6)	15.3	(0.4)	15.3	(0.4)	4.4	(0.2)	5.0	(0.3)	2.3	(0.2)	2.0	(0.2)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.38. Assessment practices at school [4/8]

Results based on principals' reports

		Percentage of students in schools where students are assessed in the following ways:																			
		Non-mandatory standardised tests																			
		Never				1-2 times per year				3-5 times per year				Monthly				More than once a month			
		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	41.9	(2.6)	28.4	(2.3)	30.1	(2.6)	23.1	(2.7)	17.1	(2.0)	33.6	(2.2)	8.7	(1.6)	11.6	(1.8)	2.2	(0.8)	3.3	(0.7)
	Argentina	27.0	(3.1)	31.5	(2.8)	69.6	(3.1)	66.7	(2.9)	1.3	(0.6)	1.2	(0.6)	0.8	(0.6)	0.5	(0.5)	1.3	(0.7)	0.1	(0.1)
	Baku (Azerbaijan)	39.1	(4.4) †	32.4	(3.9) †	24.5	(3.6) †	27.0	(3.9) †	22.0	(3.4) †	18.2	(2.8) †	10.9	(2.6) †	19.8	(3.8) †	3.4	(1.5) †	2.6	(1.5) †
	Brazil	38.1	(2.2)	43.6	(2.6)	29.0	(2.1)	27.2	(2.1)	20.2	(2.2)	15.2	(2.0)	9.7	(1.7)	10.2	(1.6)	3.0	(0.9)	3.8	(0.9)
	Brunei Darussalam	69.2	(0.1)	34.4	(0.1)	28.2	(0.1)	56.1	(0.1)	0.9	(0.0)	8.7	(0.1)	1.7	(0.0)	0.6	(0.0)	0.0	c	0.2	(0.0)
	Bulgaria	4.4	(1.6)	5.3	(2.1)	22.5	(3.4)	32.7	(4.2)	35.5	(3.9)	29.5	(3.8)	27.0	(3.8)	24.7	(3.5)	10.6	(2.6)	7.9	(2.2)
	Cambodia	48.7	(4.9)	38.2	(5.7)	43.5	(5.2)	38.8	(5.4)	1.6	(1.2)	7.1	(2.5)	6.2	(2.5)	15.8	(4.5)	0.0	c	0.0	c
	Croatia	60.3	(3.6)	60.7	(3.7)	29.3	(3.2)	21.8	(3.0)	7.5	(2.1)	12.9	(2.2)	2.5	(1.2)	3.6	(1.5)	0.4	(0.4)	1.0	(0.8)
	Cyprus	56.4	(0.5)	65.6	(0.3)	29.9	(0.4)	21.2	(0.2)	6.8	(0.1)	5.1	(0.3)	6.6	(0.1)	1.6	(0.0)	0.3	(0.0)	6.5	(0.0)
	Dominican Republic	43.0	(4.1) †	42.5	(3.9) †	20.5	(3.4) †	24.2	(3.1) †	16.3	(3.0) †	13.7	(3.1) †	18.1	(3.2) †	15.8	(3.0) †	2.0	(1.1) †	3.9	(1.5) †
	El Salvador	47.9	(3.4)	47.5	(3.3)	33.7	(3.3)	28.1	(2.4)	9.2	(2.1)	9.9	(2.0)	5.5	(1.5)	10.5	(1.9)	3.8	(1.6)	4.0	(1.4)
	Georgia	34.1	(3.6)	29.7	(3.4)	39.5	(3.5)	38.4	(3.7)	15.1	(2.3)	19.4	(2.8)	7.9	(1.8)	9.6	(1.9)	3.4	(1.2)	3.0	(1.2)
	Guatemala	37.6	(3.1)	40.5	(3.3)	26.5	(3.0)	24.0	(2.5)	14.7	(2.2)	12.4	(1.9)	10.8	(2.2)	12.8	(1.9)	10.4	(2.0)	10.3	(2.4)
	Hong Kong (China)*	43.8	(4.4) †	44.2	(5.2) †	39.2	(4.3) †	38.0	(4.8) †	10.6	(3.1) †	9.1	(2.8) †	2.4	(1.4) †	5.4	(2.1) †	4.0	(2.0) †	3.3	(1.9) †
	Indonesia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Jamaica*	58.0	(3.3) †	54.5	(3.7) †	16.6	(2.8) †	23.9	(4.1) †	10.3	(2.3) †	7.0	(1.3) †	13.3	(4.5) †	11.1	(4.6) †	1.8	(1.3) †	3.5	(0.8) †
	Jordan	41.4	(2.9)	32.8	(2.6)	36.0	(2.8)	41.8	(2.8)	10.6	(2.1)	12.8	(2.3)	6.1	(1.7)	6.8	(1.4)	6.0	(1.6)	5.8	(1.4)
	Kazakhstan	10.0	(1.5)	14.3	(1.5)	22.2	(2.2)	24.2	(2.5)	24.3	(2.2)	22.9	(1.9)	32.2	(2.2)	28.3	(2.3)	11.3	(1.6)	10.3	(1.4)
	Kosovo	25.3	(1.1)	36.2	(1.4)	50.9	(1.4)	20.6	(1.4)	16.1	(0.9)	26.7	(1.1)	6.4	(0.5)	12.5	(0.8)	1.3	(0.4)	3.9	(0.7)
	Macao (China)	67.6	(0.0)	72.9	(0.0)	32.4	(0.0)	27.1	(0.0)	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c	0.0	c
	Malaysia	6.2	(2.0)	6.7	(1.9)	58.7	(3.5)	49.2	(3.9)	22.9	(3.0)	30.6	(3.7)	10.0	(1.7)	11.0	(2.1)	2.2	(1.1)	2.6	(1.1)
	Malta	15.9	(0.2)	15.9	(0.2)	63.3	(0.2)	69.7	(0.2)	13.4	(0.2)	4.2	(0.1)	5.2	(0.1)	7.3	(0.1)	2.2	(0.0)	2.9	(0.1)
	Moldova	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
	Mongolia	9.2	(1.8)	14.3	(2.3)	40.2	(3.1)	49.5	(3.1)	34.7	(3.1)	26.6	(3.3)	11.9	(2.2)	7.8	(2.1)	4.0	(1.0)	1.8	(0.9)
	Montenegro	28.4	(0.4)	37.9	(0.7)	36.0	(0.5)	24.4	(0.3)	30.8	(0.5)	24.2	(0.8)	2.0	(0.5)	11.8	(0.6)	2.8	(0.0)	1.7	(0.3)
	Morocco	15.7	(3.0)	15.5	(2.9)	62.9	(3.8)	64.1	(3.9)	13.2	(2.4)	10.8	(2.6)	5.7	(1.9)	7.5	(2.2)	2.5	(1.4)	2.1	(1.1)
	North Macedonia	m	m	37.5	(0.1)	m	m	23.4	(0.1)	m	m	16.8	(0.1)	m	m	18.6	(0.1)	m	m	3.7	(0.0)
	Palestinian Authority	41.3	(3.3)	37.2	(2.9)	36.0	(3.0)	40.7	(3.2)	13.8	(2.4)	8.7	(1.8)	5.3	(1.3)	10.4	(1.8)	3.6	(1.1)	3.1	(1.0)
	Panama*	36.7	(4.4) †	m	m	43.3	(4.7) †	m	m	5.9	(3.4) †	m	m	8.6	(3.0) †	m	m	5.4	(2.3) †	m	m
	Paraguay	83.0	(3.3)	49.2	(3.7)	12.1	(2.6)	40.4	(3.4)	1.6	(0.9)	8.3	(1.8)	2.7	(1.3)	1.4	(0.8)	0.5	(0.3)	0.8	(0.6)
	Peru	37.5	(2.8)	31.8	(2.7)	53.8	(2.8)	56.8	(2.7)	5.5	(1.2)	7.5	(1.5)	1.2	(0.7)	1.8	(0.6)	2.0	(0.7)	2.2	(0.8)
	Philippines	56.7	(4.0)	50.9	(3.6)	29.3	(3.8)	22.2	(2.9)	5.6	(1.7)	6.7	(1.8)	4.8	(1.6)	10.7	(2.1)	3.6	(1.6)	9.5	(2.3)
	Qatar	29.1	(0.1)	53.3	(0.1)	44.5	(0.1)	28.8	(0.1)	14.0	(0.1)	9.4	(0.1)	6.0	(0.1)	6.9	(0.1)	6.3	(0.1)	1.6	(0.0)
	Romania	2.6	(1.2)	3.4	(1.4)	51.0	(3.9)	44.0	(3.9)	36.2	(3.5)	39.3	(3.8)	5.7	(1.5)	6.6	(1.6)	4.5	(1.7)	6.6	(2.0)
	Saudi Arabia	48.0	(3.5)	48.5	(3.4)	31.9	(3.0)	28.0	(3.1)	12.5	(2.8)	11.6	(2.7)	6.0	(1.7)	9.4	(2.4)	1.7	(1.0)	2.5	(1.3)
	Serbia	41.1	(3.4)	47.2	(3.5)	49.7	(3.4)	43.5	(3.7)	5.9	(1.6)	6.4	(1.8)	1.9	(0.9)	0.9	(0.6)	1.4	(1.0)	2.0	(0.8)
	Singapore	56.8	(1.1)	56.3	(1.0)	27.4	(1.1)	27.4	(1.3)	12.3	(0.9)	14.7	(0.8)	2.1	(0.7)	1.1	(0.2)	1.3	(0.0)	0.6	(0.0)
	Chinese Taipei	12.5	(2.5)	20.6	(3.0)	18.4	(2.8)	21.0	(3.0)	53.8	(4.2)	43.7	(3.7)	6.0	(2.0)	9.7	(2.4)	9.4	(2.4)	5.1	(1.7)
	Thailand	54.2	(3.8)	43.0	(3.4)	37.9	(3.6)	47.6	(3.7)	3.3	(1.5)	6.6	(2.0)	2.6	(1.3)	2.3	(1.0)	2.0	(1.1)	0.5	(0.3)
	Ukrainian regions (18 of 27)	7.9	(2.3)	4.2	(1.6)	40.3	(4.7)	45.5	(5.0)	26.7	(4.5)	26.2	(4.7)	15.9	(4.1)	14.3	(3.8)	9.2	(2.8)	9.7	(2.4)
	United Arab Emirates	18.6	(0.4)	23.5	(0.7)	36.0	(0.6)	36.0	(0.7)	22.6	(0.3)	21.1	(0.2)	13.1	(0.2)	12.2	(0.1)	9.7	(0.1)	7.1	(0.1)
	Uruguay	63.4	(3.0)	67.2	(2.7)	17.7	(2.4)	15.0	(2.1)	6.0	(1.6)	8.3	(1.9)	8.7	(1.5)	7.4	(1.4)	4.2	(1.1)	2.1	(0.5)
	Uzbekistan	3.4	(1.3)	5.6	(1.7)	46.0	(3.3)	61.0	(3.5)	21.8	(3.1)	16.1	(2.9)	20.9	(2.5)	13.0	(2.4)	7.9	(1.8)	4.3	(1.4)
	Viet Nam	64.5	(3.6)	41.7	(3.9)	25.2	(3.6)	34.4	(3.5)	4.2	(1.7)	12.2	(2.9)	4.4	(1.8)	8.2	(1.6)	1.7	(1.0)	3.5	(1.6)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.38. Assessment practices at school [5/8]

Results based on principals' reports

		Percentage of students in schools where students are assessed in the following ways:																			
		Teacher-developed tests																			
		Never				1-2 times per year				3-5 times per year				Monthly				More than once a month			
		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	0.2	(0.1)	0.0	(0.0)	2.5	(0.6)	1.0	(0.4)	36.0	(2.1)	40.2	(2.2)	42.0	(2.2)	42.7	(2.2)	19.2	(1.6)	16.0	(1.5)
	Austria	5.3	(1.3)	9.2	(1.6)	13.8	(2.2)	14.7	(2.2)	45.6	(3.1)	47.3	(3.3)	20.7	(2.6)	16.4	(2.2)	14.5	(2.4)	12.4	(2.1)
	Belgium	0.6	(0.3)	1.0	(0.5)	3.0	(1.1)	2.4	(1.1)	5.8	(1.8)	4.2	(1.4)	9.1	(2.2)	6.9	(1.6)	81.5	(2.9)	85.5	(2.3)
	Canada*	1.0	(0.5)	0.7	(0.4)	1.3	(0.5)	0.2	(0.0)	2.3	(0.6)	3.0	(0.8)	29.7	(2.0)	29.5	(2.2)	65.7	(2.1)	66.6	(2.3)
	Chile	0.8	(0.6)	0.3	(0.3)	6.3	(1.7)	4.4	(1.6)	7.1	(2.3)	7.4	(2.2)	29.8	(3.6)	38.8	(3.7)	56.0	(4.2)	49.1	(4.1)
	Colombia	2.2	(1.0)	1.6	(0.8)	6.6	(1.7)	5.1	(1.7)	27.6	(3.3)	19.8	(2.8)	18.3	(3.0)	22.4	(3.1)	45.4	(3.7)	51.1	(3.7)
	Costa Rica	0.7	(0.7)	3.0	(1.4)	4.2	(1.8)	2.2	(1.4)	75.4	(3.5)	70.5	(3.6)	11.6	(2.5)	11.7	(2.9)	8.0	(2.1)	12.6	(2.7)
	Czech Republic	1.4	(0.5)	0.8	(0.4)	7.3	(1.3)	3.0	(0.9)	14.5	(2.1)	13.8	(2.0)	26.0	(2.7)	26.7	(2.7)	50.9	(3.3)	55.7	(3.1)
	Denmark*	20.4	(2.9)	15.1	(3.0)	30.6	(3.0)	27.9	(3.0)	31.6	(3.7)	43.1	(3.7)	15.7	(2.1)	13.6	(2.1)	1.7	(0.7)	0.3	(0.3)
	Estonia	0.5	(0.3)	0.3	(0.3)	12.5	(1.9)	6.7	(1.4)	20.2	(2.1)	16.3	(2.2)	35.0	(2.7)	41.1	(2.5)	31.9	(2.3)	35.6	(2.4)
	Finland	0.6	(0.6)	0.6	(0.6)	0.3	(0.3)	1.9	(0.9)	47.7	(3.5)	50.2	(3.8)	38.5	(2.9)	39.5	(3.5)	12.9	(2.9)	7.7	(2.5)
	France	8.7	(2.1)	5.5	(1.7)	12.9	(2.4)	6.6	(1.8)	8.2	(2.1)	7.9	(2.0)	14.0	(2.9)	22.1	(3.6)	56.2	(3.9)	57.9	(4.1)
	Germany	1.6	(0.9)	0.3	(0.3)	7.5	(1.7)	9.8	(2.1)	48.2	(3.2)	45.3	(3.3)	22.6	(2.8)	29.8	(3.3)	20.1	(3.0)	14.7	(2.8)
	Greece	0.0	c	0.0	c	5.7	(1.6)	5.3	(1.6)	34.1	(3.0)	38.3	(3.0)	30.8	(2.9)	31.2	(3.4)	29.4	(2.7)	25.3	(3.0)
	Hungary	0.7	(0.7)	0.0	(0.0)	12.3	(2.7)	9.9	(2.4)	20.4	(2.9)	21.1	(2.9)	37.4	(3.6)	37.9	(3.2)	29.3	(3.5)	31.1	(3.2)
	Iceland	5.3	(0.1)	3.1	(0.1)	4.7	(0.1)	0.8	(0.1)	15.9	(0.2)	16.4	(0.2)	44.8	(0.3)	51.9	(0.3)	29.3	(0.3)	27.7	(0.2)
	Ireland*	0.0	c	0.0	c	22.6	(3.2)	14.1	(2.5)	34.1	(3.7)	30.0	(3.6)	30.0	(3.7)	39.3	(3.7)	13.4	(2.4)	16.6	(3.2)
	Israel	1.4	(1.1)	1.4	(1.0)	3.8	(1.5)	3.2	(1.4)	34.4	(3.7)	31.8	(3.4)	24.0	(3.1)	45.5	(3.7)	36.4	(4.0)	18.1	(2.8)
	Italy	1.2	(0.8)	0.0	(0.0)	19.5	(3.4)	13.0	(2.8)	16.5	(2.8)	13.4	(2.3)	35.2	(3.7)	43.0	(3.5)	27.5	(3.7)	30.5	(3.4)
	Japan	0.0	c	0.0	c	0.0	c	1.1	(0.5)	73.7	(3.1)	72.8	(3.1)	9.7	(2.4)	12.8	(2.5)	16.6	(2.5)	13.4	(2.6)
	Korea	2.5	(1.1)	0.0	c	12.6	(2.1)	5.6	(2.5)	83.5	(2.2)	80.8	(4.9)	0.8	(0.6)	2.9	(1.4)	0.7	(0.7)	10.7	(4.7)
	Latvia*	0.0	c	0.0	c	0.5	(0.5)	1.6	(0.7)	13.5	(1.8)	15.0	(2.2)	65.8	(2.9)	66.0	(3.1)	20.2	(2.5)	17.3	(2.4)
	Lithuania	0.1	(0.1)	1.1	(0.4)	12.9	(1.1)	6.9	(1.0)	22.8	(2.0)	20.8	(1.8)	43.7	(2.4)	40.6	(2.3)	20.5	(1.6)	30.5	(1.8)
	Mexico	1.3	(0.8)	2.4	(1.1)	4.2	(1.6)	5.9	(1.7)	23.3	(2.8)	21.3	(2.6)	55.4	(3.6)	56.7	(3.1)	15.8	(2.7)	13.7	(2.6)
	Netherlands*	1.8	(1.6) †	1.4	(1.1) †	0.0	c †	0.7	(0.7) †	26.2	(4.3) †	31.4	(4.0) †	38.9	(4.6) †	46.9	(4.6) †	33.1	(4.1) †	19.6	(3.9) †
	New Zealand*	1.1	(1.1) †	3.4	(1.0) †	5.9	(1.7) †	11.6	(2.6) †	43.6	(4.2) †	39.8	(4.6) †	34.5	(3.7) †	36.0	(4.2) †	14.9	(2.6) †	9.3	(2.1) †
	Norway	0.7	(0.5)	0.7	(0.5)	0.1	(0.1)	2.7	(1.1)	29.4	(2.9)	47.5	(3.1)	45.4	(3.1)	45.6	(3.3)	24.4	(3.2)	3.5	(1.2)
	Poland	1.2	(0.7)	0.1	(0.1)	20.1	(2.5)	10.2	(1.9)	27.9	(2.9)	25.6	(3.1)	26.2	(2.9)	34.2	(2.9)	24.6	(3.3)	30.0	(3.1)
	Portugal	0.6	(0.6)	0.0	c	0.5	(0.5)	0.5	(0.3)	38.0	(3.3)	37.8	(2.9)	39.2	(3.6)	45.1	(3.5)	21.7	(3.0)	16.6	(2.6)
	Slovak Republic	0.5	(0.3)	0.4	(0.3)	3.2	(1.0)	2.9	(0.9)	19.8	(2.6)	26.2	(3.1)	40.3	(3.4)	36.2	(3.5)	36.2	(3.7)	34.3	(3.1)
	Slovenia	1.8	(0.2)	1.3	(0.1)	6.3	(0.1)	4.1	(0.1)	55.9	(0.8)	65.1	(0.7)	15.6	(0.4)	22.0	(0.5)	20.3	(0.7)	7.6	(0.5)
	Spain	2.5	(0.7)	1.1	(0.4)	3.7	(1.0)	1.7	(0.6)	7.9	(1.0)	6.4	(1.1)	25.7	(2.2)	31.4	(2.3)	60.1	(2.5)	59.4	(2.1)
	Sweden	3.4	(1.3)	0.5	(0.5)	2.6	(1.1)	2.0	(0.9)	22.1	(3.1)	39.1	(3.7)	47.3	(4.3)	54.4	(4.0)	24.6	(3.2)	4.0	(1.4)
	Switzerland	7.7	(2.2)	4.2	(1.7)	11.7	(2.8)	11.8	(2.9)	9.8	(1.8)	9.3	(2.4)	30.6	(3.6)	46.0	(4.2)	40.2	(3.7)	28.6	(3.3)
	Türkiye	6.8	(1.9)	2.9	(1.2)	10.2	(1.9)	12.9	(2.2)	28.9	(3.6)	30.6	(3.3)	25.8	(3.2)	24.0	(3.0)	28.3	(3.5)	29.7	(3.4)
	United Kingdom*	0.7	(0.8)	1.1	(0.8)	4.8	(1.6)	3.4	(1.2)	49.8	(3.7)	41.7	(4.0)	35.2	(3.8)	38.0	(3.7)	9.6	(2.2)	15.7	(2.9)
	United States*	0.0	c	0.9	(0.7)	1.7	(0.9)	3.3	(1.7)	0.6	(0.6)	1.8	(1.0)	30.7	(4.3)	28.2	(3.8)	67.0	(4.4)	65.8	(4.4)
	OECD average	2.3	(0.2)	1.7	(0.1)	7.5	(0.3)	6.0	(0.3)	29.8	(0.5)	30.6	(0.5)	30.4	(0.5)	34.0	(0.5)	30.0	(0.5)	27.7	(0.5)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.38. Assessment practices at school [6/8]

Results based on principals' reports

		Percentage of students in schools where students are assessed in the following ways:																			
		Teacher-developed tests																			
		Never				1-2 times per year				3-5 times per year				Monthly				More than once a month			
		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	0.0	c	1.3	(0.0)	1.8	(0.8)	1.1	(0.6)	70.8	(2.3)	62.6	(2.5)	23.9	(2.1)	30.6	(2.1)	3.5	(1.1)	4.3	(1.2)
	Argentina	6.1	(1.4)	3.6	(1.1)	1.7	(0.8)	1.2	(0.5)	12.6	(2.1)	11.7	(2.0)	36.5	(3.2)	43.1	(2.9)	43.1	(2.9)	40.4	(2.8)
	Baku (Azerbaijan)	0.0	c †	0.0	c †	5.0	(2.0) †	7.4	(2.2) †	19.5	(3.3) †	15.2	(3.1) †	48.9	(4.2) †	46.3	(4.3) †	26.6	(3.7) †	31.2	(4.0) †
	Brazil	1.8	(0.4)	2.6	(0.7)	2.5	(0.7)	2.2	(0.8)	12.9	(1.8)	11.0	(1.7)	44.7	(2.7)	45.2	(2.7)	38.0	(2.1)	39.1	(2.4)
	Brunei Darussalam	3.7	(0.0)	2.5	(0.0)	17.0	(0.1)	13.6	(0.1)	37.0	(0.1)	43.1	(0.1)	30.0	(0.1)	33.0	(0.1)	12.3	(0.1)	7.7	(0.1)
	Bulgaria	0.0	c	0.0	c	5.2	(1.7)	4.0	(1.5)	24.5	(3.6)	31.0	(3.9)	49.3	(3.8)	45.4	(3.7)	21.0	(3.5)	19.6	(3.0)
	Cambodia	3.9	(2.3)	4.3	(2.4)	8.9	(2.9)	8.5	(2.9)	4.1	(2.3)	4.0	(1.9)	71.1	(4.1)	77.9	(3.9)	12.0	(3.8)	5.2	(2.5)
	Croatia	0.0	c	0.0	c	7.2	(1.9)	3.1	(1.2)	39.3	(3.5)	42.4	(3.5)	25.9	(2.8)	31.3	(3.4)	27.6	(3.5)	23.2	(3.1)
	Cyprus	0.9	(0.5)	0.2	(0.2)	6.1	(0.1)	6.0	(0.5)	48.9	(0.5)	50.4	(0.5)	14.0	(0.2)	27.6	(0.2)	30.2	(0.3)	15.7	(0.4)
	Dominican Republic	3.1	(1.0) †	3.2	(1.2) †	5.3	(1.8) †	4.3	(1.5) †	20.4	(3.3) †	17.3	(2.9) †	52.6	(4.3) †	52.9	(4.2) †	18.6	(3.5) †	22.2	(3.4) †
	El Salvador	0.3	(0.3)	0.7	(0.4)	4.6	(1.6)	3.4	(1.4)	18.4	(2.7)	17.8	(2.5)	44.5	(3.1)	42.5	(2.9)	32.2	(3.3)	35.6	(2.9)
	Georgia	1.7	(0.9)	1.2	(0.9)	16.2	(2.6)	7.9	(1.9)	22.7	(3.2)	30.0	(3.0)	39.2	(3.4)	42.4	(3.4)	20.2	(2.8)	18.5	(2.5)
	Guatemala	2.8	(1.1)	2.9	(1.0)	3.6	(1.2)	3.7	(1.5)	35.4	(3.6)	34.3	(3.2)	29.4	(3.5)	24.2	(3.0)	28.8	(3.2)	34.9	(3.8)
	Hong Kong (China)*	9.8	(2.9) †	8.9	(2.8) †	9.5	(3.5) †	7.5	(3.1) †	21.3	(3.9) †	20.0	(3.9) †	29.3	(4.8) †	28.2	(4.1) †	30.0	(3.9) †	35.4	(4.2) †
	Indonesia	1.9	(0.9)	1.3	(0.9)	22.4	(2.5)	21.2	(3.2)	28.7	(3.4)	27.8	(3.1)	30.8	(3.4)	34.8	(3.5)	16.2	(2.3)	14.8	(2.4)
	Jamaica*	0.2	(0.2) †	0.2	(0.2) †	0.0	(0.0) †	0.9	(1.2) †	17.8	(2.2) †	14.6	(2.2) †	63.9	(3.3) †	62.4	(3.7) †	18.2	(3.0) †	22.0	(3.2) †
	Jordan	0.6	(0.4)	0.6	(0.0)	4.5	(1.4)	6.7	(1.5)	14.8	(2.5)	13.9	(2.4)	47.4	(3.2)	41.7	(3.0)	32.7	(2.9)	37.1	(2.7)
	Kazakhstan	0.6	(0.3)	0.4	(0.3)	4.3	(1.1)	4.5	(1.0)	11.4	(1.7)	13.2	(1.9)	54.9	(2.4)	55.2	(2.7)	28.7	(2.4)	26.8	(2.2)
	Kosovo	0.0	c	1.7	(0.1)	6.2	(0.8)	3.2	(0.8)	58.5	(1.5)	47.3	(1.5)	27.9	(1.1)	40.6	(1.5)	7.4	(0.8)	7.1	(0.8)
	Macao (China)	1.4	(0.0)	0.2	(0.0)	3.9	(0.0)	1.2	(0.0)	34.7	(0.1)	31.8	(0.1)	20.0	(0.0)	30.6	(0.0)	40.0	(0.1)	36.2	(0.0)
	Malaysia	1.7	(0.9)	1.2	(0.7)	26.3	(3.4)	20.8	(2.9)	36.3	(3.7)	30.7	(3.4)	25.3	(3.2)	32.4	(3.7)	10.4	(2.4)	14.9	(2.8)
	Malta	0.0	c	7.3	(0.2)	7.0	(0.1)	3.5	(0.0)	38.3	(0.2)	40.5	(0.2)	45.8	(0.2)	36.7	(0.2)	8.9	(0.1)	12.0	(0.2)
	Moldova	0.0	c	0.0	c	1.7	(0.9)	1.4	(0.7)	16.0	(2.4)	16.2	(2.1)	53.6	(3.0)	56.0	(3.0)	28.7	(2.6)	26.4	(2.8)
	Mongolia	1.0	(0.8)	0.9	(0.6)	7.3	(1.5)	5.8	(1.2)	19.4	(2.7)	14.8	(2.4)	39.8	(2.8)	52.4	(3.1)	32.5	(2.8)	26.1	(3.0)
	Montenegro	0.0	c	0.3	(0.0)	2.8	(0.2)	3.3	(0.0)	61.4	(0.8)	53.1	(0.7)	26.8	(0.7)	33.5	(0.8)	9.0	(0.5)	9.7	(0.4)
	Morocco	1.3	(0.7)	3.3	(1.0)	10.3	(2.1)	5.9	(1.9)	32.5	(3.7)	34.6	(3.6)	46.2	(4.3)	48.0	(3.4)	9.7	(2.3)	8.2	(2.1)
	North Macedonia	0.0	c	0.9	(0.0)	6.6	(0.0)	0.6	(0.0)	40.2	(0.1)	42.9	(0.1)	37.4	(0.1)	42.1	(0.1)	15.7	(0.1)	13.5	(0.1)
	Palestinian Authority	0.1	(0.1)	0.1	(0.1)	2.2	(1.0)	2.0	(1.0)	14.0	(2.5)	13.3	(2.4)	36.5	(2.7)	36.6	(3.0)	47.2	(2.7)	48.0	(2.4)
	Panama*	3.9	(1.4) †	2.8	(1.3) †	4.8	(1.9) †	3.5	(1.4) †	10.4	(2.5) †	10.1	(3.0) †	10.9	(3.2) †	9.0	(3.0) †	70.0	(4.3) †	74.6	(2.9) †
	Paraguay	1.9	(1.0)	1.7	(1.0)	5.6	(1.6)	8.0	(2.1)	20.8	(3.0)	17.1	(2.7)	38.0	(3.0)	39.3	(3.2)	33.7	(2.9)	33.9	(3.0)
	Peru	3.8	(1.2)	0.9	(0.6)	7.5	(1.5)	8.1	(1.8)	16.4	(2.2)	12.1	(2.0)	29.2	(3.0)	31.5	(3.0)	43.1	(2.9)	47.3	(3.0)
	Philippines	1.9	(1.1)	0.5	(0.8)	2.6	(1.2)	2.0	(0.9)	14.5	(2.3)	15.5	(2.8)	27.4	(3.2)	30.1	(3.2)	53.7	(3.9)	51.8	(3.4)
	Qatar	1.4	(0.0)	1.7	(0.0)	5.4	(0.1)	2.2	(0.0)	22.9	(0.1)	26.2	(0.1)	39.9	(0.1)	36.7	(0.1)	30.3	(0.1)	33.2	(0.1)
	Romania	0.0	c	0.0	c	0.4	(0.2)	1.1	(0.8)	16.4	(2.9)	5.3	(1.8)	47.7	(3.9)	57.4	(3.6)	35.5	(3.7)	36.3	(3.5)
	Saudi Arabia	3.3	(1.4)	5.2	(1.5)	4.9	(1.5)	4.9	(2.0)	9.1	(2.1)	10.5	(2.0)	38.8	(3.7)	38.4	(2.9)	43.9	(3.7)	41.1	(3.5)
	Serbia	3.5	(1.4)	1.6	(0.9)	7.7	(1.7)	4.2	(1.4)	31.4	(3.7)	30.0	(3.6)	29.7	(3.5)	46.9	(3.8)	27.8	(2.9)	17.3	(2.5)
	Singapore	0.6	(0.0)	0.0	c	3.2	(0.0)	1.2	(0.0)	53.1	(0.9)	53.8	(0.8)	33.6	(0.9)	35.9	(0.8)	9.5	(0.5)	9.2	(0.7)
	Chinese Taipei	0.0	c	2.6	(1.4)	3.2	(1.4)	3.5	(1.4)	8.8	(2.1)	9.8	(2.5)	17.4	(3.3)	21.2	(3.1)	70.5	(4.0)	62.9	(3.6)
	Thailand	1.7	(0.7)	3.1	(1.2)	11.5	(2.4)	8.6	(2.0)	17.2	(3.0)	17.0	(2.9)	21.8	(3.5)	21.2	(3.6)	47.8	(3.9)	50.0	(3.9)
	Ukrainian regions (18 of 27)	3.3	(1.6)	1.3	(1.1)	2.2	(0.9)	5.7	(1.8)	22.4	(3.0)	20.0	(3.9)	39.3	(4.2)	43.4	(5.2)	32.8	(5.1)	29.6	(4.6)
	United Arab Emirates	1.2	(0.0)	1.1	(0.0)	3.6	(0.7)	2.4	(0.7)	10.4	(0.4)	7.3	(0.4)	26.8	(0.3)	36.5	(0.4)	58.1	(0.4)	52.6	(0.4)
	Uruguay	0.3	(0.3)	0.7	(0.5)	3.3	(1.0)	4.7	(1.5)	13.7	(2.1)	8.6	(1.7)	49.9	(3.3)	55.7	(3.0)	32.8	(3.3)	30.2	(2.9)
	Uzbekistan	0.0	c	1.4	(1.0)	4.0	(1.4)	3.5	(1.3)	10.7	(2.1)	12.0	(2.3)	43.1	(3.6)	35.9	(3.4)	42.1	(3.7)	47.2	(3.9)
	Viet Nam	0.5	(0.5)	1.1	(0.8)	7.7	(2.1)	5.4	(1.8)	24.0	(3.4)	27.8	(3.6)	43.2	(4.2)	49.2	(4.4)	24.6	(3.9)	16.6	(3.1)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.38. Assessment practices at school [7/8]

Results based on principals' reports

	Percentage of students in schools where students are assessed in the following ways:																			
	Teachers' judgemental ratings																			
	Never				1-2 times per year				3-5 times per year				Monthly				More than once a month			
	In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																				
Australia*	7.0	(0.9)	10.7	(1.2)	15.2	(1.7)	14.2	(1.6)	25.3	(2.1)	25.2	(2.2)	23.9	(1.9)	28.9	(2.0)	28.6	(2.1)	21.0	(2.0)
Austria	0.9	(0.6)	3.7	(1.2)	8.3	(1.9)	6.5	(1.4)	17.0	(2.4)	17.6	(2.3)	21.3	(2.7)	14.9	(2.5)	52.4	(3.2)	57.3	(2.7)
Belgium	0.3	(0.3)	0.6	(0.4)	1.0	(0.7)	1.8	(1.0)	10.8	(2.4)	5.8	(2.0)	5.5	(1.5)	7.4	(1.8)	82.4	(2.8)	84.4	(2.8)
Canada*	36.8	(2.3)	36.6	(2.2)	6.2	(1.1)	5.7	(1.1)	6.9	(1.1)	6.0	(1.2)	12.2	(1.7)	15.9	(1.9)	37.9	(2.1)	35.8	(2.4)
Chile	9.1	(2.4)	11.3	(2.7)	12.4	(2.5)	5.8	(1.7)	11.9	(2.7)	9.6	(2.2)	22.7	(3.5)	22.7	(3.2)	43.9	(4.2)	50.6	(3.9)
Colombia	3.4	(0.9)	6.6	(2.4)	8.1	(2.0)	6.8	(1.7)	18.6	(2.8)	24.1	(3.2)	17.5	(2.7)	19.8	(2.4)	52.4	(3.9)	42.7	(3.4)
Costa Rica	43.9	(3.9)	29.3	(3.9)	12.8	(3.1)	11.8	(3.0)	13.0	(3.1)	24.2	(3.9)	10.3	(2.5)	13.4	(2.7)	20.0	(2.9)	21.3	(3.5)
Czech Republic	18.9	(2.0)	19.5	(2.3)	20.2	(2.2)	20.4	(2.0)	19.2	(2.5)	14.4	(2.1)	16.3	(2.2)	16.7	(2.0)	25.5	(2.1)	29.1	(2.3)
Denmark*	1.7	(0.8)	3.3	(1.4)	23.1	(3.2)	24.0	(2.7)	39.6	(3.5)	35.7	(3.5)	20.3	(2.5)	24.5	(2.7)	15.3	(2.2)	12.4	(2.1)
Estonia	2.9	(0.9)	4.0	(1.0)	7.1	(1.4)	5.8	(1.1)	15.1	(1.5)	8.9	(1.6)	11.8	(1.8)	15.5	(2.2)	63.2	(2.3)	65.8	(2.3)
Finland	0.6	(0.6)	0.0	c	0.2	(0.2)	0.2	(0.2)	3.3	(1.4)	5.5	(1.7)	13.6	(2.5)	12.3	(2.4)	82.3	(3.0)	82.0	(2.8)
France	3.4	(1.4)	4.7	(1.4)	10.3	(2.2)	7.6	(2.0)	56.7	(3.5)	52.4	(3.3)	7.2	(2.0)	13.1	(2.6)	22.4	(3.4)	22.1	(3.0)
Germany	0.0	c	0.8	(0.5)	7.5	(2.1)	5.5	(1.8)	23.9	(3.1)	22.6	(3.1)	18.0	(2.7)	19.6	(2.9)	50.6	(3.5)	51.4	(3.2)
Greece	2.3	(1.0)	2.8	(1.1)	37.2	(3.3)	31.1	(3.4)	17.6	(2.7)	18.6	(2.5)	10.9	(2.2)	17.2	(2.8)	32.1	(3.0)	30.3	(3.5)
Hungary	9.2	(2.5)	7.2	(2.1)	4.7	(1.6)	6.7	(1.9)	5.5	(1.7)	7.8	(2.1)	21.7	(3.1)	24.7	(3.2)	58.8	(3.4)	53.6	(3.6)
Iceland	0.0	c	0.4	(0.0)	3.6	(0.0)	4.5	(0.1)	2.5	(0.1)	9.3	(0.1)	13.9	(0.2)	24.2	(0.3)	80.0	(0.2)	61.5	(0.3)
Ireland*	2.6	(1.4)	5.9	(1.9)	10.6	(2.5)	5.4	(2.0)	33.0	(3.8)	30.0	(3.6)	22.4	(3.1)	27.0	(3.6)	31.5	(3.5)	31.6	(4.0)
Israel	0.4	(0.4)	1.9	(1.1)	60.0	(3.7)	54.2	(3.5)	34.2	(3.5)	35.9	(3.4)	0.6	(0.6)	3.1	(1.4)	4.9	(2.0)	4.9	(1.8)
Italy	7.2	(1.9)	7.5	(2.2)	8.1	(2.3)	7.0	(1.9)	10.7	(2.4)	8.6	(2.3)	14.9	(2.8)	19.0	(2.7)	59.1	(4.0)	57.9	(3.9)
Japan	3.2	(1.4)	2.8	(1.3)	8.3	(2.1)	8.3	(2.1)	49.3	(3.5)	46.5	(3.5)	4.5	(1.8)	5.8	(2.0)	34.7	(3.6)	36.6	(3.7)
Korea	12.7	(3.0)	18.1	(4.9)	16.6	(3.7)	18.5	(3.7)	41.0	(4.5)	40.0	(4.3)	10.5	(2.3)	10.0	(2.1)	19.2	(3.6)	13.4	(3.0)
Latvia*	28.0	(2.5)	30.5	(2.8)	2.4	(1.1)	3.2	(1.0)	4.1	(1.4)	3.7	(1.2)	15.2	(2.6)	22.5	(2.8)	50.4	(3.4)	40.0	(3.2)
Lithuania	3.1	(0.8)	3.4	(0.9)	8.0	(1.3)	4.0	(0.6)	3.5	(1.0)	6.4	(1.4)	21.6	(2.1)	22.2	(1.8)	63.8	(2.2)	63.9	(2.2)
Mexico	9.8	(2.3)	6.3	(1.9)	12.0	(2.4)	11.6	(2.2)	14.9	(2.5)	18.6	(2.7)	36.7	(3.6)	41.7	(3.5)	26.7	(3.2)	21.8	(2.9)
Netherlands*	0.9	(0.9) †	3.0	(1.7) †	7.9	(2.8) †	5.7	(2.4) †	21.7	(3.7) †	31.4	(4.2) †	33.1	(4.7) †	35.9	(4.7) †	36.4	(4.3) †	24.1	(4.3) †
New Zealand*	12.7	(2.5) †	19.8	(3.0) †	17.2	(2.8) †	18.4	(3.2) †	30.2	(4.3) †	25.9	(4.0) †	25.2	(3.4) †	20.2	(2.9) †	14.7	(2.7) †	15.7	(2.9) †
Norway	0.0	c	0.0	c	6.3	(1.8)	7.5	(1.9)	9.5	(2.0)	9.9	(1.9)	15.7	(2.4)	29.5	(3.0)	68.5	(3.2)	53.0	(3.5)
Poland	0.0	c	0.0	c	7.1	(1.7)	2.1	(1.0)	4.1	(1.3)	4.8	(1.4)	12.1	(2.0)	15.7	(2.6)	76.6	(2.8)	77.4	(2.9)
Portugal	3.2	(1.2)	20.5	(2.8)	16.3	(2.7)	9.7	(2.0)	51.7	(3.6)	27.4	(3.2)	15.7	(2.4)	21.0	(2.9)	13.1	(2.4)	21.4	(3.0)
Slovak Republic	11.3	(2.0)	14.2	(2.5)	17.5	(2.4)	12.3	(1.9)	12.3	(2.2)	14.1	(2.5)	21.2	(2.4)	26.7	(3.1)	37.7	(3.6)	32.6	(3.5)
Slovenia	2.6	(0.2)	1.9	(0.3)	24.8	(0.3)	36.3	(0.3)	28.8	(0.9)	31.0	(0.8)	14.5	(0.5)	13.8	(0.3)	29.2	(0.8)	17.0	(0.8)
Spain	8.8	(1.3)	11.7	(1.2)	7.9	(1.3)	5.9	(1.1)	15.6	(1.6)	11.3	(1.3)	13.5	(1.3)	14.7	(1.5)	54.2	(2.0)	56.3	(2.0)
Sweden	0.5	(0.5)	0.5	(0.5)	0.5	(0.5)	1.1	(0.8)	10.2	(2.2)	17.0	(2.7)	30.0	(3.5)	29.4	(3.3)	58.9	(3.7)	51.9	(3.8)
Switzerland	7.4	(2.3)	8.1	(2.1)	12.8	(2.7)	10.2	(2.3)	10.8	(2.3)	10.9	(2.3)	20.3	(3.2)	32.5	(3.5)	48.7	(3.7)	38.4	(3.6)
Türkiye	1.2	(0.7)	2.9	(1.2)	15.1	(3.1)	19.0	(3.1)	45.9	(3.8)	47.0	(3.3)	17.3	(2.9)	13.6	(2.5)	20.5	(3.4)	17.5	(2.9)
United Kingdom*	5.9	(1.5)	7.9	(1.9)	11.6	(2.5)	10.3	(2.5)	56.4	(3.9)	44.8	(3.6)	10.0	(2.4)	17.2	(2.7)	16.2	(3.2)	19.9	(3.0)
United States*	41.6	(4.5)	40.5	(5.0)	3.0	(1.7)	9.0	(2.8)	1.8	(1.1)	2.7	(1.4)	14.7	(3.6)	11.3	(2.9)	38.9	(4.5)	36.4	(4.3)
OECD average	8.2	(0.3)	9.4	(0.3)	12.2	(0.4)	11.3	(0.3)	21.0	(0.4)	20.4	(0.4)	16.7	(0.4)	19.6	(0.4)	41.9	(0.5)	39.3	(0.5)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.38. Assessment practices at school [8/8]

Results based on principals' reports

		Percentage of students in schools where students are assessed in the following ways:																			
		Teachers' judgemental ratings																			
		Never				1-2 times per year				3-5 times per year				Monthly				More than once a month			
		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics		In general		In mathematics	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	17.6	(2.2)	16.4	(2.0)	7.5	(1.6)	10.5	(1.6)	14.9	(1.7)	12.0	(1.8)	27.8	(2.5)	31.1	(2.8)	32.1	(2.9)	30.0	(2.8)
	Argentina	8.6	(1.6)	5.8	(1.5)	8.5	(1.9)	3.6	(1.1)	13.0	(2.1)	10.3	(1.8)	27.0	(3.1)	37.1	(3.0)	42.9	(3.4)	43.2	(2.8)
	Baku (Azerbaijan)	12.6	(2.9) †	14.8	(3.2) †	21.6	(3.5) †	22.3	(3.6) †	23.7	(4.0) †	14.8	(3.3) †	28.9	(4.0) †	36.9	(4.7) †	13.3	(2.7) †	11.2	(2.9) †
	Brazil	14.3	(1.7)	18.5	(1.7)	15.7	(2.2)	12.3	(1.8)	18.2	(1.9)	17.4	(2.1)	28.4	(2.4)	28.4	(2.2)	23.4	(2.4)	23.4	(2.2)
	Brunei Darussalam	11.3	(0.1)	13.4	(0.1)	26.6	(0.1)	22.0	(0.1)	19.2	(0.1)	15.7	(0.1)	33.1	(0.1)	31.2	(0.1)	9.8	(0.1)	17.7	(0.1)
	Bulgaria	0.6	(0.6)	0.8	(0.8)	8.8	(2.3)	8.4	(2.3)	21.3	(3.2)	21.2	(3.4)	39.5	(3.9)	45.6	(3.8)	29.7	(3.8)	24.1	(3.3)
	Cambodia	4.3	(2.3)	6.6	(2.9)	7.8	(2.8)	8.8	(2.9)	4.1	(2.3)	1.1	(0.9)	76.5	(4.2)	80.0	(4.5)	7.3	(2.5)	3.6	(2.0)
	Croatia	1.0	(0.7)	3.7	(1.4)	7.0	(2.0)	10.1	(2.2)	25.2	(3.2)	28.2	(3.1)	35.7	(3.7)	32.1	(3.7)	31.1	(3.5)	25.9	(3.2)
	Cyprus	6.6	(0.2)	8.5	(0.2)	6.3	(0.1)	9.3	(0.1)	16.1	(0.2)	19.7	(0.2)	16.4	(0.3)	23.8	(0.3)	54.5	(0.3)	38.7	(0.4)
	Dominican Republic	4.2	(1.2) †	4.0	(1.4) †	13.5	(2.7) †	9.6	(2.8) †	13.1	(3.0) †	12.8	(2.9) †	25.8	(4.2) †	38.0	(4.0) †	43.4	(4.4) †	35.5	(3.5) †
	El Salvador	2.3	(1.0)	1.5	(0.7)	6.0	(1.6)	8.9	(2.0)	20.2	(2.9)	18.7	(3.1)	31.8	(3.1)	35.5	(2.8)	39.8	(3.5)	35.4	(3.2)
	Georgia	17.1	(2.8)	22.8	(2.9)	33.6	(3.3)	26.3	(3.0)	18.1	(2.8)	18.6	(2.7)	19.5	(2.6)	21.8	(2.9)	11.7	(2.5)	10.6	(2.4)
	Guatemala	15.1	(1.9)	11.6	(2.2)	8.2	(1.9)	8.4	(2.0)	26.8	(2.9)	25.1	(3.1)	20.4	(2.9)	28.5	(3.0)	29.5	(3.2)	26.4	(3.1)
	Hong Kong (China)*	19.8	(3.6) †	23.9	(3.7) †	30.4	(4.3) †	29.6	(4.0) †	17.2	(4.0) †	16.2	(3.5) †	11.3	(3.6) †	8.1	(2.9) †	21.3	(3.8) †	22.2	(4.1) †
	Indonesia	5.2	(1.7)	4.8	(1.6)	51.2	(3.5)	46.6	(3.7)	24.6	(3.3)	24.1	(3.1)	13.5	(2.4)	17.4	(2.5)	5.5	(1.6)	7.1	(1.9)
	Jamaica*	30.4	(3.7) †	46.5	(3.6) †	23.5	(2.8) †	8.4	(1.7) †	3.3	(1.3) †	4.5	(1.1) †	19.8	(4.9) †	21.6	(4.7) †	23.0	(3.8) †	19.0	(3.0) †
	Jordan	0.6	(0.4)	8.3	(1.4)	14.2	(2.1)	19.7	(2.3)	8.6	(1.9)	16.0	(2.4)	23.7	(2.6)	19.1	(2.6)	52.9	(2.9)	36.9	(3.0)
	Kazakhstan	4.2	(1.0)	6.9	(1.4)	21.6	(1.9)	21.6	(2.0)	13.7	(1.8)	16.2	(2.0)	37.6	(2.2)	39.1	(2.5)	23.0	(2.2)	16.2	(1.8)
	Kosovo	11.6	(0.7)	15.5	(0.7)	7.2	(0.8)	8.9	(1.1)	27.9	(1.1)	22.2	(1.2)	29.5	(1.5)	25.1	(1.0)	23.8	(1.4)	28.4	(1.2)
	Macao (China)	7.6	(0.0)	3.6	(0.0)	8.9	(0.0)	9.8	(0.0)	24.2	(0.0)	39.4	(0.0)	10.1	(0.0)	8.7	(0.0)	49.2	(0.0)	38.5	(0.0)
	Malaysia	5.1	(1.6)	4.9	(1.3)	32.3	(3.6)	29.7	(3.1)	25.4	(3.1)	22.4	(3.3)	19.0	(3.1)	24.0	(2.9)	18.2	(2.9)	19.1	(3.3)
	Malta	7.2	(0.1)	22.1	(0.2)	15.4	(0.1)	15.3	(0.1)	29.6	(0.2)	24.6	(0.2)	36.9	(0.2)	22.1	(0.2)	10.9	(0.1)	15.8	(0.2)
	Moldova	25.7	(2.9)	31.8	(2.9)	27.8	(2.7)	30.6	(2.8)	14.0	(2.3)	15.7	(2.5)	22.1	(2.5)	15.9	(2.7)	10.4	(1.7)	5.9	(1.5)
	Mongolia	5.4	(1.6)	9.4	(2.0)	30.6	(2.7)	26.7	(2.7)	16.6	(2.5)	18.3	(2.6)	27.6	(2.9)	31.0	(2.8)	19.9	(2.4)	14.5	(2.1)
	Montenegro	0.4	(0.4)	1.1	(0.6)	0.6	(0.6)	0.0	c	19.8	(0.3)	38.9	(0.5)	46.1	(0.6)	32.0	(0.9)	33.1	(0.6)	28.0	(0.6)
	Morocco	7.4	(2.1)	10.8	(2.1)	21.4	(3.4)	15.9	(2.9)	18.9	(3.4)	21.3	(3.3)	27.8	(3.7)	35.7	(3.9)	24.5	(3.5)	16.3	(3.0)
	North Macedonia	7.8	(0.0)	13.0	(0.1)	10.8	(0.1)	16.7	(0.1)	20.5	(0.1)	21.7	(0.1)	35.6	(0.1)	33.5	(0.1)	25.3	(0.1)	15.0	(0.1)
	Palestinian Authority	12.4	(1.6)	12.9	(1.8)	8.9	(1.5)	7.5	(1.8)	20.1	(2.3)	17.0	(2.2)	22.5	(2.5)	24.2	(2.8)	36.1	(2.6)	38.5	(2.9)
	Panama*	5.3	(2.2) †	5.3	(2.2) †	8.9	(2.0) †	7.4	(2.4) †	11.1	(3.2) †	9.5	(2.8) †	7.5	(2.4) †	10.0	(2.7) †	67.2	(4.3) †	67.9	(3.8) †
	Paraguay	8.7	(2.2)	13.6	(2.4)	20.6	(2.9)	16.5	(2.6)	17.0	(2.4)	17.5	(3.0)	30.2	(3.3)	25.7	(3.4)	23.4	(2.7)	26.6	(3.1)
	Peru	4.4	(1.3)	4.4	(1.3)	11.0	(1.9)	13.6	(2.1)	21.4	(2.9)	11.6	(2.0)	23.2	(2.8)	24.3	(2.8)	40.0	(3.0)	46.1	(2.9)
	Philippines	1.1	(1.1)	1.8	(1.3)	6.1	(2.0)	3.3	(1.2)	15.5	(2.7)	15.8	(2.4)	27.4	(3.1)	27.7	(3.3)	49.9	(3.8)	51.3	(3.4)
	Qatar	7.2	(0.1)	11.2	(0.1)	18.7	(0.1)	13.6	(0.1)	20.4	(0.1)	20.1	(0.1)	23.0	(0.1)	34.3	(0.1)	30.8	(0.1)	20.8	(0.1)
	Romania	0.7	(0.7)	0.7	(0.7)	1.5	(0.9)	2.0	(1.1)	2.2	(1.2)	0.2	(0.2)	18.3	(3.3)	17.8	(3.0)	77.3	(3.6)	79.2	(3.2)
	Saudi Arabia	2.3	(1.2)	7.2	(1.8)	10.6	(2.3)	6.3	(1.5)	12.6	(2.4)	12.2	(2.1)	31.2	(3.6)	39.9	(3.6)	43.4	(3.5)	34.4	(3.6)
	Serbia	2.1	(1.1)	1.6	(1.0)	10.8	(2.1)	9.0	(1.8)	15.2	(2.7)	12.2	(2.4)	23.5	(3.1)	30.1	(3.8)	48.4	(3.8)	47.1	(3.8)
	Singapore	21.2	(0.2)	32.4	(0.3)	28.3	(0.3)	18.4	(0.2)	24.4	(1.3)	22.5	(1.4)	11.6	(0.9)	14.5	(0.7)	14.6	(0.8)	12.3	(0.8)
	Chinese Taipei	5.6	(2.2)	17.3	(3.3)	24.0	(3.6)	15.5	(2.9)	13.9	(2.7)	13.8	(2.8)	14.9	(2.8)	18.7	(3.1)	41.5	(4.1)	34.7	(4.1)
	Thailand	6.7	(1.9)	7.8	(2.2)	12.5	(2.5)	14.2	(2.8)	10.8	(2.4)	14.4	(2.4)	15.5	(3.0)	17.5	(3.5)	54.4	(3.3)	46.1	(3.7)
	Ukrainian regions (18 of 27)	31.1	(4.5)	36.8	(5.1)	3.5	(1.3)	4.1	(1.6)	3.7	(1.5)	5.3	(1.9)	11.2	(2.1)	13.0	(2.7)	50.4	(4.9)	40.9	(4.8)
	United Arab Emirates	6.0	(0.7)	6.6	(0.7)	4.2	(0.2)	3.5	(0.2)	13.6	(0.4)	10.1	(0.4)	23.8	(0.2)	28.3	(1.0)	52.3	(0.5)	51.5	(0.9)
	Uruguay	2.8	(1.2)	6.4	(1.2)	5.6	(1.3)	7.3	(1.7)	20.2	(2.3)	10.7	(1.9)	27.5	(3.1)	32.1	(2.7)	43.9	(3.4)	43.6	(3.4)
	Uzbekistan	7.2	(1.8)	16.4	(2.8)	18.9	(2.9)	21.9	(2.9)	15.2	(2.6)	11.4	(2.3)	31.6	(3.2)	26.3	(3.1)	27.0	(3.4)	24.0	(3.2)
	Viet Nam	16.7	(3.3)	14.3	(2.9)	35.3	(3.6)	28.2	(3.0)	12.4	(2.8)	14.9	(3.0)	26.2	(3.3)	32.1	(3.4)	9.4	(2.0)	10.6	(2.7)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.58. Quality assurance and improvement actions at school [1/6]

Results based on principals' reports

		Percentage of students in schools where the following arrangements aimed at quality assurance and improvement are in place:																							
		Internal evaluation/ Self-evaluation						External evaluation						Written specification of the schools curricular profile and education goals						Written specification of student performance standards					
		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	50.4	(2.0)	47.2	(1.9)	2.4	(0.8)	83.3	(1.8)	8.8	(1.3)	7.9	(1.3)	64.7	(2.1)	32.9	(2.0)	2.4	(0.7)	73.8	(2.0)	22.8	(1.8)	3.4	(0.8)
	Austria	62.5	(2.7)	30.8	(2.8)	6.8	(1.4)	29.7	(2.7)	17.8	(2.3)	52.5	(3.3)	50.9	(3.3)	33.2	(3.0)	15.9	(2.4)	45.4	(3.3)	34.2	(2.9)	20.4	(2.6)
	Belgium	27.4	(2.8)	62.4	(3.4)	10.2	(2.0)	69.5	(3.3)	14.3	(2.4)	16.1	(2.8)	54.0	(3.2)	37.9	(3.4)	8.1	(2.3)	28.9	(2.8)	36.1	(3.3)	35.0	(3.1)
	Canada*	49.0	(2.3)	34.2	(2.4)	16.7	(2.0)	55.3	(2.6)	9.7	(1.5)	35.1	(2.5)	72.3	(2.1)	21.5	(1.9)	6.2	(1.2)	63.5	(2.3)	20.9	(2.0)	15.6	(1.7)
	Chile	29.8	(3.7)	63.9	(4.0)	6.3	(1.8)	60.9	(3.2)	20.7	(2.6)	18.3	(2.7)	65.9	(4.0)	29.7	(3.8)	4.5	(1.7)	51.9	(3.9)	32.2	(3.4)	15.9	(2.9)
	Colombia	64.3	(3.7)	35.2	(3.7)	0.6	(0.6)	66.9	(3.1)	28.4	(2.9)	4.8	(1.4)	39.7	(3.1)	57.0	(3.4)	3.2	(1.2)	58.5	(3.8)	41.1	(3.8)	0.4	(0.3)
	Costa Rica	75.2	(3.5)	20.1	(2.9)	4.7	(2.2)	64.2	(4.1)	7.0	(1.7)	28.8	(3.9)	66.2	(3.8)	22.7	(3.3)	11.2	(2.9)	64.2	(4.2)	31.3	(4.3)	4.5	(1.6)
	Czech Republic	26.0	(2.2)	71.4	(2.3)	2.6	(0.8)	37.8	(2.8)	27.3	(2.4)	34.9	(2.7)	74.4	(2.4)	23.9	(2.4)	1.7	(0.8)	68.3	(2.9)	24.2	(2.7)	7.5	(1.4)
	Denmark*	54.0	(3.2)	34.6	(2.8)	11.4	(2.3)	68.5	(3.2)	7.1	(2.0)	24.4	(3.1)	51.2	(3.4)	22.9	(2.9)	25.9	(2.9)	68.2	(3.0)	18.1	(2.5)	13.7	(2.2)
	Estonia	81.2	(1.9)	18.5	(1.9)	0.3	(0.3)	69.3	(2.4)	11.9	(1.7)	18.8	(2.1)	74.6	(2.3)	23.6	(2.2)	1.9	(0.8)	43.7	(2.6)	34.2	(2.4)	22.1	(2.5)
	Finland	55.5	(3.5)	39.6	(3.5)	4.9	(1.5)	55.6	(3.4)	10.1	(2.3)	34.3	(3.1)	63.3	(3.3)	16.6	(2.5)	20.1	(2.8)	61.9	(3.6)	12.6	(2.5)	25.5	(3.1)
	France	59.6	(3.7)	28.6	(3.3)	11.8	(2.3)	56.7	(3.5)	8.4	(2.0)	34.9	(3.3)	60.7	(3.7)	21.1	(2.9)	18.2	(2.5)	28.6	(3.3)	9.0	(2.1)	62.4	(3.7)
	Germany	21.9	(3.1)	62.9	(3.3)	15.2	(2.1)	55.6	(3.5)	9.5	(2.0)	34.9	(3.3)	43.6	(4.1)	48.1	(3.9)	8.3	(1.9)	43.4	(3.6)	35.7	(3.1)	20.9	(3.0)
	Greece	92.0	(2.0)	6.9	(1.8)	1.1	(0.8)	57.9	(4.0)	2.9	(0.9)	39.2	(3.9)	69.7	(3.0)	11.9	(1.9)	18.4	(2.5)	53.4	(3.0)	15.5	(2.4)	31.0	(3.0)
	Hungary	78.6	(3.3)	14.9	(2.8)	6.6	(1.9)	71.2	(3.6)	9.6	(2.2)	19.2	(3.1)	87.5	(2.7)	11.8	(2.6)	0.7	(0.7)	66.0	(3.4)	31.9	(3.4)	2.1	(1.1)
	Iceland	91.9	(0.2)	8.1	(0.2)	0.0	c	98.6	(0.1)	1.4	(0.1)	0.0	(0.0)	77.0	(0.3)	22.4	(0.3)	0.6	(0.1)	49.3	(0.3)	42.6	(0.3)	8.1	(0.2)
	Ireland*	84.4	(2.9)	15.6	(2.9)	0.0	c	88.2	(2.4)	4.5	(1.6)	7.3	(1.9)	44.5	(4.1)	48.6	(4.0)	6.9	(1.9)	22.3	(3.5)	54.6	(4.2)	23.2	(3.6)
	Israel	52.9	(3.2)	45.3	(3.2)	1.9	(1.0)	82.7	(2.5)	8.8	(1.9)	8.5	(1.7)	48.1	(4.1)	50.8	(4.2)	1.1	(0.8)	30.7	(3.8)	59.0	(4.2)	10.3	(2.3)
	Italy	62.5	(4.1)	34.6	(3.8)	2.9	(1.3)	46.1	(3.8)	13.9	(2.4)	39.9	(3.7)	47.3	(4.2)	51.4	(4.2)	1.2	(0.8)	24.1	(3.2)	52.3	(4.1)	23.6	(3.4)
	Japan	59.3	(3.6)	39.2	(3.6)	1.4	(1.0)	50.0	(3.7)	31.5	(4.0)	18.5	(3.3)	45.7	(3.8)	51.5	(3.9)	2.8	(1.4)	18.9	(3.4)	77.5	(3.3)	3.6	(1.5)
	Korea	56.2	(4.6)	43.4	(4.6)	0.4	(0.4)	52.7	(5.3)	19.1	(3.5)	28.2	(5.8)	62.9	(4.9)	37.1	(4.9)	0.0	(0.1)	74.1	(3.7)	25.4	(3.7)	0.5	(0.5)
	Latvia*	85.1	(2.1)	14.9	(2.1)	0.0	c	93.1	(1.6)	3.3	(1.1)	3.6	(1.2)	70.1	(2.8)	27.8	(2.8)	2.1	(0.5)	67.9	(2.9)	26.1	(2.8)	6.0	(1.4)
	Lithuania	69.6	(1.8)	30.0	(1.8)	0.4	(0.4)	82.3	(1.9)	4.4	(1.2)	13.3	(1.8)	69.4	(2.0)	30.4	(2.0)	0.2	(0.0)	50.6	(2.4)	36.5	(2.1)	13.0	(1.6)
	Mexico	40.1	(3.7)	51.3	(3.3)	8.6	(2.1)	62.6	(3.6)	12.2	(2.4)	25.2	(3.2)	64.2	(3.4)	28.9	(3.3)	7.0	(1.6)	50.1	(3.8)	36.1	(3.7)	13.8	(2.3)
	Netherlands*	21.5	(4.3)	75.5	(4.4)	3.1	(1.6)	53.4	(4.8)	37.3	(4.9)	9.3	(3.0)	47.8	(4.9)	50.7	(5.0)	1.5	(1.1)	38.2	(5.6)	50.2	(5.3)	11.7	(2.8)
	New Zealand*	46.6	(3.9)	53.4	(3.9)	0.0	c	98.8	(0.8) †	1.2	(0.8) †	0.0	c †	51.1	(4.1) †	48.9	(4.1) †	0.0	c †	34.0	(3.9) †	59.6	(3.9) †	6.4	(1.7) †
	Norway	43.9	(3.5)	53.6	(3.4)	2.5	(1.0)	72.3	(3.1)	4.1	(1.4)	23.6	(2.8)	48.7	(3.4)	34.4	(3.1)	17.0	(2.2)	32.3	(3.1)	58.2	(2.8)	9.4	(2.1)
	Poland	24.6	(3.0)	65.0	(3.6)	10.4	(2.1)	49.7	(3.0)	5.9	(1.6)	44.4	(3.1)	30.0	(3.3)	36.0	(3.0)	34.0	(3.0)	26.0	(2.9)	50.9	(3.1)	23.1	(2.5)
	Portugal	45.4	(3.5)	53.7	(3.5)	0.9	(0.6)	88.8	(2.1)	6.8	(1.6)	4.4	(1.3)	45.3	(3.3)	46.1	(3.4)	8.6	(2.1)	35.3	(3.1)	59.0	(3.2)	5.7	(1.5)
	Slovak Republic	69.3	(3.8)	26.4	(3.4)	4.3	(1.4)	33.2	(3.1)	24.7	(2.8)	42.1	(2.8)	66.0	(3.1)	25.3	(3.0)	8.7	(1.9)	74.9	(2.8)	15.4	(2.4)	9.7	(1.7)
	Slovenia	48.3	(0.7)	51.6	(0.7)	0.1	(0.1)	30.6	(0.7)	31.1	(0.7)	38.2	(0.8)	77.4	(0.7)	21.3	(0.7)	1.4	(0.3)	80.8	(0.6)	17.3	(0.6)	1.9	(0.3)
	Spain	44.7	(2.2)	46.9	(2.1)	8.5	(1.2)	54.6	(2.2)	15.3	(1.7)	30.1	(2.0)	63.2	(2.1)	31.0	(2.2)	5.8	(1.1)	45.2	(2.7)	38.6	(2.2)	16.2	(1.7)
	Sweden	64.7	(3.4)	32.9	(3.2)	2.3	(1.0)	66.8	(3.7)	6.0	(1.8)	27.2	(3.2)	50.1	(3.6)	30.6	(3.5)	19.4	(2.7)	78.6	(3.2)	20.8	(3.1)	0.6	(0.6)
	Switzerland	42.5	(3.7)	42.3	(3.8)	15.2	(2.7)	60.7	(3.1)	13.9	(2.7)	25.3	(2.8)	53.9	(3.4)	30.0	(3.4)	16.2	(2.6)	47.7	(4.1)	18.8	(3.0)	33.6	(3.9)
	Türkiye	73.8	(3.3)	25.6	(3.2)	0.6	(0.4)	63.2	(3.5)	16.3	(2.6)	20.4	(3.2)	79.8	(2.7)	16.6	(2.5)	3.6	(1.4)	60.5	(3.7)	34.2	(3.8)	5.2	(1.5)
	United Kingdom*	45.2	(3.6)	54.8	(3.6)	0.0	c	65.7	(3.5)	31.4	(3.3)	3.0	(1.4)	50.7	(3.7)	49.3	(3.7)	0.0	c	53.8	(3.7)	41.7	(3.5)	4.4	(1.6)
	United States*	68.9	(4.1)	22.9	(3.8)	8.2	(2.4)	69.0	(3.7)	17.3	(3.5)	13.7	(2.8)	70.2	(4.2)	26.5	(4.1)	3.4	(1.5)	68.0	(4.1)	29.0	(4.2)	3.0	(1.5)
	OECD average	55.9	(0.5)	39.4	(0.5)	4.7	(0.2)	63.9	(0.5)	13.6	(0.4)	22.4	(0.5)	59.5	(0.6)	32.7	(0.5)	7.8	(0.3)	50.9	(0.5)	35.2	(0.5)	13.9	(0.4)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.58. Quality assurance and improvement actions at school [2/6]

Results based on principals' reports

		Percentage of students in schools where the following arrangements aimed at quality assurance and improvement are in place:																						
		Internal evaluation/ Self-evaluation						External evaluation						Written specification of the school's curricular profile and education goals						Written specification of student performance standards					
		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	91.0	(1.6)	9.0	(1.6)	0.0	c	86.2	(1.7)	7.3	(1.3)	6.4	(1.1)	72.8	(2.7)	25.1	(2.7)	2.2	(1.1)	78.3	(2.4)	18.5	(2.3)	3.2	(1.0)
	Argentina	35.1	(2.8)	53.6	(3.0)	11.4	(2.1)	52.9	(3.2)	8.6	(1.6)	38.5	(3.2)	48.3	(2.9)	41.0	(2.7)	10.7	(1.6)	37.6	(2.9)	34.2	(2.9)	28.2	(2.7)
	Baku (Azerbaijan)	44.8	(3.9) †	52.1	(4.0) †	3.1	(1.2) †	62.6	(3.6) †	15.3	(3.0) †	22.1	(3.3) †	59.5	(4.3) †	29.9	(4.0) †	10.6	(2.9) †	46.4	(4.5) †	44.2	(4.5) †	9.5	(2.8) †
	Brazil	41.5	(2.3)	55.6	(2.2)	3.0	(0.7)	80.1	(1.8)	13.3	(1.6)	6.6	(1.1)	66.2	(2.3)	33.8	(2.3)	0.0	c	62.8	(2.2)	29.8	(1.8)	7.4	(1.2)
	Brunei Darussalam	60.9	(0.1)	39.1	(0.1)	0.0	c	77.7	(0.1)	13.9	(0.1)	8.4	(0.1)	41.6	(0.1)	57.3	(0.1)	1.2	(0.0)	29.0	(0.1)	67.3	(0.1)	3.8	(0.0)
	Bulgaria	52.6	(3.9)	43.3	(3.7)	4.1	(1.6)	92.1	(1.8)	2.9	(1.1)	5.0	(1.7)	63.9	(3.0)	27.9	(3.1)	8.2	(2.1)	70.3	(3.3)	20.2	(2.7)	9.5	(2.4)
	Cambodia	51.5	(4.2)	45.5	(4.2)	3.0	(1.6)	50.2	(5.2)	21.8	(3.8)	28.0	(4.3)	60.7	(5.0)	37.2	(5.1)	2.1	(1.1)	61.1	(4.3)	33.4	(4.2)	5.5	(1.7)
	Croatia	69.9	(3.1)	26.8	(3.1)	3.3	(1.4)	78.7	(2.8)	7.7	(2.1)	13.5	(2.3)	78.0	(2.9)	16.5	(2.7)	5.5	(1.7)	65.2	(3.6)	24.1	(3.0)	10.7	(2.2)
	Cyprus	28.0	(0.8)	66.0	(0.8)	6.0	(0.1)	76.5	(0.2)	14.2	(0.1)	9.3	(0.1)	76.1	(0.4)	21.6	(0.1)	2.3	(0.4)	47.8	(0.6)	38.4	(0.6)	13.8	(0.4)
	Dominican Republic	38.0	(4.0) †	55.8	(4.1) †	6.2	(2.0) †	77.3	(3.2) †	16.1	(2.7) †	6.6	(1.8) †	54.5	(4.2) †	38.9	(4.3) †	6.6	(2.1) †	47.4	(3.8) †	49.7	(3.8) †	3.0	(1.0) †
	El Salvador	33.3	(3.5)	61.9	(3.1)	4.8	(1.5)	64.0	(3.3)	12.7	(2.1)	23.3	(2.7)	49.1	(3.3)	41.3	(3.4)	9.6	(1.9)	44.1	(3.6)	47.0	(3.7)	8.9	(2.1)
	Georgia	40.9	(3.3)	58.4	(3.4)	0.7	(0.5)	65.2	(3.3)	21.1	(3.0)	13.7	(2.4)	46.1	(3.4)	52.7	(3.4)	1.1	(0.6)	37.0	(3.5)	59.1	(3.2)	3.8	(1.3)
	Guatemala	16.5	(2.6)	76.0	(2.9)	7.5	(1.6)	44.0	(3.6)	25.2	(2.8)	30.9	(3.0)	40.9	(3.1)	48.5	(2.9)	10.6	(2.2)	31.5	(3.0)	59.5	(3.1)	9.0	(1.8)
	Hong Kong (China)*	47.1	(4.5) †	52.9	(4.5) †	0.0	c †	96.3	(1.6) †	1.3	(0.8) †	2.4	(1.4) †	35.8	(4.8) †	60.7	(5.1) †	3.5	(1.8) †	12.7	(2.9) †	73.8	(3.8) †	13.4	(3.1) †
	Indonesia	50.6	(3.9)	48.4	(3.7)	0.9	(0.6)	53.9	(3.8)	39.9	(3.7)	6.2	(1.8)	48.3	(3.7)	48.8	(3.6)	2.9	(1.3)	33.3	(3.4)	57.8	(3.6)	8.9	(1.6)
	Jamaica*	71.2	(3.7) †	28.8	(3.7) †	0.0	c †	86.3	(2.9) †	9.0	(2.4) †	4.8	(1.9) †	52.4	(4.5) †	46.7	(4.5) †	0.9	(0.6) †	42.1	(3.0) †	55.9	(3.3) †	2.0	(1.6) †
	Jordan	62.5	(3.2)	36.5	(3.2)	1.0	(0.6)	64.7	(3.0)	24.1	(3.0)	11.2	(2.0)	79.6	(2.8)	15.5	(2.4)	5.0	(1.4)	63.7	(3.4)	30.4	(3.0)	5.9	(1.5)
	Kazakhstan	30.8	(1.9)	68.2	(1.9)	1.0	(0.5)	84.4	(1.8)	11.3	(1.7)	4.3	(1.0)	54.7	(2.5)	44.0	(2.5)	1.3	(0.5)	39.2	(2.0)	60.1	(2.0)	0.7	(0.4)
	Kosovo	79.0	(1.1)	19.0	(1.2)	2.0	(0.3)	82.3	(0.8)	7.5	(0.4)	10.2	(0.7)	72.7	(1.0)	23.3	(1.0)	4.0	(0.6)	64.4	(1.1)	30.1	(1.1)	5.5	(0.7)
	Macao (China)	69.7	(0.0)	28.1	(0.0)	2.3	(0.0)	85.3	(0.0)	10.1	(0.0)	4.6	(0.0)	38.0	(0.1)	59.7	(0.1)	2.3	(0.0)	29.2	(0.1)	68.3	(0.1)	2.4	(0.0)
	Malaysia	68.2	(3.2)	30.5	(3.1)	1.3	(0.8)	61.2	(4.2)	27.5	(3.7)	11.3	(2.6)	69.1	(3.3)	30.3	(3.2)	0.6	(0.6)	64.7	(3.1)	35.3	(3.1)	0.0	c
	Malta	44.0	(0.2)	56.0	(0.2)	0.0	c	94.8	(0.2)	3.7	(0.2)	1.4	(0.0)	43.1	(0.3)	45.4	(0.3)	11.5	(0.1)	40.4	(0.2)	57.9	(0.2)	1.7	(0.1)
	Moldova	62.5	(3.5)	36.7	(3.5)	0.9	(0.7)	83.1	(2.3)	14.8	(2.1)	2.1	(1.0)	66.2	(3.1)	25.7	(2.9)	8.1	(1.6)	60.4	(3.2)	31.6	(3.3)	8.0	(1.8)
	Mongolia	42.6	(3.5)	56.4	(3.4)	1.1	(0.8)	73.3	(2.9)	23.9	(2.9)	2.8	(1.1)	54.3	(3.0)	39.4	(3.3)	6.3	(1.7)	45.3	(3.3)	40.0	(3.5)	14.8	(2.3)
	Montenegro	77.1	(0.6)	22.9	(0.6)	0.0	c	94.0	(0.1)	4.5	(0.0)	1.5	(0.0)	91.7	(0.3)	8.3	(0.3)	0.0	c	69.7	(0.6)	16.3	(0.6)	14.0	(0.4)
	Morocco	60.5	(3.9)	37.5	(3.7)	1.9	(1.1)	66.5	(4.0)	18.6	(3.1)	14.9	(3.0)	70.5	(3.6)	18.2	(2.9)	11.3	(2.7)	49.0	(4.1)	35.9	(4.0)	15.1	(2.8)
	North Macedonia	80.9	(0.1)	19.1	(0.1)	0.0	c	87.0	(0.1)	6.7	(0.0)	6.2	(0.0)	94.3	(0.0)	5.2	(0.0)	0.5	(0.0)	77.0	(0.1)	16.1	(0.1)	6.9	(0.0)
	Palestinian Authority	68.9	(2.7)	28.5	(2.8)	2.6	(0.9)	65.8	(3.2)	21.2	(2.5)	13.0	(2.3)	84.5	(2.5)	10.7	(2.1)	4.7	(1.5)	75.2	(2.7)	19.9	(2.8)	5.0	(1.2)
	Panama*	62.0	(4.8) †	37.1	(4.8) †	1.0	(0.9) †	57.8	(4.7) †	13.9	(3.7) †	28.3	(4.8) †	51.9	(4.4) †	42.6	(4.5) †	5.5	(2.1) †	40.7	(5.1) †	48.8	(5.1) †	10.4	(2.9) †
	Paraguay	51.6	(3.5)	43.6	(3.4)	4.8	(1.4)	59.7	(3.2)	13.4	(2.4)	26.9	(2.8)	62.0	(3.8)	30.0	(3.5)	7.9	(1.9)	53.8	(3.7)	36.5	(3.6)	9.8	(2.1)
	Peru	23.3	(2.7)	66.5	(3.1)	10.2	(2.0)	62.7	(2.7)	14.9	(2.1)	22.4	(2.2)	60.6	(3.0)	38.1	(2.8)	1.2	(0.7)	73.4	(2.9)	24.5	(2.8)	2.1	(0.7)
	Philippines	58.9	(3.2)	41.1	(3.2)	0.0	c	60.1	(3.8)	33.8	(3.8)	6.1	(1.8)	90.8	(2.2)	8.7	(2.2)	0.5	(0.4)	86.9	(2.4)	13.1	(2.4)	0.0	c
	Qatar	62.9	(0.1)	37.1	(0.1)	0.0	c	83.0	(0.1)	16.2	(0.1)	0.8	(0.0)	72.2	(0.1)	26.8	(0.1)	1.0	(0.0)	66.3	(0.1)	33.6	(0.1)	0.0	(0.0)
	Romania	80.5	(3.2)	19.5	(3.2)	0.0	c	75.5	(3.7)	21.7	(3.4)	2.8	(1.2)	67.4	(3.4)	25.8	(3.4)	6.8	(1.8)	57.1	(3.8)	31.0	(3.8)	11.9	(2.2)
	Saudi Arabia	66.4	(3.6)	32.6	(3.5)	1.0	(0.6)	80.6	(3.0)	14.1	(2.7)	5.3	(1.7)	84.4	(3.0)	11.1	(2.5)	4.5	(1.6)	55.2	(3.9)	41.4	(3.8)	3.5	(1.4)
	Serbia	72.2	(3.6)	26.6	(3.5)	1.2	(0.8)	97.9	(0.8)	1.0	(0.5)	1.0	(0.7)	90.1	(2.2)	8.8	(2.0)	1.1	(0.8)	79.8	(3.0)	14.2	(2.5)	6.0	(1.7)
	Singapore	52.0	(0.7)	47.1	(0.7)	0.9	(0.0)	92.9	(1.2)	5.6	(1.3)	1.5	(0.0)	37.6	(1.0)	62.4	(1.0)	0.0	c	36.8	(0.8)	60.6	(0.8)	2.6	(0.0)
	Chinese Taipei	68.0	(3.8)	30.0	(3.7)	2.0	(1.0)	76.9	(3.2)	7.5	(2.2)	15.6	(2.7)	81.7	(2.7)	18.0	(2.6)	0.3	(0.5)	48.1	(3.5)	45.3	(3.6)	6.5	(2.3)
	Thailand	78.5	(3.4)	21.5	(3.4)	0.0	c	93.3	(2.0)	6.3	(2.0)	0.4	(0.4)	48.5	(3.4)	51.4	(3.4)	0.2	(0.2)	60.3	(3.8)	38.7	(3.8)	0.9	(0.6)
	Ukrainian regions (18 of 27)	47.4	(4.8)	51.4	(4.8)	1.2	(1.1)	80.5	(3.6)	9.0	(2.8)	10.5	(2.7)	72.1	(4.2)	23.9	(3.8)	4.0	(1.8)	67.2	(4.3)	30.3	(4.4)	2.5	(1.7)
	United Arab Emirates	73.7	(0.9)	26.2	(0.9)	0.1	(0.0)	93.2	(0.1)	5.3	(0.1)	1.5	(0.0)	67.9	(0.3)	31.5	(0.3)	0.6	(0.0)	64.6	(1.0)	34.8	(0.9)	0.6	(0.3)
	Uruguay	32.6	(2.8)	55.9	(3.0)	11.5	(1.6)	59.4	(3.0)	9.4	(1.7)	31.3	(2.9)	41.4	(3.0)	40.3	(2.8)	18.3	(2.3)	50.3	(3.1)	28.7	(2.7)	21.1	(2.3)
	Uzbekistan	32.2	(3.3)	66.4	(3.4)	1.4	(0.8)	85.2	(2.5)	5.6	(1.5)	9.2	(2.2)	72.1	(3.4)	26.1	(3.2)	1.9	(0.9)	50.6	(4.1)	47.9	(4.1)	1.5	(0.9)
	Viet Nam	93.6	(2.1)	6.4	(2.1)	0.0	c	87.5	(2.8)	3.1	(1.4)	9.4	(2.8)	80.7	(3.6)	18.7	(3.6)	0.6	(0.6)	64.3	(4.0)	28.5	(3.9)	7.3	(1.9)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.58. Quality assurance and improvement actions at school [3/6]

Results based on principals' reports

		Percentage of students in schools where the following arrangements aimed at quality assurance and improvement are in place:																	
		Systematic recording of data, such as teacher or student attendance, and professional development						Systematic recording of students' test results and graduation rates						Seeking written feedback from students					
		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	74.6	(2.0)	25.3	(2.0)	0.1	(0.1)	69.4	(1.7)	29.5	(1.7)	1.1	(0.6)	9.8	(1.3)	76.3	(1.9)	13.9	(1.6)
	Austria	70.1	(2.6)	26.8	(2.7)	3.1	(0.9)	70.3	(2.6)	19.5	(2.2)	10.1	(1.7)	39.1	(3.0)	52.7	(3.5)	8.1	(1.6)
	Belgium	54.7	(3.4)	40.6	(3.2)	4.7	(1.6)	43.0	(3.1)	47.0	(3.2)	10.1	(2.2)	2.3	(1.0)	53.6	(3.0)	44.2	(3.1)
	Canada*	73.3	(2.1)	20.0	(2.1)	6.7	(1.2)	83.9	(1.6)	13.1	(1.6)	2.9	(0.7)	16.4	(1.7)	45.8	(2.5)	37.8	(2.1)
	Chile	37.7	(3.7)	58.6	(3.9)	3.8	(1.6)	32.0	(3.8)	63.3	(3.7)	4.8	(1.5)	11.1	(2.2)	70.9	(3.6)	17.9	(2.9)
	Colombia	18.9	(2.8)	77.9	(2.9)	3.3	(1.2)	28.6	(3.5)	63.9	(3.8)	7.4	(1.7)	6.8	(1.9)	77.3	(3.4)	15.9	(2.8)
	Costa Rica	56.7	(4.0)	39.5	(3.9)	3.8	(1.9)	64.5	(3.7)	30.9	(3.6)	4.6	(1.8)	31.8	(3.6)	41.2	(3.7)	27.0	(3.6)
	Czech Republic	45.2	(3.2)	50.7	(3.0)	4.1	(1.0)	36.9	(2.9)	59.0	(3.0)	4.2	(1.2)	1.9	(0.8)	60.7	(2.7)	37.4	(2.6)
	Denmark*	73.9	(3.2)	21.6	(3.1)	4.5	(1.5)	84.8	(2.6)	11.2	(2.1)	4.0	(1.6)	19.1	(2.4)	42.2	(3.3)	38.7	(3.6)
	Estonia	40.9	(2.4)	54.6	(2.6)	4.5	(1.1)	35.4	(2.5)	62.8	(2.6)	1.8	(0.6)	9.3	(1.7)	68.6	(2.9)	22.2	(2.6)
	Finland	68.3	(3.4)	23.0	(3.1)	8.7	(1.8)	73.4	(3.0)	21.4	(2.7)	5.2	(1.5)	16.4	(2.4)	57.8	(3.7)	25.8	(3.2)
	France	41.6	(3.8)	42.3	(3.6)	16.1	(2.9)	51.0	(3.6)	42.7	(3.5)	6.3	(1.8)	5.1	(1.7)	13.2	(2.2)	81.7	(2.7)
	Germany	47.5	(3.4)	43.5	(3.7)	9.0	(1.9)	77.2	(3.0)	17.4	(2.9)	5.4	(1.1)	4.9	(1.7)	59.2	(3.5)	35.9	(3.2)
	Greece	54.3	(3.3)	30.9	(2.9)	14.8	(2.5)	36.7	(3.2)	45.3	(3.5)	18.0	(2.6)	9.4	(1.9)	38.1	(3.0)	52.5	(3.4)
	Hungary	71.4	(3.2)	27.5	(3.1)	1.1	(0.8)	60.5	(3.7)	37.9	(3.7)	1.6	(0.9)	16.3	(2.5)	40.6	(3.5)	43.1	(3.4)
	Iceland	51.7	(0.3)	46.5	(0.2)	1.8	(0.1)	52.3	(0.2)	44.4	(0.2)	3.3	(0.0)	13.5	(0.2)	36.7	(0.3)	49.8	(0.3)
	Ireland*	36.5	(4.1)	60.7	(4.0)	2.9	(1.3)	26.2	(3.7)	71.6	(3.7)	2.2	(1.2)	6.1	(1.6)	69.9	(3.5)	24.0	(3.3)
	Israel	34.8	(3.8)	65.2	(3.8)	0.0	c	43.6	(3.6)	54.3	(3.6)	2.1	(0.9)	7.7	(2.0)	60.0	(3.8)	32.4	(3.5)
	Italy	32.3	(3.2)	54.6	(3.0)	13.1	(2.5)	41.1	(4.3)	53.0	(4.5)	5.9	(1.6)	1.8	(0.9)	31.4	(2.8)	66.8	(2.9)
	Japan	51.8	(3.8)	44.9	(3.8)	3.3	(1.4)	36.6	(3.4)	61.4	(3.5)	2.0	(1.0)	21.6	(3.5)	66.1	(4.3)	12.4	(2.7)
	Korea	57.3	(5.1)	42.7	(5.1)	0.0	c	66.8	(3.3)	32.7	(3.3)	0.5	(0.5)	52.5	(5.5)	42.7	(5.4)	4.8	(1.8)
	Latvia*	58.0	(2.9)	41.2	(2.9)	0.8	(0.1)	55.3	(3.1)	44.1	(3.1)	0.6	(0.0)	8.4	(1.7)	70.6	(2.3)	21.0	(2.0)
	Lithuania	28.9	(1.8)	69.3	(2.0)	1.8	(0.9)	28.9	(1.8)	68.6	(1.9)	2.6	(0.9)	4.5	(1.0)	60.8	(2.0)	34.7	(2.1)
	Mexico	45.0	(3.5)	49.5	(3.5)	5.5	(1.7)	48.9	(3.3)	45.6	(3.3)	5.5	(1.2)	21.7	(2.6)	53.2	(3.4)	25.1	(3.0)
	Netherlands*	24.9	(4.2)	67.4	(4.4)	7.7	(2.6)	47.4	(5.4)	52.6	(5.4)	0.0	c	11.5	(2.9)	80.6	(3.8)	7.9	(2.7)
	New Zealand*	52.2	(4.2) †	47.8	(4.2) †	0.0	c †	40.5	(3.5) †	59.5	(3.5) †	0.0	c †	9.5	(2.5) †	84.6	(2.9) †	5.9	(1.6) †
	Norway	50.1	(3.3)	44.7	(3.0)	5.2	(1.2)	64.8	(3.2)	32.2	(3.1)	3.0	(1.3)	27.7	(3.1)	40.7	(3.5)	31.6	(3.1)
	Poland	43.0	(3.2)	56.5	(3.1)	0.5	(0.4)	42.1	(3.2)	55.1	(3.1)	2.9	(0.9)	4.8	(1.3)	67.3	(2.7)	27.9	(2.8)
	Portugal	35.4	(3.4)	56.8	(3.4)	7.7	(1.7)	24.7	(2.6)	68.8	(2.7)	6.5	(1.5)	6.5	(1.6)	76.2	(3.0)	17.3	(2.7)
	Slovak Republic	75.6	(3.2)	23.8	(3.2)	0.6	(0.5)	62.5	(3.4)	34.4	(3.3)	3.1	(1.1)	4.4	(1.2)	54.1	(3.5)	41.5	(3.3)
	Slovenia	59.9	(0.7)	37.8	(0.7)	2.3	(0.1)	64.3	(0.6)	33.9	(0.6)	1.8	(0.1)	7.2	(0.4)	77.8	(0.6)	14.9	(0.6)
	Spain	58.8	(2.2)	38.4	(2.2)	2.7	(0.4)	53.0	(2.3)	42.0	(2.3)	5.0	(0.9)	11.9	(1.6)	64.0	(2.3)	24.1	(1.9)
	Sweden	74.4	(3.6)	22.8	(3.3)	2.8	(1.4)	56.2	(3.5)	31.3	(3.4)	12.5	(2.3)	22.7	(3.1)	52.3	(3.8)	24.9	(3.2)
	Switzerland	54.0	(4.2)	32.9	(3.4)	13.0	(2.3)	61.2	(3.7)	22.7	(3.0)	16.1	(2.9)	16.0	(2.8)	55.5	(3.2)	28.4	(2.6)
	Türkiye	86.5	(2.5)	12.5	(2.4)	1.0	(0.7)	92.2	(1.8)	7.2	(1.7)	0.6	(0.6)	49.8	(4.1)	43.0	(4.1)	7.3	(1.8)
	United Kingdom†	52.7	(4.2)	47.2	(4.2)	0.1	(0.1)	45.2	(3.9)	54.5	(3.9)	0.4	(0.2)	7.1	(2.0)	77.0	(3.3)	15.9	(2.6)
	United States*	76.9	(4.0)	22.6	(4.0)	0.6	(0.6)	88.5	(2.9)	10.1	(3.0)	1.4	(0.8)	23.5	(3.8)	49.5	(4.0)	27.1	(3.7)
	OECD average	53.2	(0.5)	42.4	(0.5)	4.4	(0.2)	53.8	(0.5)	41.8	(0.5)	4.5	(0.2)	14.6	(0.4)	57.1	(0.5)	28.3	(0.4)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.58. Quality assurance and improvement actions at school [4/6]

Results based on principals' reports

		Percentage of students in schools where the following arrangements aimed at quality assurance and improvement are in place:																	
		Systematic recording of data, such as teacher or student attendance, and professional development						Systematic recording of students' test results and graduation rates						Seeking written feedback from students					
		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	Albania	63.3	(2.9)	33.7	(2.7)	3.0	(1.0)	54.9	(2.9)	44.6	(2.7)	0.6	(0.6)	21.2	(2.2)	72.7	(2.5)	6.2	(1.2)
	Argentina	52.1	(3.3)	40.2	(3.1)	7.7	(1.7)	52.7	(2.9)	35.5	(2.7)	11.8	(2.4)	2.7	(1.0)	45.2	(2.8)	52.1	(2.6)
	Baku (Azerbaijan)	27.4	(3.5) †	68.7	(3.7) †	3.9	(1.8) †	52.5	(3.9) †	46.5	(3.9) †	1.0	(0.1) †	5.8	(2.0) †	72.5	(3.4) †	21.7	(3.7) †
	Brazil	60.1	(2.5)	34.7	(2.1)	5.2	(1.4)	59.6	(2.3)	32.7	(2.1)	7.7	(1.1)	17.2	(2.1)	62.4	(2.4)	20.5	(2.1)
	Brunei Darussalam	44.1	(0.1)	55.9	(0.1)	0.0	c	26.1	(0.1)	73.9	(0.1)	0.0	c	4.9	(0.0)	72.1	(0.1)	23.0	(0.1)
	Bulgaria	42.2	(3.3)	57.2	(3.4)	0.6	(0.7)	48.2	(3.8)	51.3	(3.8)	0.5	(0.5)	8.7	(2.2)	58.9	(3.4)	32.3	(2.9)
	Cambodia	31.3	(4.3)	58.4	(5.1)	10.3	(3.5)	45.2	(4.5)	46.0	(4.6)	8.8	(3.2)	10.5	(2.9)	80.8	(3.4)	8.7	(1.9)
	Croatia	62.9	(3.0)	31.6	(2.9)	5.5	(1.7)	51.9	(3.4)	38.2	(3.4)	9.9	(2.3)	16.9	(3.0)	58.3	(3.8)	24.8	(3.6)
	Cyprus	53.5	(0.4)	44.4	(0.4)	2.0	(0.0)	53.2	(0.5)	46.8	(0.5)	0.0	c	14.3	(0.8)	57.6	(0.6)	28.1	(0.5)
	Dominican Republic	40.4	(3.9) †	59.0	(4.0) †	0.6	(0.6) †	33.4	(3.7) †	62.4	(3.6) †	4.2	(1.5) †	18.3	(2.8) †	79.8	(3.0) †	1.9	(1.0) †
	El Salvador	61.4	(3.2)	38.0	(3.2)	0.6	(0.5)	53.9	(3.2)	44.2	(3.3)	1.9	(0.9)	10.2	(2.3)	58.9	(3.4)	30.9	(3.2)
	Georgia	35.1	(3.2)	60.4	(3.4)	4.4	(1.3)	29.0	(3.1)	64.2	(3.1)	6.8	(1.5)	15.6	(2.3)	74.0	(3.0)	10.4	(2.3)
	Guatemala	24.5	(2.7)	69.9	(2.9)	5.6	(1.4)	29.4	(3.1)	64.6	(3.3)	6.0	(1.6)	7.7	(1.7)	67.9	(2.8)	24.4	(2.6)
	Hong Kong (China)*	38.1	(4.7) †	61.3	(4.6) †	0.6	(0.6) †	18.8	(3.7) †	81.2	(3.7) †	0.0	c †	7.1	(2.6) †	72.8	(4.4) †	20.1	(3.8) †
	Indonesia	35.1	(3.6)	63.4	(3.7)	1.6	(0.7)	43.1	(3.6)	55.9	(3.6)	1.0	(0.7)	13.1	(2.4)	80.4	(2.7)	6.5	(1.8)
	Jamaica*	64.8	(3.8) †	34.2	(3.8) †	1.0	(0.1) †	38.1	(4.5) †	61.7	(4.5) †	0.2	(0.1) †	8.9	(4.3) †	60.1	(4.6) †	31.0	(3.6) †
	Jordan	66.0	(2.8)	33.4	(2.8)	0.6	(0.6)	67.0	(3.3)	32.5	(3.2)	0.5	(0.5)	34.9	(3.5)	54.3	(3.5)	10.8	(2.0)
	Kazakhstan	20.4	(2.2)	79.5	(2.2)	0.2	(0.1)	42.0	(2.6)	56.0	(2.6)	2.0	(0.7)	3.7	(0.8)	92.3	(1.0)	4.0	(0.7)
	Kosovo	56.2	(1.4)	41.2	(1.4)	2.6	(0.4)	52.6	(1.4)	43.2	(1.3)	4.2	(0.5)	23.9	(0.8)	60.2	(1.2)	15.9	(1.2)
	Macao (China)	28.5	(0.1)	71.5	(0.1)	0.0	c	14.4	(0.1)	85.6	(0.1)	0.0	c	5.8	(0.0)	69.1	(0.0)	25.1	(0.0)
	Malaysia	62.5	(3.7)	37.0	(3.7)	0.5	(0.5)	58.3	(3.5)	39.5	(3.3)	2.2	(1.1)	19.7	(3.2)	66.6	(3.3)	13.6	(2.6)
	Malta	55.2	(0.3)	44.8	(0.3)	0.0	c	47.9	(0.3)	52.1	(0.3)	0.0	c	1.9	(0.1)	57.3	(0.2)	40.9	(0.2)
	Moldova	41.3	(3.4)	58.4	(3.4)	0.3	(0.2)	53.3	(3.7)	44.3	(3.6)	2.4	(0.6)	9.9	(2.1)	75.9	(3.0)	14.2	(2.0)
	Mongolia	44.4	(3.5)	54.9	(3.5)	0.6	(0.0)	59.8	(3.3)	39.3	(3.4)	0.9	(0.6)	9.6	(2.1)	85.5	(2.5)	4.9	(1.5)
	Montenegro	38.7	(0.8)	61.0	(0.8)	0.4	(0.4)	54.4	(0.8)	45.3	(0.8)	0.4	(0.4)	31.7	(0.7)	33.8	(0.8)	34.5	(0.7)
	Morocco	66.3	(3.8)	29.3	(3.5)	4.3	(1.7)	73.7	(3.5)	24.5	(3.5)	1.8	(1.0)	8.8	(2.4)	55.2	(4.0)	36.0	(3.8)
	North Macedonia	65.4	(0.1)	33.0	(0.1)	1.6	(0.0)	67.9	(0.1)	31.1	(0.1)	1.0	(0.1)	34.2	(0.1)	56.6	(0.1)	9.3	(0.1)
	Palestinian Authority	78.9	(2.5)	21.1	(2.5)	0.0	c	79.3	(2.5)	20.7	(2.5)	0.0	c	30.5	(2.9)	53.8	(3.3)	15.7	(2.6)
	Panama*	42.1	(4.8) †	57.8	(4.8) †	0.2	(0.2) †	31.0	(4.7) †	57.7	(5.1) †	11.3	(3.2) †	17.5	(3.6) †	72.6	(4.0) †	9.9	(2.2) †
	Paraguay	36.8	(3.3)	59.3	(3.3)	3.9	(1.3)	46.9	(3.1)	49.2	(3.1)	3.9	(1.3)	22.1	(2.6)	55.4	(3.0)	22.5	(2.4)
	Peru	21.0	(2.2)	77.3	(2.2)	1.7	(0.8)	24.6	(2.5)	69.2	(2.7)	6.1	(1.3)	10.4	(1.7)	62.6	(2.6)	27.0	(2.3)
	Philippines	68.4	(3.3)	31.1	(3.3)	0.5	(0.5)	76.2	(3.0)	23.4	(2.9)	0.4	(0.5)	23.1	(3.3)	73.1	(3.4)	3.8	(1.4)
	Qatar	70.3	(0.1)	29.7	(0.1)	0.0	c	75.3	(0.1)	24.7	(0.1)	0.0	c	38.2	(0.1)	59.4	(0.1)	2.4	(0.0)
	Romania	69.3	(3.5)	28.6	(3.3)	2.1	(1.2)	71.3	(3.0)	26.5	(3.0)	2.2	(1.1)	42.8	(3.7)	50.9	(3.8)	6.3	(2.0)
	SaudiArabia	64.3	(3.8)	34.7	(3.7)	1.0	(0.7)	76.3	(3.2)	23.2	(3.1)	0.5	(0.5)	40.9	(3.6)	57.5	(3.6)	1.6	(0.8)
	Serbia	57.8	(3.6)	40.8	(3.6)	1.5	(0.8)	39.5	(4.1)	54.4	(3.9)	6.1	(2.0)	9.5	(2.3)	60.4	(3.5)	30.1	(3.2)
	Singapore	65.3	(0.7)	34.7	(0.7)	0.0	c	74.9	(0.8)	25.1	(0.8)	0.0	c	7.6	(0.8)	84.1	(0.9)	8.4	(0.6)
	Chinese Taipei	58.4	(3.9)	41.5	(3.9)	0.1	(0.1)	59.4	(3.9)	40.5	(3.9)	0.1	(0.1)	20.2	(3.3)	61.2	(3.9)	18.6	(3.3)
	Thailand	22.7	(3.2)	77.3	(3.2)	0.0	(0.0)	39.2	(3.8)	60.8	(3.8)	0.0	(0.0)	12.5	(2.3)	84.6	(2.7)	2.9	(1.3)
	Ukrainian regions (18 of 27)	32.5	(4.2)	65.2	(4.3)	2.3	(1.2)	36.5	(3.9)	56.6	(4.3)	6.9	(2.6)	3.7	(1.4)	57.8	(3.5)	38.5	(3.5)
	UnitedArab Emirates	62.9	(1.1)	37.1	(1.1)	0.0	c	72.0	(0.7)	27.7	(0.7)	0.3	(0.0)	26.8	(0.6)	65.4	(0.8)	7.8	(0.4)
	Uruguay	71.6	(2.9)	26.8	(2.9)	1.6	(0.7)	69.6	(3.1)	26.9	(2.9)	3.5	(1.1)	11.8	(2.3)	47.8	(2.8)	40.4	(2.7)
	Uzbekistan	40.6	(3.5)	59.4	(3.5)	0.0	c	57.5	(3.3)	41.9	(3.4)	0.6	(0.6)	12.2	(2.4)	82.8	(2.7)	5.1	(1.4)
	Viet Nam	71.0	(3.7)	27.8	(3.8)	1.2	(0.9)	70.9	(3.4)	29.1	(3.4)	0.0	c	21.9	(3.4)	68.5	(4.0)	9.6	(2.2)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.58. Quality assurance and improvement actions at school [5/6]

Results based on principals' reports

		Percentage of students in schools where the following arrangements aimed at quality assurance and improvement are in place:																	
		Teacher mentoring						Regular consultation aimed at school improvement with one or more experts over a period of at least six months						Implementation of a standardised policy for mathematics subjects					
		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	Australia*	14.5	(1.5)	84.6	(1.6)	0.9	(0.4)	20.8	(1.7)	66.3	(2.0)	12.9	(1.4)	33.6	(1.8)	53.9	(2.1)	12.5	(1.5)
	Austria	42.4	(2.7)	29.3	(2.7)	28.3	(2.5)	23.3	(2.5)	41.1	(2.8)	35.6	(2.7)	46.2	(2.8)	36.3	(2.7)	17.5	(1.9)
	Belgium	44.5	(3.0)	47.5	(3.4)	7.9	(1.9)	14.1	(2.2)	45.6	(3.1)	40.3	(4.1)	8.3	(2.1)	51.0	(3.7)	40.8	(3.5)
	Canada*	45.1	(2.4)	45.9	(2.4)	9.1	(1.2)	38.7	(2.3)	33.2	(2.5)	28.1	(2.0)	57.6	(2.3)	25.7	(2.0)	16.7	(1.7)
	Chile	12.8	(2.7)	52.6	(3.8)	34.6	(3.6)	9.0	(2.5)	46.3	(3.4)	44.7	(3.5)	16.4	(3.1)	39.5	(3.2)	44.1	(3.7)
	Colombia	7.0	(1.8)	76.9	(2.9)	16.2	(2.5)	12.9	(2.3)	54.6	(3.4)	32.6	(3.4)	27.8	(3.7)	43.0	(3.7)	29.2	(3.3)
	Costa Rica	18.5	(3.6)	57.9	(4.4)	23.7	(3.6)	14.7	(3.5)	42.3	(4.0)	43.0	(4.2)	74.5	(3.4)	13.1	(2.2)	12.4	(2.6)
	Czech Republic	5.0	(1.3)	93.9	(1.4)	1.1	(0.5)	1.0	(0.6)	38.1	(2.4)	60.9	(2.4)	1.4	(0.7)	46.3	(3.1)	52.4	(3.0)
	Denmark*	23.2	(2.6)	65.2	(3.4)	11.7	(2.2)	17.3	(2.5)	24.7	(2.6)	58.0	(3.2)	15.9	(2.6)	39.6	(3.3)	44.5	(3.4)
	Estonia	6.1	(1.4)	89.9	(1.7)	4.0	(1.0)	3.4	(0.8)	49.1	(2.6)	47.6	(2.7)	9.7	(1.5)	66.1	(2.8)	24.2	(2.6)
	Finland	8.1	(1.9)	62.6	(3.4)	29.2	(3.1)	0.9	(0.5)	11.3	(2.1)	87.8	(2.2)	27.3	(3.1)	29.0	(3.3)	43.7	(3.7)
	France	23.0	(2.9)	48.5	(3.2)	28.6	(2.9)	3.0	(1.3)	9.7	(2.1)	87.3	(2.4)	30.5	(3.6)	19.1	(3.0)	50.4	(3.7)
	Germany	2.4	(1.1)	41.1	(3.4)	56.5	(3.6)	2.4	(1.2)	27.6	(3.1)	70.0	(3.2)	30.1	(3.2)	46.3	(3.6)	23.6	(3.3)
	Greece	31.1	(3.3)	58.5	(3.6)	10.3	(2.0)	22.4	(2.7)	67.9	(3.2)	9.7	(2.1)	43.3	(3.3)	30.6	(3.6)	26.1	(2.9)
	Hungary	17.6	(2.5)	68.2	(3.3)	14.2	(2.5)	7.0	(1.9)	18.0	(2.9)	75.0	(3.1)	16.7	(2.8)	37.3	(3.4)	46.0	(3.7)
	Iceland	1.4	(0.1)	50.8	(0.3)	47.7	(0.3)	4.6	(0.1)	55.1	(0.2)	40.3	(0.3)	5.9	(0.1)	47.5	(0.3)	46.6	(0.3)
	Ireland*	27.6	(3.7)	68.0	(3.8)	4.3	(1.4)	10.6	(2.6)	67.8	(3.9)	21.6	(3.5)	24.2	(3.6)	56.5	(4.0)	19.3	(3.4)
	Israel	22.8	(3.3)	71.1	(3.7)	6.0	(1.5)	15.4	(2.6)	49.7	(3.8)	34.9	(3.6)	35.1	(3.8)	59.0	(4.0)	6.0	(1.8)
	Italy	15.9	(2.9)	43.4	(3.7)	40.7	(3.8)	1.2	(0.6)	19.0	(3.1)	79.8	(3.0)	4.4	(1.1)	64.2	(3.8)	31.4	(3.7)
	Japan	21.7	(2.6)	65.8	(3.6)	12.5	(2.5)	8.1	(1.8)	12.4	(2.5)	79.5	(3.0)	14.4	(2.6)	43.3	(4.1)	42.2	(3.7)
	Korea	10.2	(2.8)	87.8	(2.9)	2.0	(1.0)	17.4	(3.8)	47.6	(4.6)	35.0	(5.3)	20.1	(3.1)	70.4	(3.9)	9.5	(2.6)
	Latvia*	7.4	(1.7)	81.0	(2.3)	11.6	(2.1)	12.5	(1.8)	27.3	(2.7)	60.2	(3.0)	20.3	(2.4)	35.1	(3.3)	44.5	(3.2)
	Lithuania	6.4	(1.1)	72.2	(2.2)	21.4	(2.2)	5.6	(1.2)	29.0	(2.2)	65.4	(2.6)	12.3	(1.8)	40.6	(2.4)	47.1	(2.5)
	Mexico	27.9	(3.2)	25.9	(2.9)	46.2	(3.3)	17.9	(2.5)	37.4	(3.2)	44.6	(3.4)	38.0	(3.7)	30.0	(3.1)	32.0	(3.1)
	Netherlands*	4.2	(1.9)	89.8	(3.0)	5.9	(2.4)	3.1	(1.6)	74.9	(4.0)	22.0	(3.9)	3.2	(1.4)	58.7	(5.3)	38.1	(5.4)
	New Zealand*	28.9	(3.8) †	69.3	(4.1) †	1.8	(1.9) †	12.8	(2.7) †	79.0	(3.1) †	8.3	(1.9) †	15.8	(2.8) †	64.0	(3.8) †	20.2	(2.9) †
	Norway	19.6	(2.6)	73.3	(2.9)	7.1	(1.8)	38.8	(3.4)	43.9	(3.3)	17.3	(2.6)	10.0	(1.8)	23.3	(2.6)	66.7	(3.0)
	Poland	5.7	(1.6)	89.1	(2.3)	5.2	(1.5)	7.3	(1.6)	50.6	(3.0)	42.0	(3.0)	13.9	(2.5)	68.5	(3.3)	17.6	(2.3)
	Portugal	24.1	(2.8)	54.8	(3.4)	21.1	(2.5)	6.1	(1.8)	34.9	(3.0)	59.0	(3.4)	14.3	(2.3)	42.2	(3.2)	43.5	(3.3)
	Slovak Republic	10.3	(2.0)	54.6	(3.3)	35.1	(3.1)	3.2	(1.2)	62.6	(3.5)	34.2	(3.3)	13.9	(2.1)	44.4	(3.6)	41.8	(3.1)
	Slovenia	29.0	(0.5)	55.2	(0.7)	15.8	(0.5)	3.8	(0.4)	31.3	(0.7)	64.9	(0.6)	61.1	(0.6)	26.6	(0.5)	12.3	(0.6)
	Spain	9.5	(1.7)	29.1	(2.2)	61.4	(2.6)	6.6	(1.3)	27.8	(2.2)	65.6	(2.5)	10.8	(1.5)	33.4	(1.8)	55.8	(1.9)
	Sweden	16.6	(2.7)	71.0	(3.2)	12.4	(2.5)	15.6	(2.5)	22.4	(3.3)	62.0	(3.4)	24.7	(3.0)	35.0	(3.2)	40.4	(3.8)
	Switzerland	20.1	(3.4)	63.2	(3.9)	16.7	(3.0)	7.7	(1.9)	31.8	(3.8)	60.5	(3.9)	36.6	(3.7)	29.6	(3.7)	33.8	(3.9)
	Türkiye	17.8	(2.7)	68.0	(3.4)	14.3	(2.5)	14.8	(2.9)	48.8	(3.5)	36.4	(3.9)	64.2	(2.9)	28.0	(2.8)	7.8	(1.9)
	United Kingdom*	28.4	(3.4)	68.4	(3.6)	3.2	(1.2)	17.1	(2.7)	71.7	(3.1)	11.2	(2.6)	15.6	(2.9)	65.7	(3.3)	18.7	(2.8)
	United States*	57.7	(3.9)	41.5	(4.0)	0.9	(0.6)	45.5	(4.0)	41.1	(4.4)	13.4	(3.0)	64.2	(4.6)	31.9	(4.6)	3.9	(1.7)
	OECD average	19.3	(0.4)	62.6	(0.5)	18.1	(0.4)	12.6	(0.4)	41.7	(0.5)	45.7	(0.5)	26.0	(0.4)	42.6	(0.5)	31.4	(0.5)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.6.58. Quality assurance and improvement actions at school [6/6]

Results based on principals' reports

	Percentage of students in schools where the following arrangements aimed at quality assurance and improvement are in place:																	
	Teacher mentoring						Regular consultation aimed at school improvement with one or more experts over a period of at least six months						Implementation of a standardised policy for mathematics subjects					
	Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No		Yes, this is mandatory		Yes, on the school's initiative		No	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners Albania	32.2	(2.4)	65.9	(2.4)	1.9	(0.9)	20.4	(1.9)	57.6	(2.8)	22.0	(2.3)	40.2	(2.7)	44.8	(2.4)	14.9	(2.1)
Argentina	25.9	(2.2)	31.1	(3.0)	43.0	(3.1)	8.3	(1.5)	30.4	(2.6)	61.2	(2.9)	29.5	(2.8)	27.8	(2.6)	42.7	(3.0)
Baku (Azerbaijan)	27.1	(4.0) †	42.4	(4.2) †	30.5	(3.7) †	28.5	(3.7) †	36.0	(3.5) †	35.5	(4.3) †	34.4	(3.9) †	39.1	(4.5) †	26.5	(4.3) †
Brazil	15.2	(1.9)	76.0	(2.3)	8.8	(1.7)	20.7	(2.1)	39.0	(2.4)	40.2	(2.1)	39.8	(2.5)	26.0	(2.0)	34.1	(2.3)
Brunei Darussalam	12.8	(0.1)	87.2	(0.1)	0.0	c	37.3	(0.1)	50.8	(0.1)	11.8	(0.1)	57.3	(0.1)	38.4	(0.1)	4.3	(0.1)
Bulgaria	25.5	(3.3)	55.6	(3.8)	18.9	(3.1)	23.4	(3.6)	49.4	(3.6)	27.2	(3.4)	14.9	(2.9)	54.1	(4.1)	31.0	(3.5)
Cambodia	18.8	(3.7)	74.8	(4.0)	6.5	(2.2)	32.7	(4.7)	43.0	(4.9)	24.3	(3.6)	52.0	(4.4)	36.4	(4.2)	11.6	(2.9)
Croatia	62.7	(3.6)	35.0	(3.4)	2.4	(0.8)	13.6	(2.4)	48.5	(3.7)	37.9	(3.5)	47.6	(4.0)	26.4	(3.5)	26.0	(3.5)
Cyprus	46.3	(0.6)	51.0	(0.7)	2.7	(0.1)	15.8	(0.7)	63.5	(0.6)	20.6	(0.4)	67.5	(0.4)	29.9	(0.4)	2.6	(0.0)
Dominican Republic	16.7	(3.0) †	60.4	(3.5) †	22.9	(3.0) †	25.9	(3.8) †	44.5	(4.2) †	29.6	(3.7) †	34.4	(3.8) †	35.6	(3.4) †	30.0	(3.3) †
El Salvador	63.3	(3.1)	32.7	(3.1)	4.0	(1.0)	39.6	(3.3)	37.8	(3.3)	22.6	(2.7)	79.7	(2.6)	16.2	(2.3)	4.1	(1.3)
Georgia	31.0	(3.4)	50.8	(3.8)	18.2	(2.6)	40.1	(3.0)	42.0	(3.3)	17.9	(2.6)	32.4	(3.2)	56.4	(3.5)	11.3	(2.3)
Guatemala	12.7	(2.0)	33.4	(2.5)	54.0	(3.0)	7.0	(1.6)	49.6	(3.4)	43.4	(3.2)	27.6	(3.1)	43.6	(3.0)	28.8	(2.8)
Hong Kong (China)*	3.8	(1.8) †	85.6	(3.4) †	10.6	(2.9) †	2.6	(1.4) †	49.7	(4.8) †	47.7	(4.8) †	5.1	(2.0) †	79.7	(3.6) †	15.3	(3.5) †
Indonesia	32.4	(3.4)	66.7	(3.4)	0.9	(0.5)	17.4	(2.8)	76.1	(3.3)	6.5	(1.8)	33.7	(3.3)	53.4	(3.7)	12.9	(2.4)
Jamaica*	23.2	(4.1) †	72.8	(4.4) †	3.9	(1.5) †	25.3	(3.1) †	54.0	(3.4) †	20.7	(3.6) †	44.7	(3.2) †	44.3	(3.6) †	11.1	(2.3) †
Jordan	46.0	(3.5)	52.2	(3.6)	1.8	(0.9)	40.0	(3.2)	40.9	(3.2)	19.1	(2.8)	59.6	(3.0)	32.0	(3.0)	8.4	(1.6)
Kazakhstan	18.7	(1.9)	80.7	(2.0)	0.6	(0.4)	13.7	(1.7)	71.7	(2.2)	14.6	(1.7)	52.7	(2.9)	36.6	(2.7)	10.6	(1.7)
Kosovo	27.7	(0.8)	67.0	(1.1)	5.3	(0.8)	24.0	(1.0)	47.8	(1.1)	28.2	(1.3)	32.9	(1.2)	35.9	(1.4)	31.2	(1.0)
Macao (China)	8.3	(0.0)	91.3	(0.0)	0.4	(0.0)	14.2	(0.0)	51.4	(0.1)	34.4	(0.1)	5.8	(0.0)	86.7	(0.0)	7.4	(0.0)
Malaysia	35.3	(3.6)	64.7	(3.6)	0.0	c	30.6	(3.4)	63.2	(3.3)	6.2	(1.8)	53.7	(3.6)	44.5	(3.6)	1.8	(1.0)
Malta	55.5	(0.3)	38.7	(0.3)	5.8	(0.1)	20.5	(0.2)	64.2	(0.2)	15.3	(0.2)	35.0	(0.2)	48.3	(0.3)	16.7	(0.2)
Moldova	22.7	(2.8)	72.2	(2.8)	5.0	(1.2)	16.0	(2.6)	49.8	(3.0)	34.2	(3.0)	64.9	(2.8)	27.8	(2.6)	7.3	(1.7)
Mongolia	15.2	(2.5)	82.7	(2.8)	2.0	(0.9)	20.9	(2.9)	52.7	(3.3)	26.4	(3.1)	39.1	(3.3)	54.3	(3.3)	6.6	(1.6)
Montenegro	58.6	(0.8)	41.4	(0.8)	0.0	c	20.4	(0.7)	34.7	(0.7)	44.9	(0.7)	41.3	(0.7)	34.1	(0.7)	24.6	(0.5)
Morocco	53.6	(3.9)	40.5	(4.0)	5.9	(2.0)	17.8	(3.2)	31.1	(3.3)	51.1	(3.8)	65.4	(4.1)	16.8	(3.2)	17.8	(3.0)
North Macedonia	78.1	(0.1)	21.9	(0.1)	0.0	c	41.9	(0.1)	40.9	(0.1)	17.2	(0.1)	48.8	(0.1)	32.4	(0.1)	18.8	(0.1)
Palestinian Authority	59.3	(3.4)	38.9	(3.5)	1.8	(0.9)	36.8	(3.2)	33.6	(3.1)	29.6	(2.9)	66.7	(2.9)	21.9	(2.3)	11.5	(2.2)
Panama*	47.0	(4.2) †	53.0	(4.2) †	0.0	c †	26.9	(3.8) †	47.5	(4.7) †	25.6	(3.6) †	39.8	(4.0) †	40.0	(4.7) †	20.3	(3.6) †
Paraguay	14.1	(2.0)	35.5	(2.9)	50.3	(3.1)	27.5	(2.9)	31.2	(3.3)	41.3	(3.1)	48.5	(3.5)	18.2	(3.2)	33.4	(3.3)
Peru	40.8	(2.9)	58.9	(2.8)	0.3	(0.3)	15.9	(2.3)	33.1	(2.4)	51.0	(2.6)	24.6	(2.7)	36.5	(2.4)	38.9	(2.5)
Philippines	57.2	(3.5)	42.2	(3.6)	0.6	(0.6)	44.5	(3.6)	53.2	(3.7)	2.3	(1.0)	79.1	(3.1)	19.1	(3.0)	1.9	(0.9)
Qatar	49.1	(0.1)	46.3	(0.1)	4.6	(0.1)	39.2	(0.1)	47.6	(0.1)	13.2	(0.1)	52.1	(0.1)	46.9	(0.1)	1.0	(0.0)
Romania	24.2	(3.4)	66.1	(3.6)	9.8	(2.3)	9.5	(2.1)	48.6	(3.5)	41.9	(3.3)	31.2	(2.9)	31.3	(3.7)	37.6	(3.7)
Saudi Arabia	57.4	(4.0)	41.8	(3.9)	0.7	(0.6)	40.4	(3.4)	40.9	(3.2)	18.7	(3.2)	66.8	(3.6)	26.1	(3.3)	7.1	(2.4)
Serbia	70.0	(3.3)	27.7	(3.3)	2.3	(0.8)	11.2	(2.1)	54.9	(3.7)	33.9	(3.4)	36.1	(3.2)	40.5	(3.3)	23.4	(3.1)
Singapore	19.3	(0.2)	80.7	(0.2)	0.0	c	5.2	(0.6)	61.8	(0.7)	33.0	(0.3)	44.6	(0.8)	54.3	(0.8)	1.1	(0.0)
Chinese Taipei	22.6	(3.0)	65.1	(3.8)	12.3	(2.9)	18.2	(3.3)	31.6	(3.9)	50.2	(3.9)	19.7	(2.8)	46.6	(4.3)	33.8	(3.8)
Thailand	10.1	(2.2)	74.3	(3.4)	15.6	(2.9)	16.0	(2.9)	72.5	(3.6)	11.6	(2.8)	32.5	(3.9)	56.8	(3.8)	10.7	(2.8)
Ukrainian regions (18 of 27)	21.6	(3.4)	73.6	(3.5)	4.8	(1.6)	26.0	(4.7)	57.8	(4.9)	16.2	(2.9)	42.6	(4.2)	32.0	(4.5)	25.4	(3.8)
United Arab Emirates	45.9	(0.5)	52.6	(0.5)	1.5	(0.1)	39.9	(0.6)	47.1	(0.5)	13.0	(0.2)	54.2	(0.5)	42.9	(0.5)	2.9	(0.1)
Uruguay	26.0	(2.3)	51.0	(2.6)	23.0	(2.2)	6.6	(1.4)	24.4	(2.6)	69.0	(2.8)	21.5	(2.7)	18.6	(2.2)	59.9	(3.0)
Uzbekistan	15.0	(2.8)	82.4	(2.9)	2.6	(1.1)	29.6	(3.2)	66.0	(3.3)	4.4	(1.4)	55.6	(3.2)	38.8	(3.3)	5.6	(1.7)
Viet Nam	42.3	(3.5)	49.8	(3.5)	7.9	(2.2)	9.4	(2.3)	50.8	(3.9)	39.8	(3.9)	42.7	(3.4)	50.1	(4.0)	7.2	(1.8)

Note: Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

Table II.B1.1. Resilient education system in PISA 2022

	Table II.B1.1.1	Students' sense of belonging at school
WEB	Table II.B1.1.2	Index of sense of belonging, by student characteristics
WEB	Table II.B1.1.3	Index of sense of belonging, by school characteristics
WEB	Table II.B1.1.4	Change between 2018 and 2022 in sense of belonging
	Table II.B1.1.5	Change between 2018 and 2022 in the index of sense of belonging
WEB	Table II.B1.1.6	Change between 2018 and 2022 in sense of belonging, by schools' socio-economic profile
	Table II.B1.1.7	Change between 2018 and 2022 in sense of belonging, by students' socio-economic status
WEB	Table II.B1.1.8	Sense of belonging and mathematics performance
WEB	Table II.B1.1.9	Sense of belonging and mathematics performance (school level)
WEB	Table II.B1.1.10	Students' life satisfaction
WEB	Table II.B1.1.11	Students' life satisfaction across domains and overall life satisfaction
WEB	Table II.B1.1.12	Life satisfaction and other indicators of students' subjective well-being
WEB	Table II.B1.1.13	Sense of belonging, and performance and equity
WEB	Table II.B1.1.14	Change between 2018 and 2022 in sense of belonging, and performance and equity

StatLink https://stat.link/uo4s8z

Table II.B1.2. Learning and school closure as covered in PISA 2022

WEB	Table II.B1.2.1	Duration and type of school closure
WEB	Table II.B1.2.2	Student characteristics, by response status to the question on the length of school closure
WEB	Table II.B1.2.3	Students' enrolment at their school
WEB	Table II.B1.2.4	Change between 2018 and 2022 in students' career expectations
	Table II.B1.2.4	Confidence in capacity for self-directed learning
WEB	Table II.B1.2.6	Confidence in capacity for self-directed learning, by student characteristics
WEB	Table II.B1.2.7	Confidence in capacity for self-directed learning, by school characteristics
WEB	Table II.B1.2.8	Confidence in capacity for self-directed learning and mathematics performance
WEB	Table II.B1.2.9	Confidence in capacity for self-directed learning and science performance
WEB	Table II.B1.2.10	Confidence in capacity for self-directed learning and reading performance
WEB	Table II.B1.2.11	Confidence in capacity for self-directed learning and socio-economic status
WEB	Table II.B1.2.12	Students' persistence
WEB	Table II.B1.2.13	Students' curiosity
WEB	Table II.B1.2.14	Students' co-operation
WEB	Table II.B1.2.15	Students' empathy
WEB	Table II.B1.2.16	Students' assertiveness
WEB	Table II.B1.2.17	Students' stress resistance
WEB	Table II.B1.2.18	Students' emotional control
WEB	Table II.B1.2.19	Social and emotional skills, and mathematics performance
WEB	Table II.B1.2.20	Persistence and learning resources during Covid-19 school closure
WEB	Table II.B1.2.21	Curiosity and learning resources during Covid-19 school closure
WEB	Table II.B1.2.22	Index of school preparation for remote instruction
WEB	Table II.B1.2.23	Perceived preparedness for remote instruction, by actions taken
	Table II.B1.2.24	Experience with learning at home
WEB	Table II.B1.2.25	Teacher support during school closures, by student characteristics
WEB	Table II.B1.2.26	Experience with learning at home and mathematics performance
WEB	Table II.B1.2.27	Experience with learning at home and science performance
WEB	Table II.B1.2.28	Experience with learning at home and reading performance
WEB	Table II.B1.2.29	School actions to maintain learning, and students' self-directed learning

	Table II.B1.2.30	Problems with remote learning
WEB	Table II.B1.2.31	Problems with remote learning, by student characteristics
WEB	Table II.B1.2.32	Problems with remote learning and mathematics performance
WEB	Table II.B1.2.33	Problems with remote learning and science performance
WEB	Table II.B1.2.34	Problems with remote learning and reading performance
WEB	Table II.B1.2.35	Problems with remote learning, and students' sense of belonging
WEB	Table II.B1.2.36	School actions and activities to maintain learning
WEB	Table II.B1.2.37	School actions and activities to maintain learning, by student characteristics
WEB	Table II.B1.2.38	School actions and activities to maintain learning, and mathematics performance
WEB	Table II.B1.2.39	School actions and activities to maintain learning, and science performance
WEB	Table II.B1.2.40	School actions and activities to maintain learning, and reading performance
WEB	Table II.B1.2.41	School actions to maintain learning and selected measures of student well-being
WEB	Table II.B1.2.42	School actions to maintain learning and students' self-directed learning
WEB	Table II.B1.2.43	School actions to maintain learning and students' self-directed learning, by student characteristics
WEB	Table II.B1.2.44	School actions to maintain learning and mathematics anxiety, by student characteristics
WEB	Table II.B1.2.45	Learning during and from school closures, and performance, equity and life satisfaction
WEB	Table II.B1.2.46	Learning during and from school closures, and change in performance, equity and life satisfaction
WEB	Table II.B1.2.47	Learning during and from school closures, and confidence in capacity for self-directed learning
WEB	Table II.B1.2.48	Learning during and from school closures, and change between 2018 and 2022 in performance and sense of belonging adjusted for pre-2018 long-term trend

StatLink https://stat.link/e13jdp

Table II.B1.3. School life and support from home as covered in PISA 2022

	Table II.B1.3.1	Teacher support in mathematics
WEB	Table II.B1.3.2	Teacher support, by student characteristics
WEB	Table II.B1.3.3	Teacher support, by school characteristics
WEB	Table II.B1.3.4	Change between 2012 and 2022 in teacher support in mathematics lessons
WEB	Table II.B1.3.5	Teacher support and mathematics performance
WEB	Table II.B1.3.6	Teacher support and mathematics performance (school level)
WEB	Table II.B1.3.7	Teacher support and selected measures of student well-being
WEB	Table II.B1.3.8	Teacher support and mathematics anxiety
	Table II.B1.3.9	Disciplinary climate in mathematics lessons
WEB	Table II.B1.3.10	Disciplinary climate, by student characteristics
WEB	Table II.B1.3.11	Disciplinary climate, by school characteristics
WEB	Table II.B1.3.12	Change between 2012 and 2022 in disciplinary climate in mathematics lessons
WEB	Table II.B1.3.13	Disciplinary climate and mathematics performance
WEB	Table II.B1.3.14	Disciplinary climate and mathematics performance (school level)
WEB	Table II.B1.3.15	Disciplinary climate and selected measures of student well-being
WEB	Table II.B1.3.16	Disciplinary climate and mathematics anxiety
WEB	Table II.B1.3.17	Feeling safe at school
WEB	Table II.B1.3.18	Feeling safe at school, by student characteristics
WEB	Table II.B1.3.19	Feeling safe at school, by school characteristics
WEB	Table II.B1.3.20	Feeling safe at school and mathematics performance
WEB	Table II.B1.3.21	Feeling safe at school and mathematics performance (school level)
WEB	Table II.B1.3.22	Feeling safe at school and selected measures of student well-being
	Table II.B1.3.23	School safety risks
WEB	Table II.B1.3.24	School safety risks, by student characteristics
WEB	Table II.B1.3.25	School safety risks, by school characteristics

WEB	Table II.B1.3.26	School safety risks and mathematics performance
WEB	Table II.B1.3.27	School safety risks and mathematics performance (school level)
WEB	Table II.B1.3.28	School safety risks and selected measures of student well-being
WEB	Table II.B1.3.29	Relationship between school safety risks and sense of belonging at school
WEB	Table II.B1.3.30	Students' exposure to bullying
WEB	Table II.B1.3.31	Students' exposure to bullying, by student characteristics
WEB	Table II.B1.3.32	Students' exposure to bullying, by school characteristics
WEB	Table II.B1.3.33	Change between 2015 and 2022 in students' exposure to bullying
WEB	Table II.B1.3.34	Students' exposure to bullying and mathematics performance
WEB	Table II.B1.3.35	Students' exposure to bullying and mathematics performance (school level)
WEB	Table II.B1.3.36	Exposure to bullying and selected measures of student well-being
WEB	Table II.B1.3.37	Student truancy
WEB	Table II.B1.3.38	Student truancy, by student characteristics
WEB	Table II.B1.3.39	Student truancy, by school characteristics
WEB	Table II.B1.3.40	Student lateness
WEB	Table II.B1.3.41	Student lateness, by student characteristics
WEB	Table II.B1.3.42	Student lateness, by school characteristics
WEB	Table II.B1.3.43	Change between 2018 and 2022 in student truancy and lateness
WEB	Table II.B1.3.44	Student truancy and mathematics performance
WEB	Table II.B1.3.45	Student truancy and mathematics performance (school level)
WEB	Table II.B1.3.46	Student lateness and mathematics performance
WEB	Table II.B1.3.47	Extent of student truancy and lateness, and mathematics performance
WEB	Table II.B1.3.48	Student lateness and mathematics performance (school level)
WEB	Table II.B1.3.49	Long-term student absence from primary to upper secondary
WEB	Table II.B1.3.50	Long-term student absence at any education level, by student characteristics
WEB	Table II.B1.3.51	Long-term student absence, by school characteristics
WEB	Table II.B1.3.52	Student long-term absence, and mathematics performance
WEB	Table II.B1.3.53	School-level long-term absence and mathematics performance (school level)
WEB	Table II.B1.3.54	Extent of student long-term absence, by education level, and mathematics performance
WEB	Table II.B1.3.55	Reasons for long-term absence
WEB	Table II.B1.3.56	Long-term absence out of boredom, by student characteristics
WEB	Table II.B1.3.57	Long-term absence out of boredom, by school characteristics
WEB	Table II.B1.3.58	Parental involvement
WEB	Table II.B1.3.59	Parent-teacher discussion of child's behaviour on parent's initiative, by student characteristics
WEB	Table II.B1.3.60	Parent-teacher discussion of child's behaviour on teacher's initiative, by student characteristics
WEB	Table II.B1.3.61	Parent-teacher discussion on child's progress on parent's initiative, by student characteristics
WEB	Table II.B1.3.62	Parent-teacher discussion of child's progress on teacher's initiative, by student characteristics
WEB	Table II.B1.3.63	Parent-teacher discussion of child's behaviour on parent's initiative, by school characteristics
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Annex B2. Results for regions within countries

Table II.B2.1. Students' sense of belonging at school [1/6]

Based on students' reports

	Index of sense of belonging				Percentage of students who reported the following:															
					I feel like an outsider (or left out of things) at school								I make friends easily at school							
	Average		Variability		Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
	Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD **Belgium**																				
Flemish community	-0.02	(0.01)	0.76	(0.01)	2.0	(0.2)	7.9	(0.4)	50.4	(0.9)	39.7	(1.0)	21.0	(0.8)	59.9	(0.9)	15.4	(0.6)	3.6	(0.3)
French community	0.07	(0.02)	0.92	(0.02)	4.7	(0.4)	9.2	(0.6)	37.4	(1.3)	48.7	(1.3)	29.5	(1.0)	48.8	(1.1)	16.6	(0.7)	5.1	(0.4)
German-speaking community	0.30	(0.04)	1.00	(0.03)	3.3	(0.8)	9.4	(1.4)	27.5	(2.0)	59.8	(2.6)	25.3	(2.0)	47.2	(2.2)	20.2	(1.6)	7.3	(1.1)
Canada																				
*Alberta**	-0.29	(0.03)	0.83	(0.03)	5.5	(0.8)	17.2	(1.6)	53.0	(2.0)	24.3	(1.8)	17.1	(1.3)	57.4	(1.9)	19.8	(1.3)	5.7	(0.8)
*British Columbia**	-0.26	(0.02)	0.83	(0.02)	4.1	(0.6)	17.4	(1.0)	54.3	(1.1)	24.2	(1.3)	18.1	(1.0)	53.6	(1.3)	20.5	(1.0)	7.8	(0.8)
*Manitoba**	-0.25	(0.03)	0.96	(0.02)	7.4	(0.8) †	18.2	(1.2) †	45.1	(1.3) †	29.4	(1.3) †	20.7	(1.3) †	51.1	(1.4) †	20.2	(1.1) †	8.0	(0.9)
New Brunswick	-0.18	(0.03)	0.99	(0.03)	6.9	(0.7)	15.8	(1.1)	44.2	(1.7)	33.1	(1.6)	20.6	(1.5) †	55.0	(1.7) †	16.4	(1.4) †	8.0	(0.9)
*Newfoundland and Labrador**	-0.28	(0.04)	0.98	(0.04)	7.6	(1.1) †	16.8	(1.4) †	46.6	(2.1) †	29.0	(2.1) †	18.1	(1.7)	51.1	(2.2)	20.8	(1.5)	9.9	(1.2)
*Nova Scotia**	-0.27	(0.03)	1.03	(0.04)	7.6	(1.1) †	19.4	(1.4) †	45.4	(1.7) †	27.7	(1.6) †	19.2	(1.3) †	48.4	(1.9) †	24.1	(1.4) †	8.3	(1.1)
*Ontario**	-0.20	(0.02)	0.91	(0.02)	4.8	(0.4) †	17.1	(0.8) †	49.8	(1.3) †	28.3	(0.9) †	19.5	(0.9) †	54.9	(1.0) †	19.4	(1.0) †	6.2	(0.5)
Prince Edward Island	-0.21	(0.05)	0.95	(0.07)	4.3	(1.7) †	21.6	(3.0) †	44.9	(4.1) †	29.2	(3.2) †	20.8	(2.9) †	53.1	(3.8) †	20.4	(3.0) †	5.8	(1.6)
*Quebec**	0.10	(0.02)	1.03	(0.02)	4.3	(0.4) †	9.3	(0.6) †	36.1	(1.0) †	50.3	(1.1) †	30.0	(0.9) †	51.3	(1.1) †	13.9	(0.7) †	4.8	(0.5)
Saskatchewan	-0.23	(0.03)	0.96	(0.03)	7.7	(0.7)	17.7	(1.0)	44.5	(1.2)	30.1	(1.2)	18.9	(1.1)	54.6	(1.4)	19.1	(1.4)	7.3	(0.7)
Colombia																				
Bogotá	-0.09	(0.02)	0.88	(0.03)	4.7	(0.6)	11.6	(1.0)	50.7	(1.7)	33.0	(1.4)	21.9	(1.1)	51.7	(1.3)	19.8	(1.1)	6.5	(0.7)
Italy																				
Bolzano	0.31	(0.02)	1.06	(0.02)	3.4	(0.4)	8.4	(0.7)	33.2	(1.1)	55.0	(1.2)	34.4	(1.1)	46.2	(1.4)	14.7	(1.0)	4.7	(0.5)
Trento	-0.06	(0.02)	0.78	(0.02)	2.7	(0.4)	8.1	(0.8)	48.8	(1.3)	40.4	(1.3)	23.7	(1.4)	54.3	(1.5)	16.3	(1.0)	5.8	(0.5)
Spain																				
Andalusia	0.32	(0.03)	1.13	(0.03)	5.8	(0.7)	5.1	(0.5)	32.7	(1.2)	56.4	(1.3)	27.4	(1.2)	51.6	(1.4)	13.5	(0.9)	7.4	(0.7)
Aragon	0.32	(0.03)	1.17	(0.03)	4.5	(0.6)	5.4	(0.8)	31.8	(1.5)	58.3	(1.6)	27.4	(1.7)	50.7	(1.8)	14.6	(1.0)	7.3	(0.8)
Asturias	0.41	(0.03)	1.19	(0.02)	4.1	(0.5)	5.1	(0.5)	31.2	(1.6)	59.6	(1.6)	28.7	(1.2)	51.3	(1.2)	14.6	(1.0)	5.5	(0.7)
Balearic Islands	0.29	(0.03)	1.17	(0.03)	6.2	(0.8)	9.3	(0.8)	36.2	(1.3)	48.3	(1.4)	30.2	(1.4)	50.3	(1.2)	13.1	(1.0)	6.5	(0.6)
Basque Country	0.26	(0.03)	1.09	(0.02)	6.4	(0.6)	6.1	(0.6)	34.5	(1.1)	52.9	(1.3)	26.7	(0.8)	53.1	(1.0)	15.1	(0.9)	5.1	(0.5)
Canary Islands	0.16	(0.03)	1.13	(0.03)	6.7	(0.8) †	8.0	(0.9) †	33.4	(1.6) †	52.0	(1.3) †	24.8	(1.6) †	49.9	(1.8) †	17.7	(1.3) †	7.6	(0.7)
Cantabria	0.39	(0.03)	1.18	(0.02)	5.3	(0.5)	3.5	(0.6)	31.5	(1.6)	59.7	(1.6)	26.3	(1.2)	52.6	(1.2)	14.2	(1.0)	7.0	(0.7)
Castile and Leon	0.41	(0.03)	1.13	(0.03)	4.7	(0.5)	3.5	(0.5)	30.8	(1.4)	61.1	(1.7)	28.1	(1.3)	54.6	(1.4)	13.0	(0.9)	4.3	(0.5)
Castile-La Mancha	0.37	(0.03)	1.12	(0.03)	4.9	(0.8) †	4.8	(0.6) †	31.5	(1.1) †	58.9	(1.5) †	27.1	(1.3) †	53.2	(1.5) †	14.5	(0.7) †	5.3	(0.7)
Catalonia	0.07	(0.03)	1.09	(0.03)	7.3	(0.7)	10.2	(1.1)	40.7	(1.6)	41.8	(1.5)	25.1	(1.4)	52.5	(1.6)	15.8	(1.2)	6.6	(0.7)
Ceuta	0.27	(0.08)	1.23	(0.06)	4.2	(1.4)	9.7	(2.3)	34.5	(3.1)	51.6	(3.1)	27.6	(3.0)	49.0	(3.5)	14.0	(2.6)	9.4	(2.1)
Comunidad Valenciana	0.28	(0.03)	1.13	(0.03)	5.8	(0.7)	5.8	(0.8)	32.7	(1.6)	55.7	(1.8)	24.7	(1.1)	51.5	(1.6)	17.8	(1.3)	6.0	(0.6)
Extremadura	0.42	(0.04)	1.16	(0.02)	6.4	(0.9)	2.4	(0.4)	29.9	(1.5)	61.3	(1.5)	27.5	(1.4)	53.0	(1.6)	14.1	(0.9)	5.4	(0.5)
Galicia	0.18	(0.04)	1.10	(0.02)	4.7	(0.7)	10.0	(1.0)	37.1	(1.3)	48.3	(1.8)	24.1	(1.1)	53.1	(1.1)	15.4	(0.9)	7.4	(0.7)
La Rioja	0.37	(0.04)	1.12	(0.02)	5.5	(0.9)	4.7	(0.8)	31.4	(1.5)	58.4	(1.7)	26.4	(1.6)	52.8	(1.6)	14.2	(1.3)	6.6	(0.7)
Madrid	0.35	(0.03)	1.18	(0.03)	5.3	(0.5)	3.3	(0.4)	31.4	(1.2)	60.0	(1.3)	27.2	(1.3)	51.2	(1.6)	15.8	(1.0)	5.9	(0.5)
Melilla	0.18	(0.07)	1.03	(0.06)	6.9	(2.1)	8.5	(1.7)	32.5	(3.7)	52.1	(3.9)	25.8	(3.1)	56.0	(3.9)	13.3	(2.5)	4.9	(1.7)
Murcia	0.32	(0.03)	1.18	(0.02)	6.9	(0.7)	4.6	(0.5)	31.7	(1.3)	56.9	(1.4)	28.1	(1.2)	50.6	(1.0)	14.6	(1.0)	6.7	(0.7)
Navarre	0.31	(0.04)	1.10	(0.02)	4.3	(0.6)	6.7	(0.7)	32.8	(1.4)	56.2	(1.8)	26.2	(1.3)	55.0	(1.4)	13.9	(1.0)	5.0	(0.6)
United Kingdom																				
*England**	-0.21	(0.02)	0.86	(0.02)	4.7	(0.4) †	15.0	(0.7) †	51.8	(0.9) †	28.5	(0.8) †	16.6	(0.7) †	58.4	(0.9) †	19.4	(0.7) †	5.7	(0.4)
*Northern Ireland**	-0.17	(0.02)	0.81	(0.02)	3.4	(0.5)	12.1	(0.8)	53.3	(1.2)	31.2	(1.1)	16.4	(0.8)	62.4	(1.2)	17.0	(1.0)	4.3	(0.5)
*Scotland**	-0.21	(0.01)	0.81	(0.02)	3.6	(0.3)	12.9	(0.7)	56.4	(0.9)	27.1	(0.7)	14.1	(0.8)	63.1	(1.0)	18.3	(0.8)	4.5	(0.4)
*Wales**	-0.26	(0.02)	0.82	(0.02)	5.4	(0.6) †	14.9	(0.8) †	52.8	(1.2) †	26.9	(1.0) †	15.1	(0.9) †	60.4	(1.2) †	18.6	(0.9) †	5.8	(0.7)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.1.1 for national data.

Table II.B2.1. Students' sense of belonging at school [2/6]

Based on students' reports

		Index of sense of belonging				Percentage of students who reported the following:															
						I feel like an outsider (or left out of things) at school								I make friends easily at school							
		Average		Variability		Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**																				
	North	-0.33	(0.03)	0.82	(0.04)	9.1	(1.2) †	15.6	(1.4) †	52.6	(1.9) †	22.7	(1.5) †	22.9	(1.5) †	44.3	(1.6) †	25.7	(1.2) †	7.1	(0.9) †
	Northeast	-0.25	(0.02)	0.87	(0.02)	9.0	(0.7) †	11.7	(0.7) †	53.4	(1.3) †	25.9	(1.0) †	24.7	(1.1) †	47.4	(0.9) †	18.6	(0.8) †	9.3	(0.8) †
	South	-0.20	(0.03)	0.88	(0.03)	4.6	(0.6)	11.6	(0.9)	54.9	(1.4)	28.9	(1.1)	20.5	(1.4)	48.6	(1.5)	23.3	(1.3)	7.6	(0.8)
	Southeast	-0.15	(0.02)	0.96	(0.02)	7.5	(0.6) †	11.0	(0.6) †	49.8	(1.1) †	31.7	(1.1) †	23.7	(0.6) †	45.0	(0.8) †	22.7	(0.8) †	8.6	(0.6) †
	Middle-West	-0.23	(0.04)	0.96	(0.04)	7.1	(1.2)	11.0	(1.2)	55.6	(1.8)	26.3	(1.6)	21.9	(2.1)	46.8	(1.8)	20.7	(1.7)	10.6	(1.6)
	Kazakhstan																				
	Akmola region	-0.11	(0.03)	0.98	(0.03)	9.7	(1.0)	10.0	(1.0)	39.7	(1.6)	40.6	(1.5)	30.1	(1.9)	46.5	(2.0)	17.0	(1.4)	6.3	(0.6)
	Aktobe region	-0.19	(0.02)	0.87	(0.03)	8.7	(1.0)	9.0	(1.0)	44.6	(1.7)	37.7	(1.7)	23.4	(1.4)	55.6	(1.7)	15.2	(1.2)	5.7	(0.8)
	Almaty	-0.11	(0.04)	0.91	(0.03)	6.1	(1.1)	10.1	(1.2)	45.4	(1.3)	38.4	(2.0)	23.4	(1.6)	50.9	(1.5)	19.4	(0.9)	6.3	(0.9)
	Almaty region	-0.14	(0.05)	0.86	(0.04)	8.2	(1.2)	7.7	(0.8)	49.5	(2.0)	34.5	(2.3)	29.6	(2.2)	50.6	(1.9)	13.7	(1.3)	6.1	(1.3)
	Astana	-0.17	(0.04)	0.95	(0.02)	7.8	(1.0)	10.5	(0.8)	46.0	(1.1)	35.7	(1.6)	26.3	(1.9)	46.8	(1.5)	20.2	(1.6)	6.8	(1.2)
	Atyrau region	-0.11	(0.02)	0.90	(0.02)	8.0	(0.7)	8.9	(1.0)	43.2	(1.5)	39.9	(2.0)	26.1	(1.8)	54.6	(2.5)	14.3	(1.3)	5.1	(0.7)
	East-Kazakhstan region	-0.09	(0.05)	0.89	(0.04)	7.9	(1.0)	7.8	(1.0)	45.6	(1.8)	38.6	(2.4)	24.8	(1.7)	55.4	(1.9)	15.4	(1.3)	4.3	(0.7)
	Karagandy region	-0.09	(0.03)	0.93	(0.03)	7.7	(0.7)	9.5	(1.0)	46.0	(2.1)	36.8	(1.4)	27.5	(1.4)	50.5	(1.4)	16.8	(1.1)	5.2	(0.5)
	Kostanay region	-0.07	(0.04)	0.93	(0.04)	6.3	(0.9)	8.1	(1.0)	46.2	(1.8)	39.5	(2.6)	29.1	(1.8)	48.8	(2.2)	17.2	(1.9)	4.9	(0.9)
	Kyzyl-Orda region	0.00	(0.06)	1.02	(0.04)	9.7	(0.7)	7.2	(1.2)	41.9	(1.9)	41.2	(2.3)	29.6	(2.0)	53.4	(2.0)	11.2	(1.1)	5.8	(0.7)
	North-Kazakhstan region	-0.11	(0.04)	0.88	(0.03)	6.9	(1.0)	7.3	(1.1)	46.1	(1.9)	39.7	(1.9)	27.7	(1.8)	49.8	(1.8)	17.3	(1.6)	5.2	(0.8)
	Pavlodar region	-0.15	(0.03)	0.89	(0.04)	6.7	(0.8)	9.4	(1.2)	44.4	(2.0)	39.5	(2.2)	24.8	(1.6)	49.7	(1.5)	19.0	(1.3)	6.5	(0.7)
	Shymkent	-0.22	(0.03)	0.92	(0.03)	10.0	(1.0)	8.4	(1.1)	50.1	(2.1)	31.5	(1.9)	23.4	(1.7)	53.7	(2.0)	15.2	(1.5)	7.7	(0.7)
	Turkestan region	-0.31	(0.04)	0.86	(0.03)	13.1	(1.8)	10.5	(1.7)	47.2	(2.4)	29.2	(2.4)	25.1	(1.2)	53.7	(1.5)	12.9	(1.1)	8.3	(1.0)
	West-Kazakhstan region	-0.02	(0.04)	0.99	(0.03)	7.9	(1.2)	7.7	(1.1)	45.2	(1.9)	39.2	(1.9)	26.5	(1.8)	53.7	(1.7)	14.6	(1.6)	5.2	(0.8)
	Zhambyl region	-0.16	(0.03)	0.91	(0.04)	8.9	(1.3)	8.4	(0.8)	48.0	(1.7)	34.8	(1.5)	23.7	(2.1)	57.4	(1.6)	12.6	(1.2)	6.2	(1.0)
	Mongolia																				
	Central	-0.15	(0.01)	0.80	(0.01)	4.3	(0.4)	13.3	(0.6)	46.0	(0.9)	36.4	(0.8)	19.3	(0.7)	52.3	(0.8)	22.7	(0.9)	5.7	(0.5)
	Khangai	-0.11	(0.03)	0.77	(0.02)	4.8	(0.7)	12.0	(1.4)	47.8	(2.1)	35.3	(2.4)	22.5	(1.3)	50.9	(1.8)	20.2	(2.1)	6.4	(0.9)
	Western	-0.16	(0.04)	0.89	(0.04)	11.9	(1.6)	15.3	(1.5)	37.7	(1.9)	35.1	(2.1)	24.9	(2.3)	53.9	(2.0)	14.8	(1.5)	6.3	(0.9)
	Viet Nam																				
	Central	-0.27	(0.03)	0.77	(0.04)	6.8	(0.7)	13.1	(1.0)	56.5	(1.4)	23.6	(1.6)	24.2	(1.5)	62.5	(1.2)	8.9	(1.0)	4.4	(0.5)
	Northern	-0.25	(0.02)	0.73	(0.03)	6.0	(0.5)	12.0	(1.1)	56.2	(1.1)	25.8	(1.2)	23.5	(0.9)	62.8	(1.1)	9.5	(0.8)	4.2	(0.4)
	Southern	-0.32	(0.02)	0.71	(0.03)	7.5	(0.8)	18.9	(0.9)	54.8	(1.3)	18.9	(0.9)	24.7	(1.2)	58.8	(1.4)	11.2	(0.7)	5.3	(0.4)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.1.1 for national data.

Table II.B2.1. Students' sense of belonging at school [3/6]

Based on students' reports

	Percentage of students who reported the following:															
	I feel like I belong at school								I feel awkward and out of place in my school							
	Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD **Belgium**																
Flemish community	9.0	(0.6)	56.7	(0.9)	26.1	(0.9)	8.3	(0.5)	3.5	(0.3)	11.3	(0.5)	54.9	(0.9)	30.2	(1.0)
French community	21.5	(0.9)	52.8	(1.1)	17.2	(0.8)	8.5	(0.7)	6.9	(0.6) †	14.1	(0.6) †	41.5	(1.3) †	37.5	(1.2) †
German-speaking community	29.5	(2.1)	48.0	(2.2)	16.4	(1.5)	6.2	(1.0)	5.1	(0.9)	11.4	(1.1)	28.5	(1.9)	54.9	(2.3)
Canada																
*Alberta**	12.5	(1.2)	61.0	(1.5)	20.0	(1.3)	6.5	(1.0)	6.3	(0.9)	25.6	(1.6)	50.3	(2.0)	17.8	(1.5)
*British Columbia**	11.6	(0.9)	57.2	(1.5)	23.3	(1.3)	7.9	(0.7)	5.2	(0.7)	21.5	(0.8)	52.3	(1.1)	21.0	(1.0)
*Manitoba**	16.8	(1.3) †	53.0	(1.3) †	21.0	(1.1) †	9.1	(0.8) †	9.4	(0.8) †	21.8	(1.0) †	47.1	(1.5) †	21.7	(1.2) †
New Brunswick	16.3	(1.2)	53.9	(1.9)	20.2	(1.4)	9.6	(0.9)	9.4	(1.0)	20.3	(1.3)	46.0	(1.6)	24.3	(1.4)
*Newfoundland and Labrador**	14.6	(1.8)	54.3	(2.2)	20.5	(1.5)	10.7	(1.2)	9.9	(1.3)	22.6	(2.0)	48.1	(2.2)	19.4	(1.6)
*Nova Scotia**	14.1	(1.4) †	52.3	(1.8) †	21.3	(1.7) †	12.3	(1.2) †	11.4	(1.2) †	22.9	(1.5) †	44.1	(1.9) †	21.7	(1.3) †
*Ontario**	15.1	(0.7) †	58.1	(1.1) †	20.8	(0.9) †	6.0	(0.4) †	6.9	(0.4) †	22.7	(0.8) †	49.2	(1.0) †	21.2	(0.8) †
Prince Edward Island	13.5	(2.3) †	53.1	(3.2) †	25.3	(3.3) †	8.2	(2.2) †	7.6	(2.0) †	20.8	(2.9) †	49.6	(4.3) †	21.9	(2.8) †
*Quebec**	23.4	(0.9) †	49.5	(1.1) †	17.4	(0.7) †	9.7	(0.6) †	7.1	(0.6) †	17.1	(0.7) †	39.2	(0.9) †	36.5	(1.2) †
Saskatchewan	14.9	(1.1)	59.0	(1.3)	18.3	(1.0)	7.8	(0.8)	8.2	(0.8)	22.2	(1.1)	48.5	(1.4)	21.2	(1.3)
Colombia																
Bogotá	23.0	(1.2)	61.8	(1.3)	11.2	(0.9)	4.1	(0.5)	4.3	(0.7)	12.6	(0.7)	53.4	(1.5)	29.7	(1.3)
Italy																
Bolzano	25.9	(1.0)	47.9	(1.3)	18.6	(0.8)	7.6	(0.7)	4.9	(0.6)	10.0	(0.8)	37.8	(1.2)	47.3	(1.3)
Trento	9.7	(0.9)	54.0	(1.3)	26.7	(1.3)	9.5	(0.7)	2.9	(0.5)	10.7	(0.9)	53.6	(1.6)	32.8	(1.4)
Spain																
Andalusia	36.4	(1.4)	50.6	(1.5)	9.7	(0.9)	3.4	(0.4)	6.2	(0.5)	10.1	(0.7)	39.5	(1.2)	44.2	(1.1)
Aragon	36.6	(1.7)	50.1	(2.0)	8.2	(1.0)	5.1	(0.6)	8.0	(0.8)	8.7	(0.9)	37.1	(1.7)	46.2	(1.7)
Asturias	38.2	(1.3)	49.6	(1.1)	8.1	(0.8)	4.2	(0.6)	5.3	(0.6)	8.3	(0.9)	39.3	(1.4)	47.0	(1.6)
Balearic Islands	33.1	(1.3)	51.4	(1.4)	10.4	(1.0)	5.1	(0.6)	5.1	(0.7)	10.2	(0.7)	38.1	(1.3)	46.6	(1.4)
Basque Country	34.2	(1.0)	51.5	(1.0)	9.7	(0.7)	4.5	(0.5)	6.1	(0.5)	8.9	(0.7)	38.7	(1.1)	46.4	(1.3)
Canary Islands	29.7	(1.3) †	55.1	(1.5) †	10.4	(0.9) †	4.7	(0.6) †	7.6	(0.8) †	11.2	(0.8) †	41.9	(1.3) †	39.3	(1.5) †
Cantabria	38.1	(1.6)	49.7	(1.4)	7.3	(0.7)	4.9	(0.5)	5.9	(0.8)	8.9	(0.6)	36.0	(1.5)	49.2	(1.8)
Castile and Leon	37.3	(1.0)	51.4	(1.3)	7.3	(0.8)	4.0	(0.5)	5.7	(0.6)	8.3	(0.8)	38.9	(1.6)	47.1	(1.7)
Castile-La Mancha	35.0	(1.3)	53.0	(1.6)	6.9	(0.8)	5.1	(0.8)	5.3	(0.6) †	8.3	(0.8) †	37.6	(1.5) †	48.8	(1.6) †
Catalonia	27.6	(1.7)	55.3	(1.6)	11.3	(1.1)	5.8	(0.5)	6.5	(0.7)	10.9	(0.9)	45.6	(1.6)	37.0	(1.2)
Ceuta	35.8	(3.9)	47.0	(4.0)	11.2	(2.5)	6.0	(1.8)	9.8	(2.4)	9.6	(2.2)	38.1	(3.6)	42.5	(3.4)
Comunidad Valenciana	33.4	(1.6)	53.0	(1.6)	9.5	(0.7)	4.0	(0.6)	6.8	(0.7)	8.6	(0.7)	41.2	(1.7)	43.5	(1.7)
Extremadura	38.0	(1.4)	50.8	(1.4)	6.4	(0.7)	4.8	(0.5)	5.8	(0.8)	6.9	(0.7)	38.0	(1.4)	49.3	(1.6)
Galicia	30.8	(1.2)	54.8	(1.1)	9.8	(0.6)	4.7	(0.7)	6.5	(0.6)	10.4	(1.1)	41.9	(1.9)	41.3	(1.7)
La Rioja	34.2	(1.6)	53.4	(1.6)	8.7	(1.1)	3.7	(0.5)	5.5	(0.9)	8.3	(1.0)	39.3	(1.5)	46.9	(1.6)
Madrid	35.4	(1.4)	52.0	(1.3)	7.8	(0.5)	4.8	(0.6)	5.9	(0.7)	8.4	(0.7)	39.3	(1.3)	46.3	(1.5)
Melilla	31.6	(3.3) †	49.9	(3.9) †	13.4	(3.0) †	5.0	(1.7) †	5.3	(1.8) †	13.0	(2.9) †	37.8	(3.8) †	44.0	(3.8) †
Murcia	37.3	(1.3)	47.7	(1.6)	9.5	(0.9)	5.4	(0.5)	7.1	(0.7)	10.2	(0.9)	36.8	(1.0)	45.9	(1.0)
Navarre	33.8	(1.6)	52.5	(1.3)	10.5	(0.8)	3.2	(0.5)	5.6	(0.6)	7.7	(0.6)	38.0	(1.4)	48.8	(1.5)
United Kingdom																
*England**	9.6	(0.6) †	53.5	(1.0) †	26.7	(0.8) †	10.2	(0.7) †	6.5	(0.5) †	19.4	(0.9) †	50.7	(1.1) †	23.4	(0.8) †
*Northern Ireland**	8.7	(0.7)	56.9	(1.6)	24.3	(1.1)	10.1	(0.9)	4.6	(0.6)	18.9	(1.0)	53.2	(1.2)	23.2	(1.0)
*Scotland**	8.7	(0.6)	58.3	(1.0)	24.9	(0.7)	8.1	(0.6)	5.6	(0.5)	18.5	(0.8)	54.8	(0.9)	21.1	(0.8)
*Wales**	9.4	(0.6) †	53.9	(1.2) †	27.2	(1.1) †	9.6	(0.6) †	6.7	(0.7) †	22.0	(0.9) †	51.1	(1.1) †	20.3	(0.9) †

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.1.1 for national data.

Table II.B2.1. Students' sense of belonging at school [4/6]

Based on students' reports

	Percentage of students who reported the following:															
	I feel like I belong at school								I feel awkward and out of place in my school							
	Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																
Brazil																
North	16.0	(1.3) †	55.3	(2.4) †	23.7	(2.0) †	5.1	(0.9) †	9.7	(1.1) †	13.3	(1.0) †	54.4	(1.8) †	22.6	(1.8) †
Northeast	20.0	(1.0) †	56.1	(1.1) †	17.8	(1.0) †	6.1	(0.6) †	7.2	(0.6) †	12.3	(0.7) †	54.5	(1.0) †	26.0	(1.0) †
South	18.6	(1.4)	58.1	(1.5)	19.6	(1.2)	3.8	(0.5)	5.1	(0.6)	14.3	(1.0)	52.7	(1.6)	27.9	(1.4)
Southeast	23.2	(0.8) †	53.5	(0.8) †	18.2	(0.7) †	5.1	(0.4) †	5.7	(0.4) †	12.7	(0.6) †	49.1	(1.0) †	32.4	(1.0) †
Middle-West	18.8	(2.0)	54.4	(2.1)	23.0	(1.9)	3.9	(0.8)	5.0	(0.7)	16.4	(1.0)	53.0	(1.7)	25.6	(2.1)
Kazakhstan																
Akmola region	20.3	(1.5)	49.9	(1.5)	23.2	(2.0)	6.6	(1.1)	7.8	(1.0)	12.6	(1.1)	53.1	(1.9)	26.5	(1.4)
Aktobe region	17.4	(1.1)	53.1	(1.6)	22.5	(1.4)	7.0	(1.2)	9.0	(0.7)	11.6	(1.1)	56.5	(1.2)	23.0	(1.0)
Almaty	19.9	(1.6)	48.4	(1.4)	25.7	(2.1)	5.9	(0.9)	5.4	(0.8)	14.6	(1.7)	52.7	(1.5)	27.3	(1.5)
Almaty region	18.4	(1.5)	54.4	(1.7)	22.2	(1.5)	5.0	(0.7)	7.2	(1.2)	11.7	(1.1)	57.1	(1.5)	23.9	(1.9)
Astana	17.3	(1.4)	49.8	(1.5)	26.8	(1.8)	6.2	(0.8)	7.2	(0.9)	18.7	(1.8)	49.8	(2.0)	24.2	(1.4)
Atyrau region	19.1	(1.4)	52.3	(2.0)	23.2	(1.4)	5.3	(0.6)	7.6	(0.7)	11.9	(1.3)	54.0	(1.9)	26.6	(1.5)
East-Kazakhstan region	19.3	(1.8)	58.2	(1.3)	17.8	(1.6)	4.6	(0.6)	6.7	(0.9)	11.0	(1.3)	56.5	(1.4)	25.8	(1.6)
Karagandy region	18.8	(1.3)	50.7	(1.4)	23.8	(1.6)	6.7	(0.7)	6.6	(0.6)	13.5	(1.3)	52.8	(2.3)	27.1	(2.5)
Kostanay region	19.1	(1.4)	53.3	(1.9)	23.2	(1.3)	4.4	(0.9)	4.4	(0.6)	16.1	(1.3)	55.1	(1.8)	24.4	(1.8)
Kyzyl-Orda region	23.0	(2.1)	55.0	(1.5)	17.5	(2.0)	4.4	(0.7)	9.9	(1.0)	8.6	(1.4)	47.5	(2.1)	34.0	(3.2)
North-Kazakhstan region	17.4	(1.4)	54.7	(2.0)	22.0	(1.5)	5.8	(0.9)	7.0	(0.9)	12.7	(1.0)	53.6	(1.8)	26.7	(2.1)
Pavlodar region	17.8	(1.4)	52.4	(1.9)	23.4	(1.5)	6.5	(1.2)	7.9	(1.0)	13.6	(1.3)	52.9	(1.9)	25.6	(1.5)
Shymkent	18.6	(1.6)	50.2	(1.1)	23.6	(1.7)	7.6	(1.1)	9.1	(0.7)	12.6	(1.1)	56.9	(1.9)	21.4	(1.1)
Turkestan region	16.6	(1.5)	54.8	(1.7)	20.8	(1.6)	7.8	(1.1)	11.5	(1.4)	11.8	(1.3)	55.7	(2.4)	21.0	(2.1)
West-Kazakhstan region	20.9	(1.6)	53.9	(1.7)	19.5	(1.3)	5.6	(0.7)	4.9	(0.9)	13.3	(1.4)	50.2	(1.8)	31.6	(2.0)
Zhambyl region	17.3	(1.3)	58.1	(1.5)	18.5	(1.3)	6.0	(0.8)	9.5	(1.3)	7.7	(1.0)	57.5	(1.2)	25.2	(1.4)
Mongolia																
Central	20.2	(0.8)	56.1	(0.9)	18.5	(0.6)	5.2	(0.4)	4.6	(0.3)	13.2	(0.7)	46.7	(0.9)	35.5	(0.9)
Khangai	24.9	(2.0)	56.8	(1.7)	13.7	(1.4)	4.7	(0.9)	3.6	(0.8)	11.2	(1.1)	45.4	(1.9)	39.7	(1.9)
Western	28.8	(2.7)	49.9	(1.9)	14.8	(1.3)	6.5	(0.7)	9.2	(1.1)	13.4	(1.7)	42.5	(2.2)	34.9	(2.3)
Viet Nam																
Central	16.8	(1.3)	67.5	(1.3)	11.7	(1.1)	4.0	(0.5)	4.9	(0.5)	25.0	(1.7)	58.8	(1.5)	11.4	(1.0)
Northern	17.4	(0.8)	68.0	(1.0)	11.4	(0.8)	3.2	(0.4)	5.5	(0.6)	22.9	(1.1)	60.2	(1.1)	11.5	(0.9)
Southern	13.3	(0.8)	64.6	(1.3)	18.6	(1.2)	3.6	(0.4)	5.3	(0.5)	25.1	(1.2)	57.2	(1.4)	12.4	(1.0)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Notes: PISA adjudicated region is shown in bold.
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.
See Table II.B1.1.1 for national data.

Table II.B2.1. Students' sense of belonging at school [5/6]

Based on students' reports

		Percentage of students who reported the following:															
		Other students seem to like me								I feel lonely at school							
		Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Belgium**																
	Flemish community	11.8	(0.7)	75.6	(0.8)	10.4	(0.6)	2.2	(0.3)	2.0	(0.2)	6.7	(0.4)	44.9	(1.0)	46.5	(1.1)
	French community	17.4	(1.0)	69.5	(1.1)	10.1	(0.6)	3.0	(0.3)	5.0	(0.4)	9.0	(0.6)	36.9	(1.1)	49.1	(1.0)
	German-speaking community	30.4	(2.0)	58.1	(2.4)	7.9	(1.1)	3.6	(0.8)	5.4	(1.0)	7.7	(1.3)	25.1	(1.9)	61.8	(2.0)
	Canada																
	*Alberta**	12.8	(1.2)	73.0	(1.8)	12.0	(1.4)	2.2	(0.5)	5.3	(0.9)	20.0	(1.7)	49.1	(1.8)	25.6	(1.5)
	*British Columbia**	14.1	(0.9)	70.9	(1.1)	12.2	(1.0)	2.8	(0.4)	5.3	(0.7)	15.9	(0.9)	51.2	(1.5)	27.6	(1.2)
	*Manitoba**	15.9	(0.9) †	65.2	(1.2) †	15.0	(0.9) †	3.9	(0.5) †	7.4	(0.9) †	16.3	(1.1) †	44.2	(1.4) †	32.1	(1.3) †
	New Brunswick	16.8	(1.2) †	63.7	(1.4) †	14.7	(1.2) †	4.8	(0.7) †	6.2	(0.8)	15.4	(1.1)	41.8	(1.4)	36.5	(1.5)
	*Newfoundland and Labrador**	12.5	(1.2)	65.8	(1.9)	16.1	(1.5)	5.7	(1.0)	8.4	(1.2)	15.9	(1.4)	44.1	(2.0)	31.6	(2.1)
	*Nova Scotia**	16.5	(1.3) †	66.0	(1.8) †	12.9	(1.2) †	4.6	(0.9) †	8.2	(1.1) †	17.2	(1.3) †	43.7	(1.6) †	30.9	(1.7) †
	*Ontario**	16.2	(0.7) †	69.7	(1.0) †	11.5	(0.7) †	2.6	(0.3) †	5.5	(0.5) †	16.2	(0.8) †	46.7	(1.2) †	31.5	(1.2) †
	Prince Edward Island	13.8	(2.1) †	67.2	(3.5) †	12.2	(2.2) †	6.8	(1.9) †	5.9	(1.8) †	16.4	(2.8) †	48.1	(4.0) †	29.7	(3.9) †
	*Quebec**	19.9	(0.9) †	66.2	(1.0) †	10.4	(0.6) †	3.4	(0.4) †	5.0	(0.4) †	11.7	(0.6) †	37.4	(1.2) †	45.9	(1.1) †
	Saskatchewan	15.5	(1.2)	67.7	(1.4)	13.2	(1.0)	3.7	(0.5)	6.1	(0.7)	16.6	(1.1)	48.0	(1.5)	29.3	(1.3)
	Colombia																
	Bogotá	17.4	(1.4)	66.6	(1.5)	13.1	(1.0)	2.8	(0.4)	5.2	(0.7)	12.5	(0.9)	50.2	(1.4)	32.0	(1.1)
	Italy																
	Bolzano	29.5	(1.1)	56.7	(1.3)	10.3	(0.8)	3.6	(0.5)	4.1	(0.5)	7.5	(0.7)	29.9	(1.2)	58.5	(1.2)
	Trento	9.8	(1.0)	69.9	(1.3)	16.1	(1.0)	4.2	(0.5)	3.2	(0.5)	10.5	(1.0)	42.6	(1.2)	43.7	(1.3)
	Spain																
	Andalusia	25.4	(1.3)	63.3	(1.4)	7.9	(0.8)	3.5	(0.6)	5.3	(0.6)	5.3	(0.7)	34.3	(1.3)	55.2	(1.4)
	Aragon	24.1	(1.5)	62.3	(1.6)	8.9	(0.8)	4.7	(0.7)	6.0	(0.7)	6.0	(0.6)	31.8	(1.5)	56.3	(1.5)
	Asturias	26.6	(1.1)	61.7	(1.4)	8.4	(0.8)	3.3	(0.5)	5.0	(0.6)	5.5	(0.5)	32.1	(1.2)	57.4	(1.4)
	Balearic Islands	26.2	(1.3)	62.6	(1.5)	7.5	(0.6)	3.8	(0.7)	5.3	(0.7)	6.6	(0.7)	34.3	(1.2)	53.7	(1.5)
	Basque Country	20.5	(1.0)	60.9	(1.1)	13.4	(0.8)	5.2	(0.5)	5.8	(0.5)	5.3	(0.5)	32.9	(1.0)	56.0	(1.2)
	Canary Islands	23.2	(1.7) †	63.1	(1.5) †	9.6	(0.7) †	4.1	(0.6) †	7.3	(0.8) †	7.2	(0.8) †	35.9	(1.4) †	49.6	(1.4) †
	Cantabria	27.0	(1.4)	61.3	(1.4)	8.2	(0.9)	3.5	(0.4)	5.0	(0.6)	5.0	(0.7)	32.4	(1.3)	57.5	(1.6)
	Castile and Leon	25.6	(1.2)	64.3	(1.4)	7.3	(0.5)	2.9	(0.5)	4.9	(0.6)	5.2	(0.6)	30.6	(1.7)	59.3	(1.7)
	Castile-La Mancha	24.7	(1.1) †	62.0	(1.6) †	9.5	(0.7) †	3.7	(0.6) †	4.2	(0.7) †	5.2	(0.7) †	32.0	(1.1) †	58.6	(1.5) †
	Catalonia	22.4	(1.3)	63.1	(1.3)	10.2	(1.0)	4.3	(0.6)	6.4	(0.6)	9.7	(0.9)	38.6	(1.6)	45.3	(2.1)
	Ceuta	29.4	(3.4)	55.4	(3.6)	10.1	(2.1)	5.1	(1.7)	6.1	(1.8)	7.6	(2.1)	34.6	(3.6)	51.7	(3.6)
	Comunidad Valenciana	26.4	(1.2)	61.8	(1.7)	8.9	(1.0)	2.9	(0.6)	6.0	(0.6)	6.9	(0.9)	34.9	(1.9)	52.2	(1.7)
	Extremadura	27.2	(1.5)	60.1	(1.4)	9.2	(0.6)	3.6	(0.5)	5.0	(0.5)	4.1	(0.5)	29.9	(1.4)	61.0	(1.6)
	Galicia	19.3	(1.2)	59.6	(1.3)	15.7	(1.0)	5.3	(0.6)	4.6	(0.6)	8.5	(1.0)	34.7	(1.3)	52.3	(1.7)
	La Rioja	24.6	(1.4)	65.6	(1.5)	6.8	(0.9)	3.1	(0.5)	4.6	(0.8)	4.5	(0.6)	31.5	(1.6)	59.4	(1.7)
	Madrid	25.7	(1.2)	61.8	(1.5)	8.6	(0.7)	3.8	(0.5)	5.3	(0.7)	5.7	(0.6)	33.5	(1.3)	55.4	(1.5)
	Melilla	25.8	(3.6)	60.9	(3.9)	9.5	(2.7)	3.8	(1.5)	6.5	(1.6)	5.9	(2.0)	34.7	(3.4)	52.9	(3.5)
	Murcia	28.5	(1.2)	58.3	(1.1)	9.2	(0.7)	4.0	(0.5)	6.1	(0.7)	6.1	(0.7)	29.9	(1.3)	57.9	(1.6)
	Navarre	22.5	(1.4)	58.7	(1.4)	14.0	(1.5)	4.7	(0.7)	4.3	(0.6)	6.1	(0.7)	33.5	(1.2)	56.1	(1.5)
	United Kingdom																
	*England**	13.1	(0.6) †	70.8	(1.0) †	12.7	(0.7) †	3.3	(0.4) †	4.2	(0.4) †	12.0	(0.5) †	49.3	(1.0) †	34.4	(1.0) †
	*Northern Ireland**	11.8	(0.9)	76.4	(1.2)	9.4	(0.8)	2.5	(0.4)	3.2	(0.4)	9.8	(0.9)	51.3	(1.2)	35.7	(1.3)
	*Scotland**	10.5	(0.7)	76.7	(1.0)	10.3	(0.6)	2.6	(0.3)	3.6	(0.3)	10.8	(0.8)	54.5	(1.1)	31.1	(0.9)
	*Wales**	9.5	(0.7) †	73.2	(1.1) †	14.2	(1.0) †	3.1	(0.5) †	5.1	(0.6) †	11.7	(0.7) †	51.7	(1.2) †	31.6	(1.2) †

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Notes: PISA adjudicated region is shown in bold.
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.
See Table II.B1.1.1 for national data.

Table II.B2.1. Students' sense of belonging at school [6/6]

Based on students' reports

	Percentage of students who reported the following:															
	Other students seem to like me								I feel lonely at school							
	Strongly agree		Agree		Disagree		Strongly disagree		Strongly agree		Agree		Disagree		Strongly disagree	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																
Brazil																
North	15.7	(0.9) †	58.5	(2.0) †	21.3	(1.6) †	4.5	(0.9) †	8.7	(1.0) †	19.9	(1.5) †	50.5	(2.3) †	20.9	(1.7) †
Northeast	14.9	(0.8) †	63.6	(1.3) †	15.9	(0.9) †	5.5	(0.6) †	9.2	(0.7) †	16.5	(0.9) †	49.3	(1.2) †	25.0	(1.2) †
South	13.4	(1.2)	65.1	(1.6)	17.9	(1.2)	3.6	(0.5)	6.9	(0.8)	19.8	(1.3)	47.7	(1.5)	25.6	(1.2)
Southeast	16.0	(0.8) †	63.1	(1.0) †	16.7	(0.7) †	4.3	(0.4) †	8.1	(0.5) †	17.7	(0.7) †	46.3	(0.9) †	27.9	(0.9) †
Middle-West	13.1	(1.6)	61.7	(2.1)	20.1	(2.6)	5.1	(0.7)	10.0	(1.3)	20.4	(1.6)	45.8	(2.3)	23.7	(1.5)
Kazakhstan																
Akmola region	16.2	(1.3)	54.2	(1.8)	23.0	(1.4)	6.7	(0.7)	9.4	(1.3)	11.1	(0.9)	42.6	(1.9)	36.9	(1.9)
Aktobe region	13.2	(0.9)	58.6	(1.5)	22.2	(1.0)	5.9	(0.8)	8.5	(1.0)	8.3	(0.9)	50.2	(1.6)	33.1	(1.9)
Almaty	17.1	(1.3)	57.4	(1.8)	19.7	(1.1)	5.8	(0.8)	5.3	(0.8)	10.4	(1.0)	48.7	(1.7)	35.7	(1.5)
Almaty region	16.3	(1.5)	60.9	(1.9)	18.7	(1.6)	4.0	(0.9)	8.2	(1.1)	7.8	(0.9)	48.7	(2.5)	35.3	(2.2)
Astana	17.4	(1.5)	56.2	(1.3)	20.1	(1.3)	6.4	(1.0)	8.4	(1.1)	13.2	(0.9)	45.1	(1.8)	33.3	(1.5)
Atyrau region	14.0	(1.0)	59.0	(1.6)	22.5	(1.0)	4.6	(0.6)	7.3	(0.8)	9.4	(1.0)	46.6	(1.4)	36.7	(1.1)
East-Kazakhstan region	13.8	(1.2)	62.6	(1.5)	18.8	(1.3)	4.7	(0.7)	7.3	(0.9)	7.6	(0.8)	48.4	(2.5)	36.6	(2.8)
Karagandy region	15.1	(1.3)	59.5	(2.1)	20.8	(1.3)	4.6	(0.5)	7.0	(0.7)	9.7	(1.3)	46.8	(1.6)	36.6	(1.4)
Kostanay region	16.1	(1.5)	56.8	(1.8)	23.3	(1.6)	3.9	(0.8)	5.0	(0.5)	10.8	(1.0)	48.8	(2.0)	35.5	(2.2)
Kyzyl-Orda region	16.2	(1.8)	61.1	(1.5)	17.2	(1.5)	5.4	(0.8)	9.5	(0.9)	6.4	(1.3)	41.3	(2.3)	42.8	(2.6)
North-Kazakhstan region	13.3	(1.2)	57.6	(1.4)	24.6	(1.4)	4.5	(0.7)	6.4	(0.8)	10.0	(0.9)	46.8	(2.1)	36.9	(2.2)
Pavlodar region	13.5	(1.3)	59.4	(1.7)	20.6	(1.2)	6.5	(0.8)	8.4	(1.2)	11.3	(1.1)	46.1	(1.7)	34.1	(1.3)
Shymkent	15.7	(1.0)	56.2	(2.1)	21.5	(1.9)	6.6	(0.6)	9.0	(1.2)	9.9	(1.3)	49.7	(1.9)	31.5	(1.7)
Turkestan region	11.6	(1.5)	59.6	(2.1)	21.8	(1.1)	7.0	(1.2)	11.3	(1.3)	10.6	(1.2)	51.3	(2.3)	26.8	(2.2)
West-Kazakhstan region	16.5	(1.2)	60.7	(1.2)	17.8	(1.2)	5.0	(0.8)	6.3	(1.1)	8.4	(0.9)	49.9	(2.3)	35.4	(2.5)
Zhambyl region	15.3	(1.2)	60.5	(1.4)	19.0	(1.2)	5.1	(0.9)	9.6	(1.2)	8.1	(0.6)	49.2	(1.9)	33.1	(1.5)
Mongolia																
Central	8.8	(0.5)	54.3	(0.9)	28.3	(0.8)	8.5	(0.6)	5.6	(0.4)	14.5	(0.6)	43.3	(0.9)	36.6	(0.8)
Khangai	8.2	(0.7)	52.6	(1.3)	29.7	(1.4)	9.5	(1.1)	4.7	(0.8)	16.2	(2.0)	39.5	(1.9)	39.6	(1.8)
Western	13.8	(1.5)	51.2	(2.2)	24.1	(1.4)	11.0	(1.0)	9.1	(1.4)	12.9	(1.6)	40.6	(2.6)	37.4	(2.1)
Viet Nam																
Central	7.7	(0.7)	57.8	(1.5)	29.4	(1.5)	5.1	(0.6)	7.8	(0.6)	7.8	(0.9)	56.3	(1.8)	28.2	(1.8)
Northern	7.7	(0.6)	54.8	(1.3)	31.1	(1.1)	6.4	(0.5)	6.4	(0.5)	6.8	(0.6)	56.3	(1.0)	30.5	(1.3)
Southern	7.2	(0.6)	60.3	(1.4)	27.9	(1.0)	4.6	(0.6)	6.3	(0.6)	8.6	(0.7)	57.2	(1.4)	27.9	(1.3)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.1.1 for national data.

Table II.B2.5. Confidence in capacity for self-directed learning [1/8]

Based on students' reports

		Index of confidence in capacity for self-directed learning				Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
						Using a learning management system or school learning platform								Using a video communication program							
		Average		Variability		Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Belgium**																				
	Flemish community	-0.19	(0.02) †	0.90	(0.02) †	11.7	(0.8) †	18.0	(0.8) †	45.6	(1.0) †	24.7	(1.0) †	9.9	(0.8) †	17.5	(1.1) †	49.9	(1.1) †	22.8	(1.1) †
	French community	-0.04	(0.03) †	1.00	(0.01) †	11.2	(1.2) ‡	14.2	(0.9) ‡	39.7	(1.8) ‡	35.0	(1.6) ‡	6.8	(0.9) ‡	13.2	(1.2) ‡	40.1	(1.6) ‡	39.9	(2.2) ‡
	German-speaking community	-0.11	(0.05) †	0.97	(0.03) †	15.8	(2.2) †	21.2	(2.5) †	38.4	(3.0) †	24.5	(2.5) †	13.1	(1.9) †	15.5	(2.0) †	39.9	(2.9) †	31.6	(2.9) †
	Canada																				
	*Alberta**	-0.08	(0.05)	0.99	(0.03)	7.8	(1.1)	13.5	(1.6)	46.3	(2.4)	32.5	(2.8)	6.2	(1.2)	11.4	(1.4)	50.3	(2.2)	32.1	(2.4)
	*British Columbia**	-0.09	(0.03)	0.96	(0.02)	8.7	(0.9) †	18.2	(1.3) †	49.8	(1.6) †	23.4	(1.8) †	9.3	(1.0) †	19.5	(1.7) †	47.1	(1.9) †	24.2	(2.2) †
	*Manitoba**	-0.10	(0.03) †	1.04	(0.02) †	12.7	(1.6) †	15.8	(1.4) †	43.5	(2.1) †	28.0	(2.2) †	8.8	(1.1) †	15.0	(1.9) †	44.0	(2.3) †	32.2	(2.4) †
	New Brunswick	-0.07	(0.03)	1.05	(0.03)	14.1	(1.4)	20.7	(2.0)	42.5	(2.1)	22.7	(2.0)	8.4	(1.2)	11.0	(1.4)	44.9	(2.3)	35.7	(2.2)
	*Newfoundland and Labrador**	-0.11	(0.04)	1.03	(0.03)	9.1	(1.4)	12.8	(2.0)	44.3	(2.8)	33.8	(2.3)	9.4	(1.7)	12.9	(1.7)	43.2	(2.3)	34.4	(2.5)
	*Nova Scotia**	-0.17	(0.04) †	1.05	(0.03) †	11.5	(1.6) †	14.7	(2.1) †	44.8	(2.6) †	29.0	(2.5) †	8.8	(1.3) †	11.9	(1.6) †	47.7	(2.3) †	31.5	(2.3) †
	*Ontario**	0.03	(0.02) †	1.03	(0.02) †	7.7	(0.7) †	11.3	(0.9) †	43.3	(1.6) †	37.7	(1.9) †	7.8	(0.7) †	9.5	(0.8) †	44.1	(1.3) †	38.7	(1.4) †
	Prince Edward Island	-0.07	(0.09) †	1.11	(0.06) †	12.2	(3.3) †	13.3	(3.0) †	41.4	(4.2) †	33.1	(4.4) †	7.9	(2.7) †	13.1	(3.2) †	54.1	(4.7) †	24.8	(4.2) †
	*Quebec**	0.19	(0.03) †	1.01	(0.02) †	7.8	(0.9) †	9.0	(0.9) †	38.9	(1.5) †	44.3	(1.7) †	3.5	(0.5) †	6.1	(0.7) †	38.7	(1.5) †	51.7	(1.6) †
	Saskatchewan	-0.13	(0.03)	1.06	(0.02)	12.3	(1.1)	17.1	(1.4)	50.1	(1.8)	20.6	(1.4)	12.0	(1.2)	17.0	(1.5)	50.7	(1.8)	20.3	(1.5)
	Colombia																				
	Bogotá	0.38	(0.03)	0.86	(0.02)	3.2	(0.7)	9.9	(1.0)	52.4	(1.9)	34.4	(2.1)	4.2	(0.9)	7.5	(0.6)	50.8	(2.0)	37.5	(2.0)
	Italy																				
	Bolzano	0.09	(0.03)	0.91	(0.02)	9.5	(1.0)	19.1	(1.6)	42.8	(1.7)	28.6	(1.4)	5.7	(0.6)	12.7	(1.3)	40.6	(1.7)	41.1	(1.7)
	Trento	0.15	(0.02)	0.86	(0.02)	4.7	(0.6)	9.5	(1.1)	44.8	(2.0)	41.0	(2.1)	3.5	(0.6)	8.3	(1.0)	41.4	(2.0)	46.8	(2.1)
	Spain																				
	Andalusia	0.15	(0.03)	0.91	(0.02)	7.0	(1.1) †	12.4	(1.2) †	41.7	(2.2) †	38.9	(2.4) †	6.6	(1.1) †	13.8	(1.4) †	44.8	(1.9) †	34.8	(2.1) †
	Aragon	0.12	(0.04)	0.93	(0.02)	6.3	(1.3)	12.6	(1.7)	43.2	(3.1)	37.9	(2.8)	7.6	(1.1)	13.5	(1.5)	44.9	(2.3)	34.0	(2.6)
	Asturias	0.21	(0.03)	0.93	(0.02)	5.3	(0.8)	11.7	(1.4)	43.8	(2.0)	39.2	(1.9)	4.5	(0.7) †	11.0	(1.1) †	44.0	(2.5) †	40.5	(2.1) †
	Balearic Islands	0.35	(0.03)	0.90	(0.02)	4.1	(1.0)	8.7	(1.3)	44.6	(2.0)	42.6	(2.1)	3.8	(1.0)	9.1	(1.4)	43.1	(2.0)	44.1	(2.4)
	Basque Country	0.04	(0.02) †	0.85	(0.02) †	6.6	(0.7) †	15.4	(1.3) †	45.8	(1.5) †	32.2	(1.8) †	6.1	(1.1) †	16.7	(1.4) †	46.8	(1.7) †	30.3	(1.9) †
	Canary Islands	0.15	(0.03) †	0.96	(0.02) †	7.5	(1.4) †	12.3	(1.5) †	41.2	(1.8) †	39.0	(1.5) †	9.9	(1.2) †	12.6	(1.4) †	43.7	(2.0) †	33.8	(2.2) †
	Cantabria	0.22	(0.03)	0.95	(0.02)	7.4	(1.2)	8.1	(1.1)	43.8	(1.9)	40.7	(2.1)	6.5	(1.1)	10.6	(1.5)	45.6	(1.7)	37.3	(1.6)
	Castile and Leon	0.18	(0.02)	0.86	(0.02)	5.5	(0.8)	9.8	(1.2)	52.8	(2.0)	31.9	(1.7)	5.6	(0.8)	9.3	(1.0)	52.9	(2.1)	32.1	(1.9)
	Castile-La Mancha	0.15	(0.02)	0.91	(0.03)	7.2	(1.0) †	10.3	(1.1) †	47.5	(2.4) †	35.0	(2.1) †	5.0	(1.0) †	13.4	(1.3) †	46.3	(1.8) †	35.3	(1.9) †
	Catalonia	0.33	(0.03)	0.93	(0.02)	7.7	(0.9)	9.4	(1.0)	36.6	(1.6)	46.3	(2.0)	5.0	(0.9) †	6.8	(0.9) †	34.7	(2.3) †	53.5	(2.4) †
	Ceuta	0.07	(0.08)	0.98	(0.06)	13.8	(3.6) †	13.1	(3.6) †	44.2	(5.6) †	28.9	(4.8) †	15.9	(3.9)	20.6	(4.0)	37.0	(4.3)	26.5	(4.3)
	Comunidad Valenciana	0.16	(0.03)	0.91	(0.02)	5.9	(1.0)	15.1	(1.7)	47.1	(2.2)	31.9	(2.0)	8.0	(1.2)	13.3	(1.6)	46.5	(1.7)	32.2	(1.8)
	Extremadura	0.23	(0.03)	0.94	(0.02)	6.6	(1.1)	11.5	(1.2)	42.3	(2.0)	39.6	(2.2)	5.7	(0.9) †	12.2	(1.2) †	42.7	(1.5) †	39.4	(1.5) †
	Galicia	0.02	(0.03)	0.92	(0.02)	11.3	(1.0)	16.5	(1.9)	46.0	(2.2)	26.2	(1.8)	11.7	(1.3)	18.5	(1.6)	43.8	(1.4)	25.9	(1.8)
	La Rioja	0.21	(0.04)	0.95	(0.02)	7.1	(1.3)	10.9	(1.5)	41.9	(2.2)	40.1	(2.0)	6.5	(1.2)	9.0	(1.6)	39.1	(2.1)	45.4	(2.3)
	Madrid	0.27	(0.03)	0.95	(0.02)	4.6	(0.8)	9.9	(1.1)	43.5	(1.9)	42.1	(2.3)	4.5	(0.7)	9.1	(0.8)	41.8	(1.9)	44.6	(1.9)
	Melilla	0.05	(0.08)	0.94	(0.07)	8.6	(3.2)	10.7	(3.6)	47.0	(5.3)	33.7	(5.0)	13.8	(4.7) †	14.8	(3.9) †	42.9	(6.0) †	28.5	(5.0) †
	Murcia	0.18	(0.03)	0.94	(0.03)	8.1	(1.1) †	10.6	(1.3) †	44.0	(2.3) †	37.3	(2.2) †	5.6	(0.7) †	10.5	(1.5) †	46.1	(1.9) †	37.8	(2.0) †
	Navarre	0.15	(0.03) †	0.87	(0.02) †	6.0	(1.0) †	12.5	(1.2) †	45.8	(1.6) †	35.6	(1.8) †	4.8	(0.9) †	11.8	(1.2) †	48.4	(2.1) †	35.0	(2.6) †
	United Kingdom																				
	*England**	-0.19	(0.02) †	0.96	(0.01) †	12.3	(0.9) †	18.0	(0.9) †	50.1	(1.4) †	19.6	(1.1) †	8.7	(0.9) ‡	15.1	(0.9) ‡	51.2	(1.4) ‡	25.0	(1.3) ‡
	*Northern Ireland**	-0.17	(0.02) †	0.94	(0.02) †	11.5	(1.1) †	15.7	(1.2) †	50.5	(1.4) †	22.4	(1.5) †	11.2	(1.1) †	19.3	(1.5) †	50.6	(1.9) †	18.9	(1.6) †
	*Scotland**	-0.16	(0.02) †	0.96	(0.02) †	7.6	(0.8) †	11.8	(1.0) †	53.9	(1.4) †	26.7	(1.4) †	12.7	(0.9) †	18.5	(1.2) †	49.1	(1.4) †	19.7	(1.3) †
	*Wales**	-0.24	(0.03) †	1.01	(0.02) †	12.9	(1.2) †	18.9	(1.5) †	46.6	(1.8) †	21.6	(1.5) †	13.8	(1.3) †	19.3	(1.6) †	46.1	(1.7) †	20.8	(1.5) †

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Notes: PISA adjudicated region is shown in bold.
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.
See Table II.B1.2.5 for national data.

Table II.B2.5. Confidence in capacity for self-directed learning [2/8]

Based on students' reports

	Index of confidence in capacity for self-directed learning				Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
					Using a learning management system or school learning platform								Using a video communication program							
	Average		Variability		Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
	Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																				
Brazil																				
North	-0.40	(0.04) †	0.96	(0.03) †	22.9	(2.8) ‡	28.0	(3.2) ‡	38.2	(3.1) ‡	10.9	(2.2) ‡	21.4	(2.5) ‡	29.4	(3.2) ‡	36.2	(2.3) ‡	13.0	(2.0) ‡
Northeast	-0.37	(0.03) ‡	0.97	(0.02) ‡	15.4	(1.4) ‡	31.1	(2.1) ‡	41.6	(2.1) ‡	11.9	(1.1) ‡	16.8	(1.5) ‡	28.4	(1.5) ‡	41.9	(1.7) ‡	12.9	(1.3) ‡
South	-0.38	(0.03) †	0.96	(0.03) †	14.4	(1.5) †	28.9	(2.2) †	43.2	(2.4) †	13.5	(1.5) †	15.1	(1.5) †	27.7	(2.1) †	42.2	(1.9) †	15.0	(1.5) †
Southeast	-0.39	(0.03) †	0.97	(0.02) †	16.8	(1.2) †	30.8	(1.4) †	39.4	(1.5) †	13.0	(1.0) †	16.5	(1.1) †	27.1	(1.3) †	41.1	(1.4) †	15.3	(1.1) †
Middle-West	-0.45	(0.04) †	0.95	(0.03) †	16.0	(2.6) †	26.2	(2.1) †	45.4	(2.7) †	12.4	(2.0) †	16.9	(2.1) †	30.6	(2.3) †	36.3	(2.6) †	16.2	(3.1) †
Kazakhstan																				
Akmola region	0.13	(0.06)	0.94	(0.04)	7.9	(1.5)	19.2	(1.9)	49.5	(1.7)	23.4	(2.7)	7.1	(1.6) †	21.2	(2.8) †	49.6	(3.4) †	22.1	(3.4) †
Aktobe region	0.05	(0.05)	0.95	(0.04)	7.6	(1.1)	15.2	(1.9)	52.8	(2.6)	24.3	(2.3)	9.1	(1.4)	23.4	(2.4)	48.9	(2.8)	18.5	(2.2)
Almaty	0.17	(0.05)	0.99	(0.03)	10.0	(2.0)	13.0	(2.1)	52.3	(1.9)	24.6	(2.9)	7.8	(1.5)	14.2	(2.5)	47.0	(2.2)	31.0	(3.3)
Almaty region	0.26	(0.04)	0.91	(0.03)	5.7	(1.5)	13.3	(1.6)	52.6	(2.8)	28.4	(2.8)	7.6	(1.3)	15.1	(2.0)	51.8	(2.4)	25.5	(3.0)
Astana	0.17	(0.04)	0.96	(0.02)	6.7	(1.4)	16.5	(1.3)	48.0	(3.1)	28.8	(2.7)	6.9	(0.9)	14.9	(2.4)	45.9	(2.8)	32.3	(3.0)
Atyrau region	0.21	(0.05)	0.93	(0.03)	5.5	(1.0)	14.4	(1.5)	55.1	(2.1)	25.0	(2.4)	7.0	(1.4)	14.0	(2.1)	53.0	(2.8)	26.0	(2.5)
East-Kazakhstan region	0.21	(0.06)	0.92	(0.02)	5.2	(1.5)	15.6	(1.6)	54.4	(1.9)	24.7	(2.5)	5.1	(1.4)	17.2	(2.2)	52.1	(2.4)	25.7	(3.0)
Karagandy region	0.10	(0.05)	0.92	(0.03)	8.4	(1.3)	18.3	(1.4)	50.5	(2.9)	22.8	(2.2)	8.4	(1.7)	14.4	(2.0)	53.9	(2.4)	23.2	(2.2)
Kostanay region	0.13	(0.03)	1.00	(0.02)	8.7	(1.2)	18.5	(1.4)	46.7	(1.9)	26.2	(2.6)	6.8	(0.7)	21.7	(1.8)	47.4	(1.6)	24.1	(2.0)
Kyzyl-Orda region	0.32	(0.03)	0.92	(0.03)	5.3	(0.9)	13.0	(0.9)	54.7	(2.1)	27.1	(2.0)	8.0	(1.1)	14.3	(1.5)	56.1	(2.9)	21.6	(2.2)
North-Kazakhstan region	0.12	(0.03)	0.91	(0.03)	5.7	(1.0)	17.1	(1.8)	54.4	(2.1)	22.8	(1.9)	7.4	(1.2)	18.4	(2.0)	52.1	(2.2)	22.2	(2.0)
Pavlodar region	0.08	(0.05)	0.94	(0.04)	8.6	(1.3)	14.0	(2.0)	50.9	(2.3)	26.4	(2.5)	6.5	(1.0)	15.9	(1.7)	53.4	(2.5)	24.3	(2.3)
Shymkent	0.12	(0.04)	0.89	(0.03)	9.7	(1.8)	17.4	(1.8)	49.7	(2.5)	23.2	(2.4)	6.3	(1.3)	21.7	(2.3)	49.9	(2.8)	22.1	(2.9)
Turkestan region	0.06	(0.04)	0.86	(0.03)	10.0	(1.5)	20.4	(2.7)	54.6	(3.0)	15.1	(2.9)	8.7	(1.5)	24.9	(1.6)	52.3	(1.7)	14.1	(2.2)
West-Kazakhstan region	0.31	(0.04)	0.84	(0.03)	3.2	(0.8)	10.5	(1.5)	56.9	(3.1)	29.5	(2.6)	4.4	(1.2)	13.6	(2.0)	57.9	(2.6)	24.0	(2.1)
Zhambyl region	0.21	(0.03)	0.88	(0.02)	8.2	(1.4)	17.1	(1.9)	52.6	(1.8)	22.1	(1.9)	5.7	(1.1)	20.2	(2.1)	55.0	(2.6)	19.1	(2.0)
Mongolia																				
Central	0.03	(0.02)	0.96	(0.01)	10.8	(0.7)	26.8	(1.2)	42.7	(1.2)	19.7	(1.0)	8.8	(0.7)	24.5	(1.2)	45.3	(1.3)	21.4	(0.9)
Khangai	-0.09	(0.03) †	0.90	(0.03) †	13.6	(1.8) †	30.6	(2.4) †	38.4	(1.8) †	17.3	(2.4) †	12.5	(1.8) †	30.5	(2.4) †	40.6	(2.7) †	16.4	(1.8) †
Western	-0.09	(0.04) †	0.96	(0.03) †	17.2	(1.3) †	28.1	(2.1) †	38.1	(2.8) †	16.6	(2.2) †	12.3	(1.8) †	27.6	(1.8) †	43.8	(3.9) †	16.4	(2.4) †
Viet Nam																				
Central	-0.09	(0.03)	0.83	(0.03)	5.9	(0.8)	31.7	(1.8)	46.0	(1.3)	16.4	(1.5)	5.0	(0.7)	25.0	(1.6)	50.7	(1.6)	19.4	(1.4)
Northern	-0.09	(0.03)	0.87	(0.02)	6.7	(0.9)	28.2	(1.5)	47.9	(1.4)	17.3	(1.5)	4.8	(0.8)	19.0	(1.5)	53.9	(1.5)	22.3	(1.9)
Southern	-0.09	(0.02)	0.88	(0.02)	5.3	(0.5)	28.6	(1.4)	48.0	(1.2)	18.1	(1.2)	4.3	(0.4)	23.0	(1.2)	51.7	(1.3)	21.0	(1.0)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Notes: PISA adjudicated region is shown in bold.
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.
See Table II.B1.2.5 for national data.

Table II.B2.5. Confidence in capacity for self-directed learning [3/8]

Based on students' reports

	Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
	Finding learning resources online on my own								Planning when to do school work on my own							
	Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																
Belgium																
Flemish community	11.4	(0.8) †	27.6	(1.2) †	48.8	(1.3) †	12.2	(0.7) †	9.3	(0.7) †	25.9	(0.9) †	49.8	(1.0) †	15.0	(0.8) †
French community	9.5	(1.0) ‡	19.7	(1.4) ‡	44.1	(1.6) ‡	26.7	(1.5) ‡	10.9	(1.1) ‡	24.0	(1.5) ‡	42.2	(1.4) ‡	22.9	(1.4) ‡
German-speaking community	8.4	(1.5) †	23.7	(2.7) †	49.6	(3.1) †	18.3	(2.3) †	8.0	(1.7) †	21.9	(2.4) †	47.7	(2.8) †	22.4	(2.3) †
Canada																
*Alberta**	7.2	(0.9)	22.3	(2.4)	48.0	(2.5)	22.6	(2.2)	7.4	(1.2)	25.5	(2.2)	48.9	(2.7)	18.3	(2.3)
*British Columbia**	7.2	(0.9) †	18.4	(1.7) †	55.2	(1.8) †	19.2	(1.5) †	8.4	(1.1) †	22.5	(1.5) †	52.2	(1.8) †	16.9	(1.4) †
*Manitoba**	9.5	(1.0) †	22.4	(1.7) †	48.8	(1.9) †	19.3	(1.5) †	10.5	(1.3) †	23.3	(1.3) †	47.1	(1.9) †	19.1	(1.4) †
New Brunswick	9.9	(1.5)	16.5	(1.5)	51.0	(2.0)	22.5	(1.9)	12.1	(1.7)	19.0	(1.7)	49.0	(2.1)	19.9	(1.5)
*Newfoundland and Labrador**	11.8	(1.5)	25.4	(2.0)	45.5	(2.3)	17.3	(1.9)	11.4	(1.7)	22.8	(2.3)	48.0	(2.6)	17.8	(1.7)
*Nova Scotia**	12.9	(1.5) †	21.2	(1.6) †	46.4	(2.5) †	19.4	(2.1) †	12.3	(1.5) †	25.1	(2.1) †	45.8	(2.6) †	16.8	(1.8) †
*Ontario**	7.1	(0.7) †	17.0	(1.0) †	50.1	(1.2) †	25.8	(1.2) †	9.6	(0.7) †	19.0	(1.0) †	49.1	(1.3) †	22.3	(1.1) †
Prince Edward Island	6.7	(2.6) †	23.8	(3.6) †	44.4	(5.1) †	25.1	(4.6) †	6.6	(2.7) †	25.0	(4.5) †	48.5	(5.0) †	19.9	(3.8) †
*Quebec**	6.3	(0.7) †	14.0	(1.0) †	48.1	(1.5) †	31.7	(1.8) †	6.9	(0.8) †	18.3	(1.1) †	47.7	(1.4) †	27.1	(1.2) †
Saskatchewan	9.2	(1.2)	19.5	(1.4)	54.2	(2.0)	17.1	(1.5)	12.7	(1.0)	21.2	(1.4)	50.6	(1.9)	15.5	(1.5)
Colombia																
Bogotá	2.7	(0.6)	8.1	(1.2)	59.3	(2.3)	29.9	(2.1)	3.0	(0.6)	11.2	(1.0)	62.0	(2.0)	23.8	(1.7)
Italy																
Bolzano	4.6	(0.6)	16.6	(1.2)	50.6	(1.9)	28.2	(1.5)	7.1	(0.9)	21.8	(1.4)	49.4	(1.5)	21.7	(1.5)
Trento	2.8	(0.6)	10.5	(1.3)	56.6	(1.7)	30.1	(1.7)	5.2	(0.7)	18.4	(1.6)	52.2	(2.0)	24.3	(1.7)
Spain																
Andalusia	5.5	(0.9) †	18.8	(1.8) †	50.0	(2.1) †	25.8	(1.5) †	6.1	(0.9) †	15.8	(1.1) †	55.0	(1.7) †	23.1	(1.5) †
Aragon	6.3	(0.9)	18.2	(1.5)	52.7	(2.1)	22.9	(1.5)	7.3	(0.9)	20.2	(1.9)	49.7	(2.1)	22.8	(2.4)
Asturias	4.3	(0.8) †	15.4	(1.5) †	49.2	(2.2) †	31.0	(1.7) †	4.9	(0.8) †	15.9	(1.7) †	52.9	(1.7) †	26.3	(1.8) †
Balearic Islands	4.1	(0.7)	12.4	(1.5)	49.0	(1.2)	34.5	(1.7)	4.1	(0.7)	13.9	(1.1)	50.6	(1.8)	31.5	(1.8)
Basque Country	5.6	(0.7) †	22.0	(1.4) †	54.7	(1.5) †	17.8	(1.3) †	5.5	(0.8) †	17.3	(1.1) †	58.4	(1.4) †	18.8	(1.4) †
Canary Islands	6.0	(1.0) †	20.5	(1.8) †	49.2	(2.1) †	24.3	(1.8) †	6.8	(1.1) †	18.3	(1.5) †	45.6	(2.6) †	29.3	(1.8) †
Cantabria	5.3	(0.9)	15.3	(1.9)	53.6	(2.1)	25.9	(1.6)	4.5	(0.8)	14.7	(1.5)	53.6	(2.3)	27.2	(1.7)
Castile and Leon	4.9	(0.6)	15.5	(1.6)	54.7	(2.0)	24.8	(1.6)	4.2	(0.7)	15.5	(1.4)	56.6	(1.5)	23.7	(1.8)
Castile-La Mancha	5.8	(1.2) †	18.4	(1.7) †	50.8	(2.0) †	25.1	(1.5) †	5.5	(0.9) †	15.0	(1.6) †	56.2	(1.9) †	23.3	(1.6) †
Catalonia	4.4	(0.7) †	13.8	(1.5) †	46.6	(2.0) †	35.2	(2.1) †	4.8	(1.0) †	12.0	(1.4) †	51.1	(2.3) †	32.1	(1.9) †
Ceuta	13.7	(3.7) †	20.6	(4.2) †	43.8	(4.5) †	22.0	(4.3) †	6.9	(2.6) †	18.5	(3.6) †	51.8	(5.2) †	22.8	(4.4) †
Comunidad Valenciana	7.3	(1.0) †	17.2	(1.7) †	48.7	(2.3) †	26.8	(1.8) †	5.7	(0.9)	16.0	(1.1)	53.0	(1.7)	25.2	(1.8)
Extremadura	5.4	(1.2) †	14.8	(1.5) †	51.2	(2.1) †	28.6	(1.6) †	5.1	(1.0) †	15.9	(1.5) †	51.9	(2.2) †	27.1	(1.8) †
Galicia	7.4	(1.3)	16.8	(1.4)	52.6	(1.6)	23.3	(1.6)	5.9	(0.9)	19.4	(1.4)	54.7	(2.2)	20.0	(1.5)
La Rioja	5.1	(1.1)	21.1	(1.9)	47.7	(2.4)	26.2	(2.2)	5.4	(1.3)	19.3	(2.0)	50.8	(2.5)	24.5	(1.9)
Madrid	3.8	(0.7)	18.2	(1.6)	47.5	(1.8)	30.5	(1.7)	4.5	(0.6)	15.3	(1.4)	49.9	(2.0)	30.3	(1.1)
Melilla	9.3	(2.2) †	28.7	(5.0) †	43.9	(4.9) †	18.2	(4.3) †	6.5	(2.7) †	21.5	(5.0) †	55.7	(5.3) †	16.3	(4.1) †
Murcia	4.4	(0.8) †	18.5	(1.7) †	49.6	(1.8) †	27.5	(1.7) †	5.4	(1.1) †	16.5	(1.9) †	50.8	(2.3) †	27.3	(1.7) †
Navarre	5.0	(1.0) †	17.6	(1.4) †	54.4	(1.6) †	23.0	(1.5) †	6.1	(1.0) †	17.5	(1.4) †	54.9	(1.8) †	21.5	(1.7) †
United Kingdom																
*England**	8.1	(0.6) †	19.3	(1.0) †	55.0	(1.2) †	17.7	(1.0) †	10.4	(0.8) †	23.9	(1.3) †	51.1	(1.4) †	14.5	(0.9) †
*Northern Ireland**	8.3	(0.9) †	18.9	(1.5) †	55.7	(1.7) †	17.1	(1.5) †	10.2	(0.9) †	22.0	(1.8) †	53.9	(2.0) †	13.8	(1.1) †
*Scotland**	8.3	(0.8) †	18.3	(1.1) †	56.3	(1.2) †	17.2	(0.9) †	8.9	(0.8) †	23.8	(1.0) †	52.5	(1.4) †	14.7	(0.9) †
*Wales**	11.0	(1.2) †	19.2	(1.6) †	51.4	(2.4) †	18.4	(1.4) †	13.4	(1.5) †	26.2	(2.0) †	44.3	(1.5) †	16.0	(1.2) †

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.2.5 for national data.

Table II.B2.5. Confidence in capacity for self-directed learning [4/8]

Based on students' reports

	Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
	Finding learning resources online on my own								Planning when to do school work on my own							
	Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																
Brazil																
North	14.9	(2.1) ‡	31.3	(3.1) ‡	44.3	(3.3) ‡	9.5	(1.7) ‡	20.7	(2.3) ‡	33.8	(3.6) ‡	37.3	(3.1) ‡	8.1	(2.0) ‡
Northeast	14.1	(1.5) ‡	32.5	(1.8) ‡	42.6	(1.8) ‡	10.7	(1.1) ‡	14.9	(1.2) ‡	37.0	(2.1) ‡	37.9	(1.9) ‡	10.3	(1.0) ‡
South	13.6	(1.3) †	33.9	(1.8) †	39.5	(2.1) †	13.0	(1.6) †	13.3	(1.3) †	33.0	(1.5) †	42.2	(1.7) †	11.5	(1.3) †
Southeast	14.6	(0.9) †	31.8	(1.4) †	42.3	(1.2) †	11.4	(0.8) †	15.3	(1.0) †	30.5	(1.4) †	42.8	(1.5) †	11.4	(0.9) †
Middle-West	16.3	(1.8) †	36.6	(2.8) †	36.2	(3.3) †	10.8	(1.7) †	16.3	(2.2) †	31.9	(3.6) †	42.3	(2.6) †	9.5	(1.7) †
Kazakhstan																
Akmola region	8.1	(1.4) †	15.1	(1.8) †	57.3	(2.2) †	19.5	(2.6) †	5.3	(1.4) †	18.9	(1.8) †	55.8	(2.5) †	20.0	(2.5) †
Aktobe region	8.0	(1.8)	20.1	(2.4)	53.3	(2.9)	18.5	(2.0)	5.4	(1.5)	23.3	(2.6)	57.0	(3.0)	14.2	(2.1)
Almaty	5.9	(1.3)	17.2	(1.6)	51.7	(2.1)	25.2	(2.6)	7.5	(1.6)	19.2	(2.5)	51.4	(2.3)	21.8	(2.1)
Almaty region	5.5	(0.8)	15.5	(2.2)	58.0	(2.9)	21.0	(2.1)	4.8	(0.9)	17.8	(1.8)	56.6	(2.3)	20.8	(2.1)
Astana	4.3	(0.6)	16.2	(1.3)	52.4	(1.6)	27.1	(1.9)	5.5	(1.0)	20.6	(1.7)	52.1	(2.3)	21.8	(1.7)
Atyrau region	6.8	(1.3)	14.8	(1.6)	55.9	(2.2)	22.4	(2.0)	4.9	(1.0)	17.0	(2.1)	60.4	(3.0)	17.8	(2.0)
East-Kazakhstan region	5.5	(0.8)	14.1	(2.1)	59.7	(2.7)	20.8	(2.9)	3.1	(0.9)	18.6	(2.2)	58.7	(3.1)	19.5	(2.5)
Karagandy region	5.9	(1.2)	16.9	(2.4)	58.1	(3.6)	19.1	(2.2)	6.3	(1.8)	21.4	(2.0)	58.8	(2.7)	13.5	(1.2)
Kostanay region	7.0	(1.1)	18.6	(2.2)	53.3	(2.8)	21.1	(2.2)	6.6	(1.4)	18.3	(2.9)	54.9	(3.0)	20.2	(2.1)
Kyzyl-Orda region	6.1	(0.9)	12.6	(1.3)	59.0	(1.9)	22.3	(1.7)	4.1	(0.9)	14.3	(1.6)	60.1	(2.2)	21.6	(2.0)
North-Kazakhstan region	5.4	(1.1)	18.9	(2.2)	57.3	(2.8)	18.4	(1.8)	6.6	(1.3)	20.1	(1.9)	53.1	(2.6)	20.1	(1.6)
Pavlodar region	5.5	(1.4)	19.7	(1.9)	54.6	(2.8)	20.2	(2.1)	7.6	(1.2)	22.8	(1.9)	53.0	(2.6)	16.7	(2.2)
Shymkent	4.7	(1.7)	20.0	(1.8)	54.5	(2.4)	20.8	(2.4)	4.9	(0.9)	23.6	(2.3)	54.9	(2.3)	16.6	(1.8)
Turkestan region	6.6	(1.5)	17.8	(2.1)	61.2	(1.9)	14.4	(2.0)	5.4	(1.1)	20.2	(2.6)	61.8	(2.3)	12.6	(2.1)
West-Kazakhstan region	4.1	(1.2)	11.3	(1.4)	61.6	(2.1)	23.0	(2.0)	3.6	(0.8)	14.4	(1.7)	60.3	(2.3)	21.8	(2.1)
Zhambyl region	2.8	(0.7)	18.0	(2.2)	59.7	(2.9)	19.4	(2.0)	3.1	(0.9)	16.6	(2.0)	59.8	(2.6)	20.5	(2.2)
Mongolia																
Central	7.2	(0.7)	23.1	(1.3)	50.8	(1.3)	18.9	(0.9)	7.2	(0.6)	24.8	(1.2)	48.5	(1.1)	19.5	(0.9)
Khangai	7.6	(1.1) †	29.6	(2.5) †	50.4	(1.8) †	12.4	(1.4) †	6.2	(0.9) †	30.7	(1.5) †	49.2	(2.4) †	13.8	(1.9) †
Western	12.7	(1.6) †	24.2	(1.9) †	45.1	(1.8) †	17.9	(1.5) †	11.3	(1.5) †	25.3	(2.1) †	46.7	(2.9) †	16.7	(2.8) †
Viet Nam																
Central	4.5	(0.6)	26.5	(1.4)	55.0	(1.6)	14.0	(1.5)	4.5	(0.7)	33.8	(1.7)	50.3	(1.6)	11.3	(1.0)
Northern	4.6	(0.7)	24.3	(1.3)	55.6	(1.3)	15.5	(1.1)	5.3	(0.8)	33.3	(1.0)	49.3	(1.4)	12.1	(1.0)
Southern	4.0	(0.4)	27.4	(1.2)	52.9	(1.1)	15.8	(1.0)	4.8	(0.5)	36.0	(1.2)	46.2	(1.1)	13.0	(1.0)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.2.5 for national data.

Table II.B2.5. Confidence in capacity for self-directed learning [5/8]

Based on students' reports

	Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
	Motivating myself to do school work								Focusing on school work without reminders							
	Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																
Belgium																
Flemish community	12.4	(0.8) †	34.4	(1.1) †	43.9	(1.1) †	9.3	(0.8) †	11.3	(0.8) †	30.0	(1.3) †	48.0	(1.2) †	10.7	(0.9) †
French community	20.3	(1.6) ‡	30.0	(1.5) ‡	35.9	(1.7) ‡	13.8	(0.9) ‡	13.9	(1.2) ‡	27.3	(1.5) ‡	42.3	(1.8) ‡	16.5	(1.2) ‡
German-speaking community	12.6	(1.9) †	36.3	(2.6) †	37.7	(2.3) †	13.4	(2.1) †	13.1	(2.2) †	25.5	(2.6) †	42.2	(2.5) †	19.2	(2.4) †
Canada																
*Alberta**	16.6	(2.1)	36.0	(2.4)	35.4	(1.8)	11.9	(1.8)	12.7	(1.6)	31.6	(2.8)	41.9	(2.5)	13.8	(1.8)
*British Columbia**	17.0	(1.6) †	29.9	(1.7) †	41.7	(1.8) †	11.3	(1.2) †	12.5	(1.2) †	27.3	(1.9) †	45.9	(2.1) †	14.2	(1.5) †
*Manitoba**	16.6	(1.6) †	34.1	(1.7) †	36.0	(1.6) †	13.3	(1.2) †	13.6	(1.1) †	32.2	(1.6) †	39.4	(1.8) †	14.7	(1.4) †
New Brunswick	18.1	(1.6)	31.1	(2.0)	39.4	(2.0)	11.5	(1.2)	13.5	(1.5)	28.8	(1.9)	42.3	(2.0)	15.4	(1.6)
*Newfoundland and Labrador**	17.3	(1.9)	33.6	(2.3)	36.9	(2.3)	12.2	(1.9)	15.3	(1.8)	29.1	(2.3)	40.1	(2.6)	15.5	(1.7)
*Nova Scotia**	21.9	(2.1) †	31.0	(2.1) †	36.1	(2.5) †	11.1	(1.4) †	14.5	(1.7) †	31.2	(2.3) †	41.3	(2.2) †	13.0	(1.7) †
*Ontario**	19.2	(1.0) †	31.8	(1.3) †	37.4	(1.5) †	11.6	(0.7) †	12.3	(0.8) †	26.0	(1.2) †	44.4	(1.4) †	17.3	(0.8) †
Prince Edward Island	21.1	(4.5) †	21.1	(4.1) †	43.4	(5.2) †	14.3	(3.4) †	17.3	(4.0) †	33.6	(4.4) †	32.9	(4.1) †	16.1	(3.2) †
*Quebec**	13.2	(0.9) †	27.6	(1.3) †	43.3	(1.2) †	15.9	(1.3) †	11.1	(0.8) †	25.0	(1.3) †	43.8	(1.4) †	20.1	(1.4) †
Saskatchewan	19.2	(1.4)	29.4	(1.7)	40.8	(2.0)	10.6	(1.1)	12.6	(1.0)	24.5	(1.5)	48.0	(1.9)	14.9	(1.2)
Colombia																
Bogotá	5.8	(0.9)	18.1	(1.5)	56.8	(2.0)	19.2	(1.3)	3.0	(0.5)	13.7	(1.7)	58.9	(2.3)	24.3	(1.8)
Italy																
Bolzano	8.4	(1.0)	30.1	(1.5)	47.0	(1.7)	14.5	(1.4)	5.4	(0.7)	24.4	(1.3)	51.0	(1.7)	19.2	(1.2)
Trento	12.5	(1.2)	31.8	(1.5)	45.6	(1.6)	10.2	(1.0)	7.7	(0.9)	20.3	(1.4)	52.9	(1.9)	19.1	(1.6)
Spain																
Andalusia	10.8	(1.2) †	26.9	(1.9) †	45.7	(2.1) †	16.5	(1.6) †	6.5	(0.9) †	20.1	(1.6) †	51.9	(2.0) †	21.4	(1.4) †
Aragon	8.3	(1.2)	29.8	(2.7)	47.6	(2.7)	14.4	(1.8)	6.7	(1.2)	19.0	(2.5)	51.8	(2.4)	22.4	(2.4)
Asturias	10.4	(1.3) †	29.7	(1.6) †	43.9	(1.7) †	16.0	(1.4) †	7.6	(1.0) †	17.8	(1.4) †	51.3	(1.5) †	23.3	(1.3) †
Balearic Islands	6.8	(0.8)	23.5	(2.2)	52.3	(2.3)	17.4	(1.7)	5.9	(0.7)	17.7	(1.9)	51.7	(2.1)	24.7	(1.6)
Basque Country	10.9	(1.0) †	29.6	(1.4) †	47.2	(1.8) †	12.3	(1.1) †	7.3	(0.8) †	22.9	(1.6) †	52.8	(1.5) †	16.9	(1.2) †
Canary Islands	11.0	(1.4) †	30.1	(1.7) †	44.2	(2.3) †	14.7	(1.3) †	8.0	(1.3) †	21.3	(1.8) †	45.1	(2.6) †	25.7	(2.0) †
Cantabria	12.0	(1.5)	25.5	(1.8)	46.3	(2.2)	16.1	(2.0)	7.3	(1.0)	19.2	(1.3)	50.0	(2.3)	23.5	(1.9)
Castile and Leon	9.2	(1.1)	24.3	(1.7)	53.8	(2.1)	12.7	(1.4)	5.6	(0.8)	18.6	(1.5)	54.8	(2.1)	21.1	(1.6)
Castile-La Mancha	10.1	(1.2) †	28.0	(1.6) †	49.3	(1.8) †	12.6	(1.3) †	5.9	(0.8) †	19.5	(1.8) †	50.9	(2.2) †	23.7	(1.4) †
Catalonia	8.9	(0.9) †	27.1	(1.7) †	48.6	(1.8) †	15.4	(1.4) †	5.9	(0.7) †	20.5	(1.7) †	45.8	(1.9) †	27.8	(1.6) †
Ceuta	6.6	(2.2) †	25.1	(4.2) †	46.3	(5.4) †	21.9	(4.9) †	10.1	(2.7) †	14.7	(3.4) †	54.2	(5.4) †	21.0	(4.5) †
Comunidad Valenciana	8.1	(1.0)	26.5	(1.9)	48.9	(1.7)	16.4	(1.2)	5.7	(0.9) †	21.4	(1.3) †	51.3	(1.9) †	21.5	(1.4) †
Extremadura	9.6	(1.1)	24.6	(1.6)	48.1	(2.3)	17.7	(1.3)	6.9	(0.8) †	19.1	(1.9) †	50.7	(1.8) †	23.3	(1.5) †
Galicia	12.7	(1.1)	29.0	(1.5)	46.0	(1.9)	12.2	(1.3)	8.6	(0.8)	20.2	(1.3)	50.2	(1.8)	21.0	(1.4)
La Rioja	8.5	(1.5)	28.9	(1.8)	46.9	(2.1)	15.7	(1.8)	5.2	(1.2)	21.2	(1.9)	47.2	(2.2)	26.4	(1.9)
Madrid	10.8	(1.3)	25.4	(1.7)	46.9	(1.7)	16.9	(1.5)	4.5	(0.6)	19.2	(1.7)	49.7	(1.9)	26.6	(1.7)
Melilla	10.4	(3.6)	23.1	(5.0)	44.1	(6.1)	22.4	(5.0)	6.4	(2.8)	20.5	(5.0)	51.5	(5.9)	21.6	(4.5)
Murcia	8.2	(1.3) †	32.0	(1.9) †	44.0	(2.1) †	15.8	(1.4) †	8.0	(1.3) †	18.9	(1.6) †	49.6	(2.1) †	23.5	(1.4) †
Navarre	7.1	(1.2) †	27.9	(2.0) †	51.6	(2.1) †	13.3	(1.3) †	5.4	(0.6) †	20.7	(1.5) †	54.3	(1.6) †	19.6	(1.8) †
United Kingdom																
*England**	20.5	(1.2) ‡	32.6	(1.3) ‡	37.9	(1.2) ‡	9.1	(0.8) ‡	15.5	(1.1) †	31.2	(1.4) †	42.7	(1.4) †	10.6	(0.9) †
*Northern Ireland**	18.0	(1.3) †	32.1	(1.4) †	41.8	(1.6) †	8.1	(1.2) †	14.3	(1.2) †	28.9	(1.3) †	46.3	(1.6) †	10.6	(1.0) †
*Scotland**	19.5	(1.0) †	33.9	(1.2) †	37.5	(1.2) †	9.2	(0.7) †	13.1	(0.9) †	28.5	(1.0) †	46.2	(1.3) †	12.2	(0.7) †
*Wales**	21.4	(1.6) †	32.4	(1.8) †	38.2	(1.9) †	8.0	(0.9) †	16.3	(1.4) †	31.6	(1.8) †	41.0	(1.7) †	11.1	(1.3) †

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.2.5 for national data.

Table II.B2.5. Confidence in capacity for self-directed learning [6/8]

Based on students' reports

	Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
	Motivating myself to do school work								Focusing on school work without reminders							
	Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																
Brazil																
North	12.7	(1.9) ‡	31.6	(2.7) ‡	46.3	(2.3) ‡	9.3	(1.6) ‡	14.3	(1.8) ‡	30.1	(3.1) ‡	44.5	(3.0) ‡	11.1	(1.3) ‡
Northeast	13.8	(1.5) ‡	30.5	(1.7) ‡	45.2	(1.7) ‡	10.5	(1.4) ‡	15.1	(1.2) ‡	32.5	(1.7) ‡	41.8	(1.9) ‡	10.6	(1.0) ‡
South	16.1	(1.4) †	33.7	(1.8) †	40.2	(1.5) †	10.0	(1.0) †	14.0	(1.5) †	37.9	(2.1) †	37.7	(2.2) †	10.3	(1.1) †
Southeast	16.1	(1.1) †	33.3	(1.2) †	41.6	(1.4) †	8.9	(0.7) †	15.9	(0.9) †	36.4	(1.3) †	37.6	(1.4) †	10.1	(0.9) †
Middle-West	20.1	(2.6) †	31.4	(2.0) †	40.4	(3.5) †	8.1	(1.7) †	15.8	(2.2) †	36.3	(2.6) †	40.8	(2.8) †	7.1	(1.2) †
Kazakhstan																
Akmola region	6.3	(1.4)	23.5	(1.7)	52.2	(1.8)	18.0	(2.4)	3.9	(1.0) †	20.2	(2.0) †	56.2	(2.9) †	19.7	(2.9) †
Aktobe region	5.9	(1.0)	21.9	(2.6)	54.8	(2.4)	17.3	(2.0)	8.8	(1.2)	25.3	(2.1)	50.2	(2.5)	15.6	(2.1)
Almaty	6.2	(1.2)	21.7	(1.8)	53.7	(2.1)	18.4	(1.7)	6.9	(0.9)	24.3	(2.8)	48.5	(2.2)	20.3	(2.6)
Almaty region	3.2	(0.8)	14.8	(1.7)	60.9	(3.0)	21.1	(2.2)	4.2	(0.8)	18.6	(1.6)	55.9	(3.0)	21.3	(2.6)
Astana	8.6	(1.0)	27.5	(2.0)	45.6	(2.7)	18.3	(2.3)	4.9	(1.0)	26.7	(3.3)	48.8	(2.5)	19.6	(2.4)
Atyrau region	6.0	(1.3)	19.1	(1.4)	54.2	(1.7)	20.7	(1.4)	5.7	(1.3)	17.2	(1.7)	56.4	(1.4)	20.7	(1.7)
East-Kazakhstan region	4.7	(1.0)	22.3	(2.2)	55.1	(2.6)	17.8	(2.2)	4.2	(1.1)	19.8	(2.2)	56.8	(3.0)	19.2	(3.1)
Karagandy region	5.8	(1.3)	25.8	(2.7)	50.9	(3.3)	17.6	(2.1)	5.2	(1.1)	21.1	(2.2)	56.6	(2.5)	17.0	(1.7)
Kostanay region	7.3	(1.2)	20.5	(2.0)	50.8	(1.9)	21.4	(2.3)	6.6	(1.2)	22.1	(2.2)	48.3	(2.3)	23.0	(1.9)
Kyzyl-Orda region	3.3	(0.9)	12.6	(1.3)	61.1	(2.8)	23.0	(2.3)	4.0	(1.0)	16.3	(1.8)	55.3	(2.4)	24.4	(1.9)
North-Kazakhstan region	5.7	(1.0)	23.7	(2.3)	55.7	(2.5)	14.9	(1.5)	5.8	(1.2)	21.0	(2.1)	54.1	(2.3)	19.0	(1.5)
Pavlodar region	8.7	(1.3)	25.4	(2.3)	48.5	(2.6)	17.4	(2.2)	7.2	(1.9)	24.9	(2.0)	52.6	(2.9)	15.2	(2.3)
Shymkent	4.7	(0.9)	21.8	(2.2)	58.2	(3.7)	15.3	(2.0)	7.1	(1.5)	20.8	(1.4)	56.7	(2.7)	15.5	(1.8)
Turkestan region	5.3	(1.3)	15.7	(1.8)	63.9	(1.8)	15.1	(1.7)	7.2	(1.2)	17.7	(2.4)	60.5	(2.5)	14.6	(1.7)
West-Kazakhstan region	2.9	(1.0)	13.6	(1.5)	63.9	(1.9)	19.6	(1.7)	2.9	(0.7)	15.7	(2.0)	63.5	(2.5)	17.8	(1.9)
Zhambyl region	3.6	(0.9)	15.5	(1.9)	63.2	(2.2)	17.8	(1.6)	4.8	(0.9)	16.4	(2.0)	60.8	(2.5)	18.0	(2.1)
Mongolia																
Central	7.4	(0.6)	28.4	(1.0)	47.7	(1.3)	16.5	(1.0)	7.0	(0.6)	25.7	(1.2)	49.9	(1.2)	17.5	(0.9)
Khangai	6.5	(1.1) †	31.8	(1.9) †	49.0	(2.1) †	12.6	(1.5) †	6.7	(1.2) †	30.0	(2.0) †	49.0	(2.7) †	14.3	(1.8) †
Western	9.4	(1.1) †	28.9	(1.6) †	45.7	(2.2) †	16.1	(1.7) †	11.0	(1.8) †	25.3	(2.3) †	46.2	(3.2) †	17.5	(1.9) †
Viet Nam																
Central	4.5	(0.7)	28.4	(1.3)	55.5	(1.8)	11.6	(1.2)	4.2	(0.7)	28.2	(1.5)	55.9	(1.6)	11.6	(1.1)
Northern	4.9	(0.7)	28.4	(1.3)	55.5	(1.4)	11.2	(0.9)	5.2	(0.7)	31.0	(1.4)	52.0	(1.4)	11.8	(0.9)
Southern	4.0	(0.4)	32.1	(1.4)	51.2	(1.4)	12.7	(1.1)	4.6	(0.5)	31.9	(1.3)	51.4	(1.1)	12.1	(0.8)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.2.5 for national data.

Table II.B2.5. Confidence in capacity for self-directed learning [7/8]

Based on students' reports

	Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
	Completing school work independently								Assessing my progress with learning							
	Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD Belgium																
Flemish community	7.8	(0.8) †	21.1	(0.9) †	55.7	(1.0) †	15.4	(0.9) †	11.6	(0.8) †	32.6	(1.3) †	44.8	(1.4) †	10.9	(0.8) †
French community	9.0	(1.1) ‡	19.7	(1.2) ‡	48.0	(1.6) ‡	23.2	(1.4) ‡	12.9	(1.1) ‡	27.2	(1.4) ‡	40.8	(1.5) ‡	19.1	(1.4) ‡
German-speaking community	8.8	(1.7) †	19.1	(2.7) †	50.5	(3.6) †	21.6	(2.6) †	12.1	(1.8) †	32.7	(2.9) †	42.7	(2.8) †	12.4	(2.1) †
Canada																
*Alberta**	8.1	(1.2)	24.8	(2.2)	49.4	(2.6)	17.7	(1.9)	8.5	(1.1)	25.7	(2.0)	52.8	(1.9)	12.9	(1.7)
*British Columbia**	9.9	(1.2) †	18.7	(1.2) †	54.9	(1.8) †	16.4	(1.3) †	8.5	(1.2) †	23.5	(1.3) †	54.2	(1.4) †	13.8	(1.1) †
*Manitoba**	10.7	(1.1) †	19.9	(1.3) †	50.0	(1.7) †	19.5	(1.3) †	10.2	(1.2) †	25.3	(1.8) †	46.2	(1.9) †	18.2	(1.3) †
New Brunswick	10.4	(1.3)	16.9	(1.5)	49.6	(2.0)	23.2	(1.4)	8.9	(1.2)	23.4	(1.9)	50.6	(2.6)	17.1	(1.6)
*Newfoundland and Labrador**	8.9	(1.2)	19.9	(2.0)	49.3	(2.3)	22.0	(1.7)	12.3	(1.8)	26.8	(2.3)	45.8	(2.7)	15.1	(1.7)
*Nova Scotia**	10.3	(1.4) †	22.0	(2.2) †	50.4	(2.7) †	17.4	(2.1) †	13.9	(1.7) †	25.8	(2.2) †	43.9	(2.6) †	16.4	(2.3) †
*Ontario**	8.9	(0.7) †	17.5	(1.0) †	49.1	(1.2) †	24.5	(1.0) †	9.6	(0.9) †	21.3	(1.1) †	50.1	(1.4) †	18.9	(1.2) †
Prince Edward Island	12.0	(3.5) †	19.2	(3.5) †	44.8	(4.7) †	23.9	(3.5) †	14.7	(3.6) †	24.3	(4.4) †	46.3	(5.1) †	14.7	(2.9) †
*Quebec**	6.5	(0.7) †	14.0	(1.0) †	52.2	(1.4) †	27.3	(1.4) †	8.6	(0.9) †	21.3	(1.2) †	49.3	(1.6) †	20.7	(1.3) †
Saskatchewan	11.3	(1.2)	19.0	(1.3)	50.6	(1.9)	19.1	(1.8)	11.9	(1.0)	20.2	(1.5)	51.3	(1.8)	16.6	(1.5)
Colombia																
Bogotá	2.4	(0.6)	9.5	(1.1)	58.4	(1.9)	29.7	(1.7)	3.8	(0.8)	13.0	(1.2)	60.4	(1.6)	22.7	(1.8)
Italy																
Bolzano	4.3	(0.6)	20.0	(1.2)	53.4	(1.7)	22.2	(1.5)	7.2	(0.9)	26.7	(1.4)	51.7	(1.7)	14.5	(1.3)
Trento	5.8	(0.8)	18.4	(1.5)	56.0	(2.1)	19.8	(1.5)	5.6	(0.9)	23.1	(1.7)	56.9	(2.0)	14.4	(1.4)
Spain																
Andalusia	4.6	(1.0) †	18.6	(1.5) †	51.8	(1.7) †	25.1	(1.9) †	8.1	(1.2) †	23.3	(1.3) †	48.8	(1.8) †	19.8	(1.4) †
Aragon	5.7	(1.0)	15.6	(2.0)	55.2	(2.2)	23.5	(2.1)	7.3	(1.1)	22.8	(2.3)	52.6	(2.3)	17.4	(1.6)
Asturias	5.0	(0.8) †	16.5	(1.4) †	52.0	(2.1) †	26.5	(1.9) †	6.0	(0.8) †	23.3	(1.4) †	50.7	(2.1) †	20.1	(1.2) †
Balearic Islands	2.8	(0.7)	11.6	(1.2)	54.0	(1.9)	31.6	(2.1)	4.9	(0.9)	17.7	(1.4)	56.6	(1.8)	20.7	(1.4)
Basque Country	5.3	(0.9) †	20.9	(1.1) †	53.4	(1.6) †	20.4	(1.4) †	6.6	(0.9) †	24.5	(1.4) †	53.1	(1.5) †	15.8	(1.3) †
Canary Islands	4.9	(1.0) †	16.8	(1.5) †	52.5	(2.3) †	25.7	(1.7) †	9.9	(1.6) †	18.9	(2.0) †	50.4	(2.6) †	20.7	(1.7) †
Cantabria	4.6	(1.0)	14.0	(1.3)	54.5	(1.6)	26.9	(1.7)	6.6	(1.1)	20.7	(1.5)	52.9	(2.1)	19.9	(1.6)
Castile and Leon	3.9	(0.8)	13.7	(1.4)	57.8	(2.0)	24.6	(1.9)	6.4	(1.2)	20.4	(1.9)	58.5	(2.3)	14.6	(1.7)
Castile-La Mancha	5.7	(1.2) †	18.7	(1.2) †	53.6	(2.2) †	22.0	(1.7) †	6.7	(0.9) †	21.8	(1.3) †	54.6	(1.6) †	16.8	(1.2) †
Catalonia	3.7	(0.7)	10.4	(1.3)	53.2	(1.8)	32.7	(2.0)	6.6	(0.9) †	20.1	(1.4) †	51.2	(2.1) †	22.1	(1.8) †
Ceuta	6.8	(2.3)	20.0	(4.1)	50.0	(5.3)	23.1	(4.3)	10.6	(2.9) †	21.7	(3.7) †	48.8	(4.6) †	18.8	(3.6) †
Comunidad Valenciana	4.5	(0.9)	18.5	(1.8)	51.9	(1.8)	25.0	(1.8)	6.2	(1.1) †	23.5	(1.6) †	51.6	(1.7) †	18.7	(1.5) †
Extremadura	4.2	(0.9)	17.8	(1.7)	54.0	(1.9)	24.0	(1.5)	5.0	(0.8)	18.4	(1.0)	55.1	(1.8)	21.5	(1.6)
Galicia	6.0	(0.7)	18.3	(1.6)	53.4	(1.7)	22.3	(1.2)	9.2	(0.7)	27.8	(1.7)	47.2	(1.9)	15.8	(1.5)
La Rioja	3.7	(1.0)	15.8	(1.8)	53.7	(2.5)	26.8	(2.4)	7.0	(1.3)	21.3	(2.1)	51.3	(2.3)	20.4	(1.8)
Madrid	4.5	(0.7)	16.3	(1.3)	50.7	(1.4)	28.5	(1.5)	6.4	(0.8)	22.8	(1.5)	50.0	(1.9)	20.8	(1.3)
Melilla	5.2	(2.4)	22.9	(5.1)	50.1	(5.9)	21.7	(4.0)	8.8	(3.2)	17.9	(4.0)	57.2	(5.2)	16.1	(4.0)
Murcia	5.8	(1.6) †	19.3	(2.0) †	49.9	(2.3) †	25.0	(2.0) †	8.5	(1.3) †	20.5	(1.9) †	51.4	(2.4) †	19.6	(1.4) †
Navarre	3.5	(0.7) †	17.5	(1.4) †	57.3	(1.9) †	21.7	(1.3) †	6.7	(1.0) †	21.2	(1.9) †	55.1	(1.7) †	17.1	(1.8) †
United Kingdom																
*England**	9.3	(0.8) †	20.6	(1.1) †	56.4	(1.1) †	13.7	(0.7) †	13.0	(0.9) †	28.6	(1.1) †	46.5	(1.4) †	11.9	(0.8) †
*Northern Ireland**	9.1	(1.1) †	19.8	(1.3) †	54.0	(1.5) †	17.1	(1.1) †	9.9	(0.9) †	25.6	(1.6) †	54.0	(1.7) †	10.5	(1.0) †
*Scotland**	9.4	(0.9) †	19.9	(1.3) †	55.4	(1.6) †	15.3	(1.1) †	11.2	(1.0) †	28.5	(1.2) †	49.8	(1.4) †	10.5	(0.9) †
*Wales**	11.5	(1.4) †	20.2	(1.3) †	53.0	(1.5) †	15.4	(1.0) †	15.2	(1.2) †	27.6	(1.7) †	44.6	(1.7) †	12.6	(1.4) †

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.2.5 for national data.

Table II.B2.5. Confidence in capacity for self-directed learning [8/8]

Based on students' reports

		Percentage of students who reported their level of confidence in taking the following actions if their school building closes again in the future:															
		Completing school work independently								Assessing my progress with learning							
		Not at all confident		Not very confident		Confident		Very confident		Not at all confident		Not very confident		Confident		Very confident	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**																
	North	13.6	(2.4) ‡	30.5	(3.1) ‡	47.2	(3.4) ‡	8.8	(1.5) ‡	12.2	(1.8) ‡	27.3	(2.8) ‡	46.7	(2.8) ‡	13.8	(2.2) ‡
	Northeast	12.9	(1.4) ‡	31.9	(1.8) ‡	42.6	(1.8) ‡	12.7	(1.1) ‡	12.0	(1.3) ‡	28.6	(1.8) ‡	45.2	(1.8) ‡	14.2	(1.2) ‡
	South	11.8	(1.1) †	34.7	(2.0) †	43.6	(1.9) †	9.9	(1.3) †	13.2	(1.4) †	32.8	(1.6) †	43.9	(2.1) †	10.1	(1.2) †
	Southeast	12.9	(1.1) †	32.0	(1.2) †	42.6	(1.5) †	12.5	(1.0) †	14.2	(1.1) †	31.1	(1.3) †	41.3	(1.3) †	13.4	(0.9) †
	Middle-West	16.3	(2.5) †	29.0	(2.3) †	44.6	(2.7) †	10.1	(2.2) †	15.5	(2.2) †	27.2	(3.1) †	42.8	(3.3) †	14.4	(2.1) †
	Kazakhstan																
	Akmola region	2.9	(1.1) †	21.1	(2.4) †	55.4	(2.6) †	20.7	(2.6) †	6.5	(1.6)	19.1	(2.0)	54.8	(2.7)	19.6	(1.7)
	Aktobe region	7.7	(1.3)	16.7	(1.9)	58.1	(2.2)	17.5	(1.5)	8.5	(1.5)	17.0	(2.2)	57.4	(2.5)	17.2	(1.8)
	Almaty	4.9	(1.3)	18.7	(2.2)	55.3	(2.1)	21.0	(2.1)	5.7	(1.1)	17.5	(1.2)	54.4	(2.3)	22.4	(2.0)
	Almaty region	3.7	(0.5)	15.1	(2.1)	58.9	(2.5)	22.3	(2.2)	3.3	(0.7)	12.5	(1.3)	60.8	(2.7)	23.3	(2.1)
	Astana	4.9	(0.9)	18.4	(2.0)	50.6	(3.1)	26.0	(2.4)	6.2	(1.2)	21.6	(2.4)	49.7	(2.3)	22.5	(1.7)
	Atyrau region	4.4	(0.9)	15.9	(2.7)	58.2	(2.3)	21.5	(1.9)	4.1	(0.7)	15.2	(2.0)	59.0	(2.2)	21.7	(2.3)
	East-Kazakhstan region	3.9	(1.0)	18.4	(2.0)	57.1	(2.5)	20.6	(1.8)	3.3	(0.9)	16.1	(2.2)	58.3	(2.5)	22.2	(2.3)
	Karagandy region	5.3	(1.4)	19.3	(2.4)	55.1	(2.4)	20.4	(2.6)	6.1	(1.2)	21.8	(1.9)	52.4	(2.8)	19.7	(1.9)
	Kostanay region	6.9	(1.1)	18.1	(2.3)	53.9	(1.6)	21.2	(2.3)	6.3	(1.0)	23.2	(2.7)	48.3	(3.2)	22.2	(2.0)
	Kyzyl-Orda region	3.0	(0.6)	13.1	(1.5)	58.1	(2.2)	25.8	(1.9)	3.0	(0.9)	11.6	(1.2)	60.4	(1.7)	25.0	(1.9)
	North-Kazakhstan region	3.6	(0.7)	19.4	(2.0)	54.9	(2.7)	22.2	(2.4)	4.9	(0.8)	18.0	(1.7)	59.1	(2.9)	18.0	(2.3)
	Pavlodar region	5.0	(1.7)	18.2	(1.9)	55.0	(2.3)	21.9	(2.7)	7.7	(1.2)	17.7	(1.8)	57.8	(2.9)	16.8	(1.8)
	Shymkent	5.5	(1.1)	16.5	(1.7)	56.3	(1.8)	21.7	(2.7)	5.2	(1.4)	16.1	(1.4)	59.0	(2.2)	19.8	(2.0)
	Turkestan region	6.5	(1.2)	14.8	(2.0)	62.4	(3.4)	16.3	(2.2)	4.5	(1.0)	16.8	(1.7)	59.4	(2.9)	19.3	(3.0)
	West-Kazakhstan region	1.8	(0.7)	12.8	(1.6)	64.0	(1.9)	21.5	(1.7)	2.9	(1.0)	12.5	(1.5)	64.4	(2.2)	20.3	(1.7)
	Zhambyl region	5.2	(1.2)	13.5	(1.8)	60.5	(1.6)	20.8	(1.3)	3.8	(0.9)	13.1	(1.5)	64.6	(1.8)	18.5	(1.5)
	Mongolia																
	Central	6.0	(0.7)	24.1	(1.1)	50.4	(1.3)	19.5	(0.9)	8.1	(0.7)	25.3	(1.2)	48.9	(1.1)	17.7	(1.1)
	Khangai	6.6	(1.0) †	26.0	(2.1) †	52.6	(2.2) †	14.9	(1.6) †	5.9	(1.3) †	29.9	(2.4) †	49.4	(2.3) †	14.7	(1.7) †
	Western	6.4	(1.3) †	22.9	(1.9) †	51.6	(2.5) †	19.0	(2.0) †	8.7	(1.5) †	24.0	(2.3) †	45.9	(1.9) †	21.5	(2.1) †
	Viet Nam																
	Central	4.0	(0.6)	31.3	(1.6)	53.2	(1.4)	11.5	(1.2)	4.7	(0.5)	33.8	(1.4)	50.2	(1.7)	11.4	(1.2)
	Northern	4.8	(0.7)	31.2	(1.3)	52.2	(1.4)	11.8	(0.9)	5.5	(0.7)	36.5	(1.1)	46.6	(1.3)	11.3	(0.8)
	Southern	4.6	(0.5)	32.6	(1.2)	51.0	(1.3)	11.8	(0.9)	4.6	(0.4)	36.6	(1.3)	46.9	(1.2)	11.9	(0.8)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Notes: PISA adjudicated region is shown in bold.
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.
See Table II.B1.2.5 for national data.

Table II.B2.13. School safety risks [1/2]

Based on students' reports

	Index of school safety risks				Percentage of students who reported that the following happened at school during the four weeks prior to the PISA assessment:																			
					Our school was vandalised				I witnessed a fight on school property in which someone got hurt				I saw gangs in school				I heard a student threaten to hurt another student				I saw a student carrying a gun or knife at school			
	Average		Variability		Yes		No		Yes		No		Yes		No		Yes		No		Yes		No	
	Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD **Belgium**																								
Flemish community	0.00	(0.02)	0.92	(0.02)	24.9	(1.4)	75.1	(1.4)	12.0	(0.7)	88.0	(0.7)	11.6	(0.8)	88.4	(0.8)	17.7	(0.8)	82.3	(0.8)	8.4	(0.5)	91.6	(0.5)
French community	0.08	(0.03)	0.94	(0.02)	7.9	(0.8)	92.1	(0.8)	25.1	(1.3)	74.9	(1.3)	7.4	(0.6)	92.6	(0.6)	23.4	(0.9)	76.6	(0.9)	14.5	(1.0)	85.5	(1.0)
German-speaking community	-0.03	(0.04)	0.86	(0.04)	22.4	(1.6)	77.6	(1.6)	11.5	(1.2)	88.5	(1.2)	11.9	(1.4)	88.1	(1.4)	11.7	(1.3)	88.3	(1.3)	12.7	(1.4)	87.3	(1.4)
Canada																								
*Alberta**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
*British Columbia**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
*Manitoba**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
New Brunswick	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
*Newfoundland and Labrador**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
*Nova Scotia**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
*Ontario**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Prince Edward Island	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
*Quebec**	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Saskatchewan	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Colombia																								
Bogotá	-0.02	(0.03)	0.93	(0.03)	7.2	(0.8)	92.8	(0.8)	24.0	(1.5)	76.0	(1.5)	10.1	(1.0)	89.9	(1.0)	16.7	(0.9)	83.3	(0.9)	10.9	(0.9)	89.1	(0.9)
Italy																								
Bolzano	0.01	(0.02)	0.86	(0.02)	22.3	(1.1)	77.7	(1.1)	9.7	(0.7)	90.3	(0.7)	m	m	m	m	13.8	(0.7)	86.2	(0.7)	m	m	m	m
Trento	0.09	(0.02)	0.91	(0.02)	15.7	(0.8)	84.3	(0.8)	11.2	(0.7)	88.8	(0.7)	m	m	m	m	23.4	(1.1)	76.6	(1.1)	m	m	m	m
Spain																								
Andalusia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Aragon	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Asturias	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Balearic Islands	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Basque Country	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Canary Islands	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Cantabria	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Castile and Leon	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Castile-La Mancha	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Catalonia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Ceuta	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Comunidad Valenciana	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Extremadura	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Galicia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
La Rioja	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Madrid	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Melilla	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Murcia	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Navarre	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
United Kingdom																								
*England**	0.40	(0.03)	1.05	(0.02)	31.9	(1.7)	68.1	(1.7)	38.6	(1.7)	61.4	(1.7)	9.9	(0.7)	90.1	(0.7)	37.4	(1.2)	62.6	(1.2)	4.3	(0.5)	95.7	(0.5)
*Northern Ireland**	0.18	(0.03)	1.02	(0.03)	32.4	(1.4)	67.6	(1.4)	24.4	(1.4)	75.6	(1.4)	7.0	(0.7)	93.0	(0.7)	28.0	(1.0)	72.0	(1.0)	5.3	(0.8)	94.7	(0.8)
*Scotland**	0.41	(0.03)	1.05	(0.02)	40.0	(1.8)	60.0	(1.8)	35.8	(1.3)	64.2	(1.3)	9.4	(0.7)	90.6	(0.7)	35.7	(1.1)	64.3	(1.1)	4.9	(0.6)	95.1	(0.6)
*Wales**	0.59	(0.04)	1.06	(0.02)	34.1	(2.3)	65.9	(2.3)	47.5	(2.2)	52.5	(2.2)	14.5	(1.2)	85.5	(1.2)	43.4	(1.6)	56.6	(1.6)	5.4	(0.5)	94.6	(0.5)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold. Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage. See Table II.B1.3.23 for national data.

Table II.B2.13. School safety risks [2/2]

Based on students' reports

		Index of school safety risks			Percentage of students who reported that the following happened at school during the four weeks prior to the PISA assessment:																			
					Our school was vandalised				I witnessed a fight on school property in which someone got hurt				I saw gangs in school				I heard a student threaten to hurt another student				I saw a student carrying a gun or knife at school			
		Average		Variability		Yes		No		Yes		No		Yes		No		Yes		No		Yes		No	
		Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**																								
	North	0.05	(0.04)	0.99	(0.05)	14.5	(1.7)	85.5	(1.7)	16.4	(1.4)	83.6	(1.4)	10.7	(1.3)	89.3	(1.3)	25.2	(1.9)	74.8	(1.9)	11.4	(1.4)	88.6	(1.4)
	Northeast	-0.12	(0.03)	0.88	(0.02)	14.1	(1.4)	85.9	(1.4)	12.7	(1.0)	87.3	(1.0)	6.5	(0.6)	93.5	(0.6)	20.6	(1.3)	79.4	(1.3)	5.7	(0.5)	94.3	(0.5)
	South	0.06	(0.04)	0.95	(0.03)	15.2	(1.6)	84.8	(1.6)	19.6	(1.7)	80.4	(1.7)	6.5	(0.7)	93.5	(0.7)	27.0	(1.3)	73.0	(1.3)	10.9	(1.3)	89.1	(1.3)
	Southeast	0.10	(0.02)	0.96	(0.01)	18.3	(1.0)	81.7	(1.0)	23.2	(0.9)	76.8	(0.9)	7.1	(0.6)	92.9	(0.6)	28.7	(1.0)	71.3	(1.0)	8.1	(0.5)	91.9	(0.5)
	Middle-West	0.08	(0.05)	0.96	(0.04)	17.3	(1.8)	82.7	(1.8)	22.6	(2.5)	77.4	(2.5)	6.8	(1.1)	93.2	(1.1)	26.1	(2.0)	73.9	(2.0)	8.6	(1.1)	91.4	(1.1)
	Kazakhstan																								
	Akmola region	-0.39	(0.02)	0.66	(0.03)	3.4	(0.5)	96.6	(0.5)	8.9	(0.8)	91.1	(0.8)	2.9	(0.5)	97.1	(0.5)	8.4	(0.8)	91.6	(0.8)	3.9	(0.6)	96.1	(0.6)
	Aktobe region	-0.40	(0.02)	0.62	(0.04)	2.5	(0.4)	97.5	(0.4)	7.5	(1.1)	92.5	(1.1)	3.0	(0.7)	97.0	(0.7)	7.6	(0.8)	92.4	(0.8)	4.4	(0.8)	95.6	(0.8)
	Almaty	-0.40	(0.02)	0.58	(0.02)	2.8	(0.6)	97.2	(0.6)	7.8	(1.0)	92.2	(1.0)	2.2	(0.4)	97.8	(0.4)	8.9	(0.8)	91.1	(0.8)	3.0	(0.5)	97.0	(0.5)
	Almaty region	-0.43	(0.03)	0.59	(0.05)	2.4	(0.6)	97.6	(0.6)	8.3	(1.2)	91.7	(1.2)	1.6	(0.4)	98.4	(0.4)	7.0	(1.0)	93.0	(1.0)	3.0	(0.9)	97.0	(0.9)
	Astana	-0.33	(0.03)	0.69	(0.04)	4.4	(0.8)	95.6	(0.8)	9.1	(0.8)	90.9	(0.8)	3.0	(0.8)	97.0	(0.8)	12.1	(1.2)	87.9	(1.2)	4.3	(0.8)	95.7	(0.8)
	Atyrau region	-0.41	(0.03)	0.60	(0.05)	2.7	(0.8)	97.3	(0.8)	8.1	(1.0)	91.9	(1.0)	1.6	(0.5)	98.4	(0.5)	7.0	(1.1)	93.0	(1.1)	4.7	(0.7)	95.3	(0.7)
	East-Kazakhstan region	-0.47	(0.02)	0.51	(0.04)	1.9	(0.9)	98.1	(0.9)	5.5	(0.7)	94.5	(0.7)	2.3	(0.6)	97.7	(0.6)	6.0	(0.9)	94.0	(0.9)	2.5	(0.5)	97.5	(0.5)
	Karagandy region	-0.40	(0.02)	0.63	(0.03)	3.6	(0.6)	96.4	(0.6)	7.9	(1.0)	92.1	(1.0)	2.3	(0.4)	97.7	(0.4)	9.5	(0.7)	90.5	(0.7)	2.8	(0.4)	97.2	(0.4)
	Kostanay region	-0.42	(0.03)	0.65	(0.06)	2.8	(0.6)	97.2	(0.6)	6.7	(1.1)	93.3	(1.1)	3.1	(0.7)	96.9	(0.7)	7.9	(1.2)	92.1	(1.2)	3.5	(0.6)	96.5	(0.6)
	Kyzyl-Orda region	-0.53	(0.02)	0.43	(0.04)	1.1	(0.3)	98.9	(0.3)	3.6	(0.5)	96.4	(0.5)	1.5	(0.4)	98.5	(0.4)	3.4	(0.8)	96.6	(0.8)	2.4	(0.5)	97.6	(0.5)
	North-Kazakhstan region	-0.41	(0.02)	0.61	(0.04)	2.8	(0.6)	97.2	(0.6)	6.6	(0.9)	93.4	(0.9)	2.2	(0.5)	97.8	(0.5)	10.0	(0.9)	90.0	(0.9)	2.6	(0.7)	97.4	(0.7)
	Pavlodar region	-0.37	(0.03)	0.67	(0.03)	3.3	(0.6)	96.7	(0.6)	9.2	(1.0)	90.8	(1.0)	2.3	(0.5)	97.7	(0.5)	10.7	(1.3)	89.3	(1.3)	3.7	(0.6)	96.3	(0.6)
	Shymkent	-0.39	(0.02)	0.65	(0.04)	2.4	(0.4)	97.6	(0.4)	9.3	(1.2)	90.7	(1.2)	3.4	(0.7)	96.6	(0.7)	8.1	(1.1)	91.9	(1.1)	4.0	(0.7)	96.0	(0.7)
	Turkestan region	-0.38	(0.03)	0.67	(0.05)	3.0	(0.7)	97.0	(0.7)	7.4	(0.9)	92.6	(0.9)	3.7	(0.7)	96.3	(0.7)	8.9	(1.5)	91.1	(1.5)	4.4	(0.9)	95.6	(0.9)
	West-Kazakhstan region	-0.45	(0.02)	0.52	(0.04)	2.6	(0.6)	97.4	(0.6)	6.9	(1.2)	93.1	(1.2)	1.1	(0.4)	98.9	(0.4)	7.0	(0.8)	93.0	(0.8)	2.1	(0.5)	97.9	(0.5)
	Zhambyl region	-0.44	(0.02)	0.60	(0.06)	1.7	(0.4)	98.3	(0.4)	6.9	(1.0)	93.1	(1.0)	2.2	(0.6)	97.8	(0.6)	6.5	(0.7)	93.5	(0.7)	3.3	(0.6)	96.7	(0.6)
	Mongolia																								
	Central	-0.05	(0.02)	0.88	(0.02)	3.1	(0.4)	96.9	(0.4)	19.1	(0.8)	80.9	(0.8)	5.5	(0.5)	94.5	(0.5)	25.8	(0.9)	74.2	(0.9)	8.6	(0.7)	91.4	(0.7)
	Khangai	-0.07	(0.05)	0.86	(0.04)	2.8	(0.6)	97.2	(0.6)	18.9	(1.7)	81.1	(1.7)	6.1	(1.0)	93.9	(1.0)	26.1	(1.9)	73.9	(1.9)	6.3	(1.7)	93.7	(1.7)
	Western	0.02	(0.06)	0.98	(0.06)	8.5	(1.9)	91.5	(1.9)	19.6	(1.6)	80.4	(1.6)	10.5	(1.5)	89.5	(1.5)	26.6	(2.0)	73.4	(2.0)	8.5	(1.5)	91.5	(1.5)
	Viet Nam																								
	Central	-0.11	(0.04)	0.84	(0.02)	2.1	(0.4)	97.9	(0.4)	13.8	(1.6)	86.2	(1.6)	14.8	(1.2)	85.2	(1.2)	22.6	(1.7)	77.4	(1.7)	3.3	(0.6)	96.7	(0.6)
	Northern	-0.16	(0.03)	0.80	(0.02)	1.6	(0.3)	98.4	(0.3)	14.4	(1.4)	85.6	(1.4)	10.8	(0.9)	89.2	(0.9)	20.2	(1.2)	79.8	(1.2)	3.4	(0.5)	96.6	(0.5)
	Southern	-0.16	(0.05)	0.85	(0.04)	3.0	(0.5)	97.0	(0.5)	11.8	(1.6)	88.2	(1.6)	15.6	(1.7)	84.4	(1.7)	19.2	(1.9)	80.8	(1.9)	3.1	(0.5)	96.9	(0.5)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Notes: PISA adjudicated region is shown in bold.
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.
See Table II.B1.3.23 for national data.

Table II.B2.21. Grade repetition [1/2]

	Grade repetition at least once in primary, lower secondary or upper secondary school		Percentage of students who had repeated a grade in:																	
			Primary school						Lower secondary school						Upper secondary school					
			Never		Once		Twice or more		Never		Once		Twice or more		Never		Once		Twice or more	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD **Belgium**																				
Flemish community	21.5	(1.0)	85.6	(0.8)	13.8	(0.8)	0.7	(0.1)	95.8	(0.3)	3.9	(0.3)	0.3	(0.1)	94.9	(0.5)	4.8	(0.5)	0.3	(0.1)
French community	33.2	(1.1)	81.5	(1.1)	15.1	(0.9)	3.4	(0.4)	89.1	(0.8)	10.1	(0.7)	0.8	(0.2)	88.8	(0.7)	11.0	(0.7)	0.2	(0.1)
German-speaking community	23.1	(1.1)	86.2	(1.1)	12.9	(1.2)	0.9	(0.4)	93.4	(0.9)	6.2	(0.9)	0.4	(0.3)	94.7	(0.9)	5.1	(0.9)	0.2	(0.2)
Canada																				
*Alberta**	2.6	(0.5)	97.7	(0.5)	2.3	(0.5)	0.0	c	99.6	(0.2)	0.4	(0.2)	0.0	c	99.6	(0.2)	0.4	(0.2)	0.0	c
*British Columbia**	2.0	(0.3)	98.8	(0.2)	0.9	(0.2)	0.2	(0.1)	99.0	(0.3)	0.7	(0.2)	0.3	(0.1)	99.5	(0.1)	0.3	(0.1)	0.2	(0.1)
*Manitoba**	6.5	(0.8)	97.1	(0.4)	2.5	(0.4)	0.5	(0.2)	96.3	(0.8)	3.1	(0.7)	0.7	(0.2)	98.8	(0.3)	0.8	(0.2)	0.4	(0.2)
New Brunswick	4.8	(0.6)	97.6	(0.5)	2.2	(0.5)	0.2	(0.1)	97.6	(0.4)	2.1	(0.4)	0.3	(0.1)	98.9	(0.3)	0.7	(0.2)	0.4	(0.1)
*Newfoundland and Labrador**	1.8	(0.5)	98.7	(0.5)	1.1	(0.5)	0.2	(0.2)	99.5	(0.2)	0.3	(0.2)	0.2	(0.1)	99.7	(0.2)	0.1	(0.1)	0.2	(0.1)
*Nova Scotia**	2.5	(0.5)	98.1	(0.4)	1.7	(0.4)	0.3	(0.1)	99.2	(0.3)	0.6	(0.3)	0.2	(0.1)	99.6	(0.1)	0.2	(0.1)	0.3	(0.1)
*Ontario**	2.5	(0.2)	98.6	(0.2)	1.2	(0.2)	0.2	(0.1)	98.9	(0.2)	0.8	(0.1)	0.2	(0.1)	99.3	(0.1)	0.5	(0.1)	0.3	(0.1)
Prince Edward Island	3.1	(1.3)	97.2	(1.3)	2.8	(1.3)	0.0	c	99.1	(0.6)	0.3	(0.3)	0.5	(0.6)	99.5	(0.6)	0.5	(0.6)	0.0	c
*Quebec**	12.8	(0.8)	92.9	(0.6)	6.3	(0.5)	0.8	(0.2)	92.9	(0.5)	6.3	(0.5)	0.7	(0.2)	99.4	(0.1)	0.3	(0.1)	0.3	(0.1)
Saskatchewan	5.1	(0.5)	96.1	(0.5)	3.7	(0.5)	0.2	(0.1)	98.4	(0.3)	1.4	(0.3)	0.2	(0.1)	99.0	(0.3)	0.8	(0.2)	0.2	(0.1)
Colombia																				
Bogotá	35.5	(2.6)	84.4	(1.4)	12.5	(0.9)	3.1	(0.6)	75.0	(2.4)	17.9	(1.7)	7.1	(1.1)	98.3	(0.4)	1.6	(0.4)	0.1	(0.1)
Italy																				
Bolzano	10.5	(0.6)	98.4	(0.2)	1.4	(0.2)	0.2	(0.1)	98.5	(0.3)	1.4	(0.3)	0.1	(0.0)	92.1	(0.5)	7.9	(0.5)	0.0	(0.0)
Trento	10.0	(0.5)	99.5	(0.1)	0.4	(0.1)	0.2	(0.1)	97.6	(0.4)	2.3	(0.4)	0.1	(0.1)	92.4	(0.5)	7.4	(0.5)	0.2	(0.1)
Spain																				
Andalusia	27.8	(1.8)	89.1	(0.9)	10.3	(0.9)	0.6	(0.2)	79.0	(1.7)	18.4	(1.5)	2.6	(0.5)	m	m	m	m	m	m
Aragon	25.2	(1.7)	85.8	(1.3)	13.9	(1.3)	0.3	(0.1)	85.6	(1.3)	13.5	(1.3)	0.9	(0.4)	m	m	m	m	m	m
Asturias	17.0	(1.1)	91.7	(0.8)	8.2	(0.8)	0.1	(0.1)	89.3	(0.9)	10.2	(0.9)	0.6	(0.2)	m	m	m	m	m	m
Balearic Islands	25.2	(1.7)	86.8	(1.1)	13.0	(1.1)	0.3	(0.1)	84.6	(1.5)	14.8	(1.5)	0.6	(0.2)	m	m	m	m	m	m
Basque Country	16.6	(1.5)	91.7	(1.1)	7.8	(1.1)	0.5	(0.2)	89.7	(0.9)	9.4	(0.8)	0.9	(0.2)	m	m	m	m	m	m
Canary Islands	24.0	(1.6)	87.6	(1.1)	12.2	(1.1)	0.2	(0.1)	84.0	(1.4)	15.4	(1.3)	0.7	(0.2)	m	m	m	m	m	m
Cantabria	21.5	(1.1)	90.5	(0.7)	9.1	(0.6)	0.4	(0.2)	85.6	(1.0)	13.4	(0.9)	1.0	(0.3)	m	m	m	m	m	m
Castile and Leon	21.9	(1.3)	89.4	(0.8)	10.1	(0.8)	0.5	(0.2)	85.1	(1.2)	14.3	(1.2)	0.6	(0.2)	m	m	m	m	m	m
Castile-La Mancha	31.0	(1.9)	85.4	(1.4)	14.2	(1.3)	0.4	(0.2)	77.9	(1.7)	20.7	(1.5)	1.4	(0.3)	m	m	m	m	m	m
Catalonia	7.4	(0.9)	96.1	(0.6)	3.4	(0.6)	0.5	(0.2)	96.0	(0.7)	3.5	(0.6)	0.5	(0.2)	m	m	m	m	m	m
Ceuta	42.1	(1.7)	78.1	(2.4)	21.7	(2.4)	0.2	(0.2)	67.2	(2.5)	29.1	(2.6)	3.7	(1.5)	m	m	m	m	m	m
Comunidad Valenciana	23.9	(1.4)	88.0	(1.1)	11.5	(1.1)	0.5	(0.2)	84.8	(1.3)	14.3	(1.2)	0.9	(0.3)	m	m	m	m	m	m
Extremadura	25.0	(1.3)	89.0	(1.0)	10.5	(0.9)	0.5	(0.2)	82.9	(1.2)	15.8	(1.1)	1.4	(0.3)	m	m	m	m	m	m
Galicia	21.3	(1.5)	91.1	(0.8)	8.5	(0.8)	0.4	(0.2)	83.5	(1.4)	14.6	(1.2)	1.8	(0.4)	m	m	m	m	m	m
La Rioja	28.1	(0.6)	86.2	(0.9)	13.4	(0.9)	0.4	(0.2)	80.7	(1.0)	18.6	(1.0)	0.6	(0.2)	m	m	m	m	m	m
Madrid	22.6	(1.1)	89.0	(0.9)	10.5	(0.9)	0.5	(0.2)	84.8	(1.0)	14.1	(0.9)	1.1	(0.2)	m	m	m	m	m	m
Melilla	44.5	(1.8)	83.3	(2.4)	14.2	(2.6)	2.5	(1.2)	62.4	(2.7)	33.3	(2.9)	4.3	(1.6)	m	m	m	m	m	m
Murcia	26.3	(1.8)	86.3	(1.2)	13.4	(1.2)	0.3	(0.2)	81.2	(1.7)	16.9	(1.6)	1.9	(0.4)	m	m	m	m	m	m
Navarre	21.9	(1.9)	88.3	(1.2)	11.6	(1.2)	0.2	(0.1)	87.3	(1.7)	11.6	(1.4)	1.0	(0.4)	m	m	m	m	m	m
United Kingdom																				
*England**	2.0	(0.3)	98.6	(0.3)	1.2	(0.2)	0.2	(0.1)	99.3	(0.2)	0.6	(0.1)	0.2	(0.1)	99.5	(0.1)	0.3	(0.1)	0.2	(0.1)
*Northern Ireland**	1.5	(0.3)	99.0	(0.2)	0.8	(0.2)	0.1	(0.1)	99.4	(0.2)	0.3	(0.1)	0.3	(0.1)	99.5	(0.2)	0.3	(0.1)	0.2	(0.1)
*Scotland**	2.8	(0.3)	98.2	(0.2)	1.8	(0.2)	0.1	(0.1)	98.9	(0.2)	0.9	(0.2)	0.2	(0.1)	99.4	(0.1)	0.5	(0.1)	0.2	(0.1)
*Wales**	3.0	(0.3)	97.4	(0.3)	2.4	(0.3)	0.2	(0.1)	99.5	(0.2)	0.4	(0.1)	0.1	(0.1)	99.5	(0.2)	0.3	(0.1)	0.2	(0.1)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Notes: PISA adjudicated region is shown in bold.
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.
See Table II.B1.4.10 for national data.

Table II.B2.21. Grade repetition [2/2]

		Grade repetition at least once in primary, lower secondary or upper secondary school		Percentage of students who had repeated a grade in:																		
				Primary school						Lower secondary school						Upper secondary school						
				Never		Once		Twice or more		Never		Once		Twice or more		Never		Once		Twice or more		
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**																				
	North	29.8	(2.9)	80.3	(2.1)	15.8	(1.8)	4.0	(1.0)	85.0	(1.9)	11.0	(1.7)	4.0	(0.5)	98.9	(0.4) †	0.9	(0.4) †	0.2	(0.1) †
	Northeast	26.1	(1.4)	84.8	(1.2)	11.8	(1.0)	3.4	(0.6)	84.7	(0.9)	12.8	(0.9)	2.5	(0.3)	98.6	(0.3)	1.1	(0.3)	0.3	(0.1)
	South	22.1	(1.5)	87.8	(1.1)	9.8	(0.8)	2.3	(0.5)	87.0	(1.2)	10.5	(1.0)	2.5	(0.6)	99.1	(0.3)	0.9	(0.3)	0.0	c
	Southeast	17.4	(1.2)	91.0	(0.8)	7.3	(0.7)	1.7	(0.3)	89.7	(0.9)	8.8	(0.8)	1.5	(0.3)	98.8	(0.2)	1.0	(0.2)	0.3	(0.1)
	Middle-West	22.7	(2.8)	86.6	(2.1)	10.9	(1.7)	2.5	(0.6)	87.7	(2.1)	9.5	(1.6)	2.8	(0.7)	97.6	(0.6)	2.4	(0.6)	0.0	c
	Kazakhstan																				
	Akmola region	3.2	(0.6)	97.3	(0.5)	2.6	(0.5)	0.2	(0.1)	98.9	(0.4)	0.8	(0.3)	0.3	(0.2)	99.7	(0.2)	0.2	(0.1)	0.1	(0.1)
	Aktobe region	1.8	(0.4)	98.8	(0.3)	1.2	(0.3)	0.0	c	98.9	(0.3)	0.8	(0.4)	0.3	(0.2)	99.4	(0.2)	0.4	(0.1)	0.2	(0.1)
	Almaty	1.1	(0.4)	99.0	(0.4)	0.8	(0.4)	0.1	(0.1)	99.5	(0.2)	0.5	(0.2)	0.0	(0.0)	100.0	c	0.0	c	0.0	c
	Almaty region	3.8	(0.6)	97.4	(0.3)	2.2	(0.3)	0.4	(0.2)	98.0	(0.6)	1.6	(0.4)	0.4	(0.2)	99.5	(0.3)	0.1	(0.1)	0.4	(0.2)
	Astana	1.5	(0.4)	99.2	(0.2)	0.7	(0.3)	0.1	(0.1)	99.2	(0.4)	0.6	(0.3)	0.2	(0.1)	99.8	(0.1)	0.2	(0.1)	0.0	c
	Atyrau region	2.1	(0.4)	97.9	(0.4)	2.0	(0.3)	0.1	(0.1)	99.4	(0.3)	0.6	(0.3)	0.0	c	99.7	(0.2)	0.2	(0.1)	0.1	(0.1)
	East-Kazakhstan region	1.7	(0.4)	98.9	(0.4)	1.1	(0.4)	0.0	c	99.3	(0.2)	0.6	(0.2)	0.1	(0.1)	99.7	(0.2)	0.2	(0.2)	0.1	(0.1)
	Karagandy region	2.4	(0.7)	98.1	(0.6)	1.9	(0.6)	0.0	c	99.1	(0.5)	0.7	(0.4)	0.2	(0.2)	100.0	c	0.0	c	0.0	c
	Kostanay region	2.1	(0.4)	98.5	(0.4)	1.3	(0.4)	0.3	(0.2)	99.2	(0.3)	0.5	(0.3)	0.3	(0.2)	99.5	(0.3)	0.3	(0.2)	0.2	(0.1)
	Kyzyl-Orda region	2.2	(0.4)	98.6	(0.4)	1.2	(0.3)	0.2	(0.1)	98.6	(0.3)	1.0	(0.2)	0.4	(0.1)	99.5	(0.3)	0.4	(0.2)	0.2	(0.1)
	North-Kazakhstan region	3.8	(0.7)	96.8	(0.7)	3.2	(0.7)	0.0	c	99.3	(0.3)	0.7	(0.3)	0.0	c	99.7	(0.2)	0.2	(0.2)	0.1	(0.1)
	Pavlodar region	1.2	(0.5)	99.0	(0.5)	1.0	(0.5)	0.0	c	99.7	(0.2)	0.3	(0.2)	0.0	c	99.9	(0.1)	0.1	(0.1)	0.0	c
	Shymkent	3.1	(0.5)	98.1	(0.3)	1.7	(0.3)	0.2	(0.1)	98.2	(0.3)	1.7	(0.3)	0.1	(0.1)	99.3	(0.2)	0.5	(0.2)	0.2	(0.2)
	Turkestan region	4.2	(0.6)	97.4	(0.4)	1.9	(0.2)	0.8	(0.3)	97.3	(0.6)	2.0	(0.5)	0.8	(0.3)	98.4	(0.6)	1.4	(0.5)	0.2	(0.2)
	West-Kazakhstan region	1.0	(0.5)	99.2	(0.4)	0.5	(0.2)	0.3	(0.3)	99.6	(0.3)	0.4	(0.2)	0.1	(0.1)	99.7	(0.2)	0.3	(0.2)	0.0	c
	Zhambyl region	1.8	(0.4)	98.8	(0.4)	1.2	(0.4)	0.0	c	99.0	(0.2)	0.5	(0.2)	0.4	(0.2)	99.7	(0.2)	0.3	(0.2)	0.0	c
	Mongolia																				
	Central	2.6	(0.3)	97.9	(0.2)	1.3	(0.2)	0.8	(0.1)	98.6	(0.2)	0.6	(0.1)	0.7	(0.1)	99.1	(0.2)	0.4	(0.1)	0.5	(0.1)
	Khangai	2.3	(0.5)	98.8	(0.5)	1.1	(0.4)	0.2	(0.1)	98.7	(0.3)	1.0	(0.3)	0.4	(0.2)	99.4	(0.2)	0.2	(0.1)	0.3	(0.2)
	Western	11.6	(1.4)	93.7	(0.8)	3.3	(0.5)	3.1	(0.4)	92.0	(1.0)	4.0	(0.4)	4.0	(0.8)	93.0	(1.4)	3.7	(1.0)	3.3	(0.7)
	Viet Nam																				
	Central	7.4	(1.5)	94.7	(1.4)	4.7	(1.2)	0.6	(0.3)	96.7	(0.8)	2.8	(0.7)	0.5	(0.2)	99.4	(0.2)	0.4	(0.2)	0.1	(0.0)
	Northern	2.6	(0.8)	99.0	(0.4)	0.8	(0.3)	0.2	(0.1)	98.2	(0.6)	1.7	(0.6)	0.1	(0.1)	99.8	(0.1)	0.2	(0.1)	0.1	(0.1)
	Southern	5.1	(1.5)	96.9	(1.1)	3.0	(1.1)	0.1	(0.1)	97.7	(0.6)	1.9	(0.5)	0.4	(0.2)	99.5	(0.2)	0.4	(0.2)	0.1	(0.1)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Notes: PISA adjudicated region is shown in bold.
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.
See Table II.B1.4.10 for national data.

Table II.B2.24. Shortage of educational staff

Results based on principals' reports

	Index of shortage of educational staff				Percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered by the following factors:															
					A lack of teaching staff								Inadequate or poorly qualified teaching staff							
	Average		Variability		Not at all		Very little		To some extent		A lot		Not at all		Very little		To some extent		A lot	
	Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																				
Belgium																				
Flemish community	m	m	m	m	2.1	(1.1)	21.5	(3.2)	55.6	(3.8)	20.9	(3.4)	7.5	(2.1)	45.1	(4.1)	44.1	(4.0)	3.3	(1.3)
French community	m	m	m	m	1.4	(1.5) †	12.7	(4.4) †	47.0	(6.1) †	38.8	(5.4) †	5.9	(2.8) †	38.0	(6.0) †	45.9	(6.4) †	10.2	(3.6) †
German-speaking community	m	m	m	m	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Canada																				
*Alberta**	m	m	m	m	39.6	(7.4)	30.0	(7.1)	21.5	(5.7)	8.8	(2.9)	59.3	(6.7)	30.8	(6.3)	8.0	(4.1)	1.9	(2.2)
*British Columbia**	m	m	m	m	43.3	(6.6)	29.4	(5.5)	24.1	(5.5)	3.3	(2.2)	51.3	(4.5)	30.4	(5.0)	17.1	(4.0)	1.3	(1.2)
*Manitoba**	m	m	m	m	42.3	(2.4)	27.7	(2.1)	24.7	(2.2)	5.2	(1.4)	52.4	(2.5)	35.5	(2.3)	11.9	(1.8)	0.1	(0.0)
New Brunswick	m	m	m	m	24.2	(1.0)	35.2	(1.5)	33.7	(1.6)	6.8	(0.8)	36.7	(1.9)	42.9	(1.3)	19.7	(2.1)	0.7	(0.8)
*Newfoundland and Labrador**	m	m	m	m	35.0	(2.6)	22.9	(1.9)	31.2	(3.4)	10.9	(1.5)	68.8	(3.5)	26.4	(2.8)	4.7	(1.9)	0.0	c
*Nova Scotia**	m	m	m	m	30.6	(1.0)	28.7	(2.0)	29.8	(2.3)	10.8	(2.7)	53.5	(1.4)	31.1	(2.3)	13.5	(2.0)	2.0	(0.2)
*Ontario**	m	m	m	m	32.5	(4.2)	26.4	(3.9)	32.9	(3.8)	8.2	(2.3)	45.2	(4.3)	34.2	(4.0)	20.1	(3.6)	0.5	(0.0)
Prince Edward Island	m	m	m	m	62.5	(2.4)	28.1	(2.0)	9.4	(2.9)	0.0	c	95.0	(2.1)	5.0	(2.1)	0.0	c	0.0	c
*Quebec**	m	m	m	m	4.8	(1.1)	23.2	(4.7)	47.6	(4.8)	24.4	(3.9)	13.1	(3.0)	39.0	(4.6)	34.1	(4.6)	13.8	(3.8)
Saskatchewan	m	m	m	m	39.2	(2.8)	30.7	(2.1)	26.5	(2.8)	3.6	(1.0)	38.5	(2.9)	48.3	(2.9)	12.9	(1.8)	0.3	(0.0)
Colombia																				
Bogotá	-0.11	(0.09)	0.87	(0.07)	28.8	(5.5)	26.4	(5.8)	38.8	(6.7)	5.9	(3.4)	57.6	(6.6)	33.9	(6.1)	6.3	(3.2)	2.1	(2.1)
Italy																				
Bolzano	0.22	(0.01)	0.83	(0.01)	19.1	(0.5)	32.1	(0.7)	43.8	(0.7)	5.0	(0.2)	17.6	(0.5)	56.9	(0.7)	24.2	(0.6)	1.4	(0.2)
Trento	0.27	(0.01)	0.88	(0.01)	32.3	(0.7)	35.6	(0.8)	28.4	(0.6)	3.7	(0.2)	16.6	(0.5)	55.6	(0.7)	24.7	(0.6)	3.0	(0.2)
Spain																				
Andalusia	0.08	(0.17)	1.20	(0.09)	33.7	(6.3)	20.0	(4.8)	39.8	(5.6)	6.5	(3.7)	38.8	(7.0)	36.4	(7.0)	22.8	(7.1)	2.0	(2.1)
Aragon	0.23	(0.15)	0.81	(0.08)	12.8	(6.0)	23.1	(5.8)	43.6	(8.1)	20.5	(7.0)	52.5	(8.7)	27.0	(7.8)	20.5	(5.8)	0.0	c
Asturias	0.27	(0.13)	1.02	(0.11)	25.2	(5.1)	23.6	(6.2)	38.6	(5.4)	12.6	(4.6)	33.9	(5.3)	48.7	(6.6)	15.2	(5.4)	2.2	(2.1)
Balearic Islands	-0.41	(0.20) †	1.21	(0.12) †	68.8	(8.2) †	9.2	(5.2) †	21.9	(6.7) †	0.0	c †	60.9	(8.2) †	23.4	(7.8) †	9.7	(5.3) †	5.9	(4.0) †
Basque Country	0.17	(0.13)	1.22	(0.10)	42.2	(5.1)	19.3	(4.4)	28.1	(4.3)	10.4	(3.2)	35.7	(4.4)	30.9	(4.6)	28.1	(5.0)	5.4	(2.6)
Canary Islands	0.35	(0.16)	1.09	(0.13)	25.1	(6.5)	30.1	(6.4)	36.1	(5.4)	8.6	(4.3)	23.5	(6.1)	34.2	(7.3)	40.0	(7.0)	2.3	(2.2)
Cantabria	0.02	(0.15)	1.11	(0.08)	24.7	(5.3)	27.2	(5.8)	35.5	(6.7)	12.6	(4.4)	43.5	(5.3)	30.9	(5.8)	23.5	(5.9)	2.1	(2.1)
Castile and Leon	-0.36	(0.22)	1.27	(0.09)	43.5	(7.8)	27.0	(6.0)	27.5	(6.5)	2.0	(2.0)	63.9	(8.1)	24.4	(6.8)	11.7	(4.7)	0.0	c
Castile-La Mancha	0.31	(0.16)	1.07	(0.17)	19.8	(6.3)	28.3	(6.8)	35.9	(7.3)	15.9	(5.8)	41.4	(7.2)	39.0	(7.3)	12.6	(5.4)	6.9	(3.6)
Catalonia	-0.58	(0.17)	1.06	(0.09)	60.7	(7.7)	12.8	(5.6)	13.8	(4.5)	12.7	(4.8)	61.4	(7.4)	28.4	(6.7)	7.3	(4.1)	2.9	(1.8)
Ceuta	0.02	(0.02) †	0.48	(0.01) †	4.2	(0.8) †	60.8	(2.3) †	29.6	(2.5) †	5.4	(0.7) †	76.8	(1.4) †	14.3	(1.1) †	8.9	(0.6) †	0.0	c †
Comunidad Valenciana	-0.37	(0.19)	1.14	(0.08)	41.8	(7.9)	28.7	(5.9)	29.5	(7.1)	0.0	c	42.1	(7.7)	44.3	(7.6)	13.7	(5.4)	0.0	c
Extremadura	-0.08	(0.20)	1.21	(0.16)	38.5	(7.1)	17.9	(5.7)	25.1	(6.0)	18.5	(6.4)	54.2	(8.1)	33.7	(7.4)	8.2	(4.2)	4.0	(2.7)
Galicia	0.08	(0.17)	1.09	(0.09)	18.4	(5.6)	31.4	(7.1)	31.0	(6.2)	19.2	(5.4)	27.9	(6.7)	46.7	(7.7)	23.3	(6.2)	2.1	(2.1)
La Rioja	0.20	(0.01)	0.93	(0.01)	28.5	(0.4)	32.3	(0.4)	20.9	(0.5)	18.3	(0.5)	39.5	(0.5)	35.7	(0.6)	24.8	(0.5)	0.0	c
Madrid	0.03	(0.15)	1.44	(0.11)	29.6	(4.6)	27.2	(5.6)	27.6	(6.2)	15.6	(4.6)	48.8	(6.0)	22.2	(5.7)	22.9	(6.5)	6.1	(3.3)
Melilla	0.93	(0.04)	1.09	(0.02)	0.0	c	24.8	(1.4)	43.2	(2.0)	32.0	(1.7)	44.1	(1.7)	11.9	(1.7)	32.4	(1.9)	11.7	(1.4)
Murcia	0.11	(0.14)	1.13	(0.10)	25.3	(4.8)	19.4	(5.4)	42.4	(6.8)	13.0	(5.2)	50.3	(6.1)	33.0	(6.4)	14.8	(4.7)	2.0	(2.0)
Navarre	-0.30	(0.14)	1.11	(0.09)	54.3	(5.3)	19.9	(5.7)	25.8	(5.5)	0.0	c	40.5	(5.4)	47.9	(6.2)	9.5	(4.1)	2.1	(2.0)
United Kingdom																				
*England**	0.30	(0.07)	0.95	(0.05)	20.8	(3.1)	25.0	(3.8)	46.5	(4.4)	7.6	(2.7)	37.7	(4.1)	42.7	(4.6)	17.7	(3.5)	1.9	(1.3)
*Northern Ireland**	0.21	(0.10)	1.02	(0.08)	29.1	(4.0)	28.5	(4.3)	32.4	(5.5)	10.0	(3.1)	56.8	(5.0)	26.0	(3.9)	17.2	(4.4)	0.0	c
*Scotland**	0.37	(0.10)	1.19	(0.10)	26.4	(3.6)	19.8	(4.4)	35.8	(4.8)	18.1	(4.0)	49.6	(4.7)	39.8	(4.6)	8.2	(3.2)	2.4	(1.5)
*Wales**	0.27	(0.13) †	0.93	(0.08) †	25.5	(5.2) †	26.5	(6.1) †	40.1	(7.1) †	7.9	(3.8) †	36.5	(6.8) †	42.7	(7.5) †	20.9	(5.6) †	0.0	c †

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.5.1 for national data.

Table II.B2.24. Shortage of educational staff [2/4]

Results based on principals' reports

	Index of shortage of educational staff				Percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered by the following factors:															
					A lack of teaching staff								Inadequate or poorly qualified teaching staff							
	Average		Variability		Not at all		Very little		To some extent		A lot		Not at all		Very little		To some extent		A lot	
	Mean index	S.E.	S.D.	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																				
Brazil																				
North	-0.17	(0.20) †	1.10	(0.08) †	49.0	(7.5) †	19.8	(6.1) †	31.2	(8.9) †	0.0	c †	75.7	(7.8) †	14.5	(5.5) †	9.9	(6.0) †	0.0	c †
Northeast	-0.31	(0.10)	1.03	(0.07)	64.6	(4.7)	19.1	(4.2)	13.3	(3.3)	3.0	(1.3)	83.6	(3.7)	10.7	(3.1)	4.6	(1.9)	1.1	(1.1)
South	0.18	(0.14)	1.24	(0.10)	42.3	(5.6)	25.8	(5.7)	18.9	(3.8)	13.0	(4.0)	62.1	(5.6)	20.9	(5.0)	15.2	(3.5)	1.9	(1.4)
Southeast	-0.14	(0.09)	1.19	(0.06)	49.2	(3.7)	29.8	(3.7)	14.0	(2.7)	6.9	(2.1)	60.6	(3.7)	27.3	(3.7)	11.2	(2.5)	0.9	(0.7)
Middle-West	0.04	(0.28)	1.56	(0.19)	54.5	(7.3)	22.2	(6.3)	10.3	(4.7)	12.9	(5.8)	69.5	(8.3)	8.9	(4.9)	13.5	(5.1)	8.0	(4.7)
Kazakhstan																				
Akmola region	-0.15	(0.21)	1.13	(0.09)	30.9	(6.5)	22.1	(6.9)	36.4	(7.8)	10.6	(5.2)	44.4	(9.6)	37.8	(10.6)	14.1	(5.7)	3.7	(2.3)
Aktobe region	-0.99	(0.17)	0.84	(0.15)	62.4	(11.0)	26.2	(9.4)	10.6	(5.5)	0.7	(0.7)	70.8	(10.1)	23.8	(9.2)	3.6	(3.6)	1.8	(1.4)
Almaty	-0.16	(0.19)	1.17	(0.13)	26.9	(6.1)	34.6	(9.5)	30.7	(4.9)	7.7	(4.7)	42.8	(10.2)	27.4	(8.6)	26.0	(10.0)	3.8	(3.8)
Almaty region	-0.17	(0.20)	1.16	(0.11)	38.5	(9.2)	14.4	(7.3)	19.5	(6.4)	27.6	(8.0)	48.8	(11.7)	25.2	(8.8)	25.5	(9.1)	0.5	(0.5)
Astana	-0.32	(0.21)	1.06	(0.14)	33.2	(7.9)	31.5	(9.0)	35.3	(8.7)	0.0	c	32.9	(11.1)	55.0	(13.0)	8.0	(5.6)	4.0	(4.0)
Atyrau region	-0.04	(0.20)	1.03	(0.13)	19.2	(4.4)	18.5	(4.5)	44.6	(9.8)	17.7	(6.4)	46.9	(10.9)	26.2	(8.0)	22.4	(9.3)	4.5	(3.4)
East-Kazakhstan region	0.27	(0.22)	1.17	(0.14)	26.2	(8.0)	18.0	(7.0)	33.3	(9.8)	22.4	(8.6)	27.2	(9.0)	42.7	(7.2)	20.7	(8.1)	9.3	(5.1)
Karagandy region	-0.32	(0.17)	0.95	(0.13)	30.1	(7.9)	31.4	(8.1)	29.6	(6.4)	8.9	(5.5)	46.0	(8.1)	36.3	(7.8)	17.7	(6.8)	0.0	c
Kostanay region	-0.53	(0.22)	1.30	(0.14)	43.7	(8.2)	24.2	(8.6)	12.9	(6.3)	19.3	(7.8)	55.9	(7.4)	24.5	(8.4)	9.7	(5.7)	9.8	(5.7)
Kyzyl-Orda region	-0.47	(0.20)	1.01	(0.10)	66.0	(6.8)	20.4	(4.2)	13.6	(5.3)	0.0	c	52.3	(9.4)	23.4	(7.2)	21.4	(6.9)	3.0	(2.9)
North-Kazakhstan region	-0.60	(0.18)	1.27	(0.13)	37.6	(5.9)	31.0	(6.5)	21.6	(6.9)	9.8	(2.6)	49.4	(7.8)	33.2	(8.2)	14.3	(5.7)	3.1	(2.1)
Pavlodar region	-0.56	(0.25)	1.29	(0.13)	41.4	(9.3)	23.9	(7.1)	21.3	(7.3)	13.4	(6.1)	50.4	(10.4)	33.1	(9.9)	13.0	(5.7)	3.5	(2.3)
Shymkent	-0.11	(0.21)	0.83	(0.09)	39.7	(12.7)	38.5	(10.4)	21.9	(9.5)	0.0	c	27.2	(10.3)	55.4	(10.1)	17.5	(8.5)	0.0	c
Turkestan region	0.02	(0.16)	1.01	(0.09)	47.0	(10.1)	30.7	(8.1)	22.3	(7.1)	0.0	c	29.1	(7.2)	36.7	(10.1)	29.5	(7.9)	4.7	(4.6)
West-Kazakhstan region	-0.39	(0.17)	1.03	(0.08)	42.6	(6.3)	13.8	(4.6)	33.2	(7.4)	10.3	(5.8)	59.0	(8.9)	14.3	(6.2)	15.4	(7.0)	11.2	(3.5)
Zhambyl region	-0.02	(0.16)	0.94	(0.10)	36.2	(9.4)	24.1	(9.7)	26.5	(6.5)	13.3	(6.6)	28.0	(8.8)	26.0	(9.8)	46.0	(8.2)	0.0	c
Mongolia																				
Central	0.28	(0.08)	0.94	(0.05)	20.1	(3.1)	36.1	(4.1)	36.2	(4.2)	7.6	(2.8)	22.0	(3.8)	35.8	(4.6)	34.7	(4.8)	7.6	(2.2)
Khangai	0.16	(0.22)	1.21	(0.22)	33.9	(7.7)	36.9	(8.4)	26.2	(6.4)	3.0	(3.0)	30.4	(8.4)	35.8	(10.3)	25.0	(7.6)	8.8	(4.5)
Western	0.02	(0.16)	0.89	(0.13)	50.6	(8.8)	29.4	(7.3)	14.4	(6.7)	5.6	(4.2)	53.0	(9.0)	24.8	(8.8)	20.3	(7.8)	1.8	(1.9)
Viet Nam																				
Central	0.03	(0.22)	1.14	(0.19)	39.1	(8.2)	23.6	(6.5)	22.9	(7.4)	14.5	(6.0)	46.3	(7.9)	32.9	(8.0)	12.8	(5.4)	8.0	(4.6)
Northern	0.47	(0.15)	1.03	(0.08)	31.5	(5.5)	18.2	(4.8)	33.7	(6.0)	16.7	(5.7)	35.8	(6.4)	24.6	(4.8)	22.0	(5.6)	17.6	(5.5)
Southern	-0.05	(0.14)	1.01	(0.07)	40.1	(6.3)	22.5	(5.6)	34.0	(5.6)	3.5	(2.5)	52.0	(7.4)	23.9	(5.5)	16.6	(5.1)	7.6	(3.5)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.5.1 for national data.

Table II.B2.24. Shortage of educational staff [3/4]

Results based on principals' reports

	Percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered by the following factors:															
	A lack of assisting staff								Inadequate or poorly qualified assisting staff							
	Not at all		Very little		To some extent		A lot		Not at all		Very little		To some extent		A lot	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD **Belgium**																
Flemish community	37.6	(4.2)	35.3	(3.8)	20.7	(3.5)	6.5	(2.3)	41.0	(4.0)	40.9	(4.3)	16.8	(3.6)	1.3	(1.0)
French community	32.1	(5.5) †	30.1	(5.3) †	22.0	(5.2) †	15.8	(3.8) †	36.5	(6.0) †	50.6	(5.3) †	10.0	(3.2) †	2.9	(1.9) †
German-speaking community	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Canada																
*Alberta**	39.6	(7.2)	41.9	(6.3)	17.0	(6.0)	1.6	(1.7)	53.0	(7.2)	31.6	(5.8)	12.0	(4.5)	3.4	(2.7)
*British Columbia**	29.6	(5.8)	32.8	(5.4)	34.1	(6.1)	3.5	(2.5)	42.4	(5.8)	38.2	(6.6)	17.9	(4.3)	1.5	(1.5)
*Manitoba**	34.6	(1.3)	37.4	(2.3)	25.4	(2.4)	2.6	(0.2)	46.2	(2.1)	36.5	(2.6)	16.0	(1.9)	1.4	(1.3)
New Brunswick	13.2	(0.8)	25.9	(1.5)	58.7	(1.5)	2.2	(0.8)	22.7	(1.5)	32.5	(1.3)	37.0	(1.6)	7.9	(0.8)
*Newfoundland and Labrador**	36.3	(3.3)	22.3	(3.4)	26.7	(3.4)	14.7	(2.7)	78.7	(2.9)	17.4	(2.1)	3.0	(1.8)	0.9	(0.1)
*Nova Scotia**	17.7	(2.2)	35.3	(2.2)	39.0	(2.1)	8.1	(1.9)	53.5	(1.5)	31.1	(1.2)	15.3	(0.6)	0.1	(0.0)
*Ontario**	29.0	(4.3)	28.8	(4.1)	36.0	(4.7)	6.2	(2.1)	52.4	(4.8)	31.1	(4.2)	13.8	(3.0)	2.6	(1.5)
Prince Edward Island	2.6	(0.6)	53.5	(2.8)	44.0	(2.5)	0.0	c	33.0	(2.3)	65.4	(2.4)	1.6	(1.6)	0.0	c
*Quebec**	25.5	(4.6)	37.8	(4.9)	31.3	(4.8)	5.4	(2.4)	41.9	(5.0)	36.0	(4.7)	17.2	(3.7)	4.8	(2.3)
Saskatchewan	35.8	(2.3)	33.9	(2.6)	26.4	(2.6)	3.9	(0.8)	48.3	(2.5)	29.1	(2.2)	20.9	(2.0)	1.8	(0.5)
Colombia																
Bogotá	38.0	(6.0)	30.1	(5.6)	25.8	(5.2)	6.1	(3.4)	67.4	(5.0)	29.5	(5.0)	3.1	(2.3)	0.0	c
Italy																
Bolzano	39.9	(0.7)	36.4	(0.5)	18.4	(0.5)	5.3	(0.3)	49.1	(0.7)	41.6	(0.6)	8.4	(0.3)	0.8	(0.1)
Trento	35.7	(0.8)	37.1	(0.8)	25.5	(0.6)	1.6	(0.1)	49.1	(0.7)	26.3	(0.6)	23.0	(0.7)	1.6	(0.1)
Spain																
Andalusia	19.8	(6.1)	16.1	(5.1)	40.0	(7.7)	24.0	(6.6)	60.7	(6.9)	19.2	(4.9)	15.1	(5.8)	4.9	(3.4)
Aragon	3.0	(3.1)	19.5	(5.9)	43.8	(8.2)	33.8	(8.8)	63.6	(8.6)	29.8	(7.8)	4.9	(3.6)	1.8	(1.8)
Asturias	7.0	(3.5)	18.0	(4.9)	52.5	(6.8)	22.5	(6.5)	57.7	(5.5)	25.1	(6.5)	8.8	(4.0)	8.3	(4.1)
Balearic Islands	62.7	(7.8) †	14.5	(6.2) †	12.3	(5.4) †	10.5	(3.4) †	65.3	(8.6) †	15.2	(6.1) †	13.3	(6.0) †	6.3	(4.3) †
Basque Country	16.0	(4.2)	19.2	(4.5)	42.1	(5.5)	22.7	(4.3)	54.2	(5.7)	26.2	(5.1)	15.3	(3.6)	4.4	(2.3)
Canary Islands	14.1	(5.6)	9.8	(4.4)	43.5	(7.0)	32.5	(7.6)	51.8	(7.2)	27.5	(6.9)	18.4	(6.1)	2.3	(2.3)
Cantabria	17.9	(5.5)	19.4	(6.0)	39.9	(6.8)	22.9	(5.4)	60.6	(5.6)	28.5	(4.3)	8.9	(3.6)	2.0	(1.8)
Castile and Leon	27.1	(6.2)	21.8	(3.7)	29.0	(5.2)	22.1	(6.5)	63.6	(8.1)	23.7	(6.6)	8.6	(4.3)	4.1	(2.9)
Castile-La Mancha	11.2	(4.9)	17.2	(6.5)	44.3	(7.8)	27.3	(6.9)	59.6	(7.7)	22.8	(6.1)	12.4	(5.3)	5.2	(3.1)
Catalonia	68.7	(7.5)	9.8	(4.4)	21.5	(6.9)	0.0	c	74.5	(6.3)	18.1	(5.2)	7.4	(4.2)	0.0	c
Ceuta	0.0	c †	10.9	(1.1) †	49.9	(2.3) †	39.2	(2.3) †	76.8	(1.4) †	23.2	(1.4) †	0.0	c †	0.0	c †
Comunidad Valenciana	37.7	(7.8)	9.5	(4.5)	38.9	(6.9)	13.9	(4.4)	67.4	(7.8)	25.0	(7.1)	7.6	(3.7)	0.0	c
Extremadura	17.4	(5.3)	19.1	(6.4)	39.1	(7.4)	24.3	(6.8)	65.4	(7.2)	24.2	(6.6)	7.7	(4.0)	2.6	(2.4)
Galicia	35.4	(6.8)	20.3	(5.5)	27.4	(6.6)	16.9	(5.5)	54.2	(7.6)	30.5	(7.2)	13.3	(4.8)	2.1	(2.1)
La Rioja	10.4	(0.2)	28.6	(0.5)	32.2	(0.5)	28.8	(0.5)	52.5	(0.5)	27.8	(0.6)	19.7	(0.4)	0.0	c
Madrid	25.2	(6.3)	16.0	(4.7)	31.7	(6.5)	27.0	(5.0)	61.9	(5.4)	17.6	(4.5)	12.9	(2.5)	7.5	(3.9)
Melilla	0.0	c	32.2	(1.9)	31.7	(1.8)	36.1	(2.0)	24.8	(1.4)	12.6	(1.7)	62.6	(1.9)	0.0	c
Murcia	10.7	(4.7)	14.9	(5.3)	49.6	(7.2)	24.7	(6.8)	59.1	(5.8)	21.4	(5.8)	17.5	(4.2)	2.1	(2.1)
Navarre	28.0	(5.5)	24.3	(2.5)	43.5	(6.3)	4.2	(3.0)	60.0	(5.9)	25.3	(4.7)	12.6	(3.5)	2.1	(2.0)
United Kingdom																
*England**	27.8	(4.1)	31.3	(4.2)	37.9	(4.0)	3.0	(1.6)	34.9	(3.6)	46.3	(4.2)	18.0	(3.3)	0.8	(0.7)
*Northern Ireland**	26.1	(4.6)	33.4	(5.2)	34.0	(5.7)	6.4	(2.3)	49.6	(4.8)	24.8	(4.5)	23.7	(4.3)	1.8	(1.7)
*Scotland**	24.5	(3.5)	21.1	(4.4)	35.9	(4.9)	18.6	(3.7)	43.0	(5.2)	32.3	(4.8)	20.1	(4.0)	4.5	(2.2)
*Wales**	23.2	(5.9) †	36.3	(5.9) †	35.6	(7.1) †	5.0	(2.8) †	47.6	(7.8) †	34.1	(7.7) †	14.9	(4.9) †	3.5	(2.5) †

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.5.1 for national data.

Table II.B2.24. Shortage of educational staff [4/4]

Results based on principals' reports

	Percentage of students in schools whose principal reported that the school's capacity to provide instruction is hindered by the following factors:															
	A lack of assisting staff								Inadequate or poorly qualified assisting staff							
	Not at all		Very little		To some extent		A lot		Not at all		Very little		To some extent		A lot	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																
Brazil																
North	43.5	(8.1) †	22.9	(7.3) †	15.6	(7.1) †	17.9	(5.8) †	65.1	(8.1) †	10.5	(3.9) †	21.4	(8.6) †	3.0	(3.0) †
Northeast	42.8	(4.4)	23.7	(3.7)	12.7	(2.7)	20.8	(4.3)	75.0	(4.3)	10.7	(2.9)	5.6	(1.8)	8.7	(3.1)
South	29.6	(6.0)	23.6	(4.5)	22.5	(4.9)	24.3	(4.7)	62.1	(5.4)	12.9	(3.8)	13.1	(3.7)	11.9	(3.6)
Southeast	44.3	(3.7)	20.4	(2.9)	18.8	(3.0)	16.5	(2.9)	62.6	(3.7)	18.9	(3.0)	11.6	(2.4)	6.9	(2.1)
Middle-West	40.1	(8.4)	17.3	(6.9)	21.1	(7.9)	21.5	(7.8)	67.3	(8.8)	2.6	(2.1)	16.0	(5.8)	14.1	(6.3)
Kazakhstan																
Akmola region	43.5	(7.5)	28.4	(8.0)	24.2	(7.2)	3.9	(3.5)	56.4	(10.2)	28.4	(8.3)	15.2	(6.7)	0.0	c
Aktobe region	86.6	(5.2)	3.3	(1.5)	10.1	(5.7)	0.0	c	95.4	(3.7)	1.1	(0.8)	3.6	(3.6)	0.0	c
Almaty	54.3	(8.8)	30.5	(6.8)	11.4	(6.7)	3.8	(3.8)	57.2	(7.9)	23.8	(6.2)	15.2	(7.2)	3.8	(3.8)
Almaty region	62.6	(8.8)	21.7	(6.4)	13.1	(6.5)	2.6	(1.5)	58.9	(8.3)	23.9	(7.0)	14.5	(7.2)	2.6	(1.5)
Astana	57.2	(9.7)	23.4	(9.3)	11.4	(6.6)	8.0	(5.5)	66.0	(11.0)	26.6	(9.7)	4.0	(4.0)	3.3	(3.5)
Atyrau region	59.8	(11.1)	27.6	(9.1)	9.5	(5.6)	3.2	(2.0)	70.0	(10.5)	20.5	(9.1)	4.3	(3.1)	5.2	(4.0)
East-Kazakhstan region	29.2	(7.5)	42.6	(7.9)	20.7	(7.1)	7.5	(4.4)	53.3	(10.4)	24.4	(7.9)	15.4	(6.9)	6.8	(4.3)
Karagandy region	59.5	(8.5)	26.6	(7.3)	13.9	(4.9)	0.0	c	68.6	(9.5)	23.4	(8.2)	4.4	(3.6)	3.6	(3.6)
Kostanay region	67.7	(8.7)	13.4	(4.8)	15.1	(6.2)	3.8	(3.8)	64.1	(9.3)	20.7	(7.0)	15.2	(6.3)	0.0	c
Kyzyl-Orda region	74.6	(9.6)	11.3	(6.5)	14.1	(7.1)	0.0	c	64.7	(8.4)	23.9	(7.4)	11.4	(6.5)	0.0	c
North-Kazakhstan region	73.9	(7.5)	10.9	(4.9)	10.9	(5.1)	4.3	(2.5)	77.5	(6.8)	10.8	(5.1)	6.9	(4.1)	4.9	(2.6)
Pavlodar region	61.2	(9.4)	28.2	(8.8)	9.3	(4.5)	1.3	(1.3)	66.7	(8.0)	25.4	(7.9)	6.1	(3.7)	1.8	(1.4)
Shymkent	61.1	(10.4)	26.3	(9.5)	12.6	(7.0)	0.0	c	61.6	(10.6)	16.7	(8.3)	21.7	(9.2)	0.0	c
Turkestan region	52.6	(7.5)	22.0	(5.0)	20.9	(5.9)	4.5	(3.0)	55.4	(7.6)	30.6	(7.5)	8.9	(5.2)	5.0	(3.8)
West-Kazakhstan region	68.2	(8.1)	27.4	(7.4)	4.3	(3.3)	0.0	c	68.3	(8.0)	19.8	(7.6)	11.9	(6.2)	0.0	c
Zhambyl region	61.3	(7.4)	31.7	(7.2)	2.6	(2.6)	4.4	(2.6)	56.0	(9.7)	33.0	(8.2)	9.4	(6.0)	1.6	(1.6)
Mongolia																
Central	38.6	(4.1)	34.3	(4.2)	19.7	(3.0)	7.5	(2.2)	53.8	(4.4)	30.0	(4.0)	13.9	(2.7)	2.3	(1.0)
Khangai	72.1	(9.0)	12.6	(5.7)	12.2	(6.4)	3.0	(3.0)	42.8	(8.0)	33.3	(10.6)	14.7	(6.0)	9.2	(5.8)
Western	55.8	(10.3)	22.1	(8.4)	20.2	(6.7)	1.8	(1.9)	43.3	(9.8)	32.5	(9.7)	22.4	(8.5)	1.8	(1.9)
Viet Nam																
Central	42.4	(9.3)	23.9	(6.6)	22.9	(6.5)	10.8	(5.3)	74.3	(7.9)	14.7	(5.6)	8.2	(4.8)	2.8	(2.8)
Northern	33.7	(6.3)	22.0	(6.4)	36.3	(6.3)	8.1	(3.5)	46.5	(6.1)	18.8	(4.5)	31.3	(6.4)	3.4	(3.3)
Southern	54.1	(6.7)	15.2	(4.5)	22.7	(5.5)	8.0	(3.6)	70.0	(6.1)	10.9	(4.0)	14.2	(4.1)	5.0	(2.9)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.5.1 for national data.

Table II.B2.39. Reasons for transferring students to another school

Results based on principals' reports

	Percentage of students in schools where students are transferred to another school for the following reasons:																	
	Low academic achievement						High academic achievement						Behavioural problems					
	Not likely		Likely		Very likely		Not likely		Likely		Very likely		Not likely		Likely		Very likely	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																		
Belgium																		
Flemish community	55.4	(4.1)	36.1	(3.9)	8.5	(2.4)	96.1	(1.6)	3.6	(1.5)	0.4	(0.3)	60.0	(3.9)	37.5	(3.8)	2.5	(1.4)
French community	56.8	(5.2)	36.1	(5.8)	7.1	(3.2)	92.2	(3.1)	6.6	(3.3)	1.2	(1.4)	24.0	(5.3)	61.8	(5.3)	14.1	(4.0)
German-speaking community	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
Canada																		
*Alberta**	92.7	(4.1)	4.0	(2.7)	3.3	(3.1)	100.0	c	0.0	c	0.0	c	75.7	(5.9)	15.7	(4.3)	8.6	(4.5)
*British Columbia**	98.1	(1.6)	1.9	(1.6)	0.0	c	96.7	(2.3)	3.3	(2.3)	0.0	c	81.3	(5.5)	18.7	(5.5)	0.0	c
*Manitoba**	96.2	(0.7)	3.8	(0.7)	0.0	c	98.7	(0.6)	1.3	(0.6)	0.0	c	86.9	(0.8)	12.5	(0.5)	0.6	(0.6)
New Brunswick	96.9	(0.2)	3.1	(0.2)	0.0	c	99.0	(0.1)	1.0	(0.1)	0.0	c	88.2	(1.2)	11.8	(1.2)	0.0	c
*Newfoundland and Labrador**	99.4	(0.6)	0.6	(0.6)	0.0	c	95.5	(0.7)	4.5	(0.7)	0.0	c	91.6	(0.9)	8.4	(0.9)	0.0	c
*Nova Scotia**	94.5	(1.9)	2.3	(1.9)	3.1	(0.3)	96.8	(1.9)	3.2	(1.9)	0.0	c	92.0	(2.0)	8.0	(2.0)	0.0	c
*Ontario**	95.1	(2.0)	4.7	(2.0)	0.2	(0.2)	99.0	(0.8)	0.1	(0.0)	0.8	(0.8)	92.0	(2.1)	7.7	(2.1)	0.2	(0.2)
Prince Edward Island	97.0	(2.3)	3.0	(2.3)	0.0	c	100.0	c	0.0	c	0.0	c	95.0	(2.4)	5.0	(2.4)	0.0	c
*Quebec**	78.2	(3.6)	19.8	(3.7)	2.0	(1.3)	98.6	(1.4)	1.4	(1.4)	0.0	c	54.2	(4.5)	43.0	(4.5)	2.9	(0.4)
Saskatchewan	90.3	(0.8)	9.7	(0.8)	0.0	c	98.3	(0.2)	1.7	(0.2)	0.0	c	69.8	(1.3)	28.3	(1.2)	1.9	(0.1)
Colombia																		
Bogotá	70.2	(6.0)	29.8	(6.0)	0.0	c	84.8	(4.4)	13.0	(4.6)	2.1	(2.1)	47.7	(7.1)	45.0	(6.7)	7.3	(4.2)
Italy																		
Bolzano	51.7	(0.7)	41.8	(0.6)	6.5	(0.3)	93.5	(0.3)	6.5	(0.3)	0.0	c	84.3	(0.5)	12.8	(0.4)	2.9	(0.2)
Trento	29.4	(0.7)	65.7	(0.7)	4.8	(0.3)	90.1	(0.4)	6.7	(0.3)	3.2	(0.3)	82.5	(0.5)	12.5	(0.4)	5.0	(0.3)
Spain																		
Andalusia	100.0	c	0.0	c	0.0	c	98.0	(2.0)	2.0	(2.0)	0.0	c	70.0	(6.5)	30.0	(6.5)	0.0	c
Aragon	98.5	(1.9)	1.5	(1.9)	0.0	c	100.0	c	0.0	c	0.0	c	93.0	(3.8)	7.0	(3.8)	0.0	c
Asturias	94.1	(2.7)	5.9	(2.7)	0.0	c	98.6	(1.4)	1.4	(1.4)	0.0	c	78.2	(5.7)	21.8	(5.7)	0.0	c
Balearic Islands	93.2	(4.2) †	4.0	(3.0) †	2.8	(2.9) †	93.3	(4.1) †	1.4	(1.4) †	5.3	(3.9) †	75.4	(7.0) †	21.8	(6.3) †	2.8	(2.9) †
Basque Country	87.1	(3.5)	12.9	(3.5)	0.0	c	94.1	(2.3)	4.9	(2.1)	1.0	(1.0)	77.4	(4.7)	22.6	(4.7)	0.0	c
Canary Islands	97.4	(2.4)	2.6	(2.4)	0.0	c	100.0	(0.0)	0.0	c	0.0	c	62.1	(7.2)	37.9	(7.2)	0.0	c
Cantabria	100.0	c	0.0	c	0.0	c	94.6	(3.2)	5.4	(3.2)	0.0	c	70.8	(5.1)	29.2	(5.1)	0.0	c
Castile and Leon	100.0	c	0.0	c	0.0	c	100.0	c	0.0	c	0.0	c	84.6	(3.9)	15.4	(3.9)	0.0	c
Castile-La Mancha	100.0	c	0.0	c	0.0	c	100.0	c	0.0	c	0.0	c	86.3	(4.3)	13.7	(4.3)	0.0	c
Catalonia	92.5	(4.4)	7.5	(4.4)	0.0	c	100.0	c	0.0	c	0.0	c	70.4	(7.2)	29.6	(7.2)	0.0	c
Ceuta	100.0	c	0.0	c	0.0	c	86.5	(1.7)	13.5	(1.7)	0.0	c	60.6	(1.9)	39.4	(1.9)	0.0	c
Comunidad Valenciana	97.5	(2.3)	2.5	(2.3)	0.0	c	98.1	(2.0)	1.9	(2.0)	0.0	c	84.5	(4.8)	10.6	(4.7)	4.9	(3.3)
Extremadura	96.5	(2.5)	3.5	(2.5)	0.0	c	100.0	c	0.0	c	0.0	c	91.7	(4.0)	8.3	(4.0)	0.0	c
Galicia	96.6	(2.4)	3.4	(2.4)	0.0	c	96.2	(2.7)	3.8	(2.7)	0.0	c	84.0	(5.5)	12.5	(4.9)	3.4	(2.5)
La Rioja	100.0	c	0.0	c	0.0	c	100.0	c	0.0	c	0.0	c	72.3	(0.4)	27.7	(0.4)	0.0	c
Madrid	100.0	c	0.0	c	0.0	c	96.2	(2.7)	3.8	(2.7)	0.0	c	68.0	(5.6)	30.6	(5.4)	1.4	(1.4)
Melilla	100.0	c	0.0	c	0.0	c	100.0	c	0.0	c	0.0	c	63.1	(1.9)	36.9	(1.9)	0.0	c
Murcia	96.0	(2.8)	4.0	(2.8)	0.0	c	97.5	(1.8)	1.5	(1.6)	1.0	(0.8)	64.5	(6.4)	29.0	(5.9)	6.5	(3.8)
Navarre	96.0	(2.8)	4.0	(2.8)	0.0	c	98.1	(2.0)	1.9	(2.0)	0.0	c	86.0	(3.8)	14.0	(3.8)	0.0	c
United Kingdom																		
*England**	98.7	(0.9)	0.6	(0.6)	0.6	(0.6)	98.4	(1.2)	1.0	(1.0)	0.6	(0.6)	70.5	(4.0)	26.7	(3.9)	2.8	(1.6)
*Northern Ireland**	96.2	(2.3)	0.0	c	3.8	(2.3)	94.5	(2.6)	5.5	(2.6)	0.0	c	91.0	(3.3)	7.0	(3.0)	2.0	(1.7)
*Scotland**	99.1	(1.0)	0.9	(1.0)	0.0	c	97.0	(2.3)	3.0	(2.3)	0.0	c	89.2	(3.3)	10.8	(3.3)	0.0	c
*Wales**	96.1	(2.1) †	1.0	(1.0) †	2.9	(1.9) †	98.6	(1.2) †	0.0	c †	1.4	(1.2) †	59.5	(6.2) †	38.0	(6.1) †	2.5	(1.8) †

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).

Notes: PISA adjudicated region is shown in bold.

Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.

See Table II.B1.6.31 for national data.

Table II.B2.39. Reasons for transferring students to another school [2/4]

Results based on principals' reports

	Percentage of students in schools where students are transferred to another school for the following reasons:																	
	Low academic achievement						High academic achievement						Behavioural problems					
	Not likely		Likely		Very likely		Not likely		Likely		Very likely		Not likely		Likely		Very likely	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners																		
Brazil																		
North	88.2	(3.8) †	11.8	(3.8) †	0.0	c †	92.3	(3.7) †	4.5	(3.5) †	3.2	(2.9) †	53.8	(8.5) †	42.1	(9.1) †	4.1	(4.2) †
Northeast	90.1	(2.5)	7.5	(2.4)	2.4	(0.7)	89.2	(3.1)	8.0	(2.6)	2.9	(1.9)	53.6	(4.7)	43.1	(4.4)	3.4	(1.8)
South	91.8	(3.1)	8.2	(3.1)	0.0	c	93.5	(3.2)	6.5	(3.2)	0.0	c	73.8	(5.2)	25.2	(5.4)	1.0	(1.1)
Southeast	84.2	(2.5)	14.1	(2.3)	1.7	(1.0)	89.8	(2.4)	9.7	(2.3)	0.5	(0.5)	57.2	(3.8)	38.7	(3.8)	4.2	(1.2)
Middle-West	90.9	(4.5)	5.0	(2.2)	4.1	(4.0)	95.3	(3.3)	4.7	(3.3)	0.0	c	36.2	(8.6)	50.8	(9.0)	12.9	(5.6)
Kazakhstan																		
Akmola region	70.5	(8.8)	28.6	(8.8)	0.9	(0.1)	68.4	(8.1)	28.2	(8.8)	3.4	(3.5)	54.2	(9.2)	34.3	(8.5)	11.5	(5.5)
Aktobe region	91.6	(5.2)	8.4	(5.2)	0.0	c	77.5	(8.3)	21.3	(8.3)	1.1	(0.1)	92.4	(5.4)	7.6	(5.4)	0.0	c
Almaty	56.7	(8.8)	35.1	(7.1)	8.2	(5.3)	61.5	(11.7)	26.9	(10.1)	11.6	(6.4)	61.4	(8.3)	31.0	(8.2)	7.5	(0.4)
Almaty region	78.0	(7.6)	21.7	(7.6)	0.3	(0.0)	55.7	(8.1)	40.3	(7.1)	4.0	(4.0)	67.2	(8.8)	26.3	(8.9)	6.5	(3.7)
Astana	67.4	(9.4)	24.7	(7.7)	7.9	(5.5)	60.6	(8.9)	35.4	(8.3)	4.0	(3.9)	62.0	(10.4)	26.1	(9.7)	11.9	(3.9)
Atyrau region	61.4	(9.8)	30.3	(8.9)	8.4	(4.3)	61.2	(7.6)	31.6	(8.6)	7.3	(6.3)	47.7	(6.3)	52.3	(6.3)	0.0	c
East-Kazakhstan region	69.0	(9.7)	29.6	(9.7)	1.4	(0.1)	82.4	(6.6)	17.6	(6.6)	0.0	c	52.5	(9.7)	43.3	(9.1)	4.2	(3.5)
Karagandy region	74.1	(8.1)	25.9	(8.1)	0.0	c	61.5	(9.5)	35.9	(9.9)	2.6	(2.7)	68.7	(8.5)	31.3	(8.5)	0.0	c
Kostanay region	82.8	(7.0)	8.6	(5.0)	8.6	(5.0)	77.9	(8.1)	22.1	(8.1)	0.0	c	74.7	(8.9)	18.9	(7.8)	6.4	(4.5)
Kyzyl-Orda region	72.3	(9.7)	27.7	(9.7)	0.0	c	65.1	(7.0)	33.1	(7.5)	1.8	(1.8)	62.4	(9.1)	34.1	(9.8)	3.5	(3.5)
North-Kazakhstan region	72.8	(7.2)	19.8	(6.0)	7.4	(4.0)	63.5	(5.8)	33.7	(6.0)	2.9	(2.0)	60.7	(6.5)	36.1	(6.9)	3.2	(2.6)
Pavlodar region	71.4	(7.9)	26.9	(7.6)	1.7	(1.8)	65.0	(6.6)	26.1	(6.7)	8.9	(5.2)	62.1	(10.2)	37.9	(10.2)	0.0	c
Shymkent	77.3	(9.6)	22.0	(9.6)	0.7	(0.0)	62.1	(7.6)	37.9	(7.6)	0.0	c	73.5	(8.9)	20.9	(7.5)	5.6	(4.5)
Turkestan region	76.0	(6.1)	24.0	(6.1)	0.0	c	53.1	(9.7)	42.5	(10.6)	4.4	(4.4)	58.6	(7.4)	38.9	(7.5)	2.5	(2.5)
West-Kazakhstan region	69.9	(5.7)	30.1	(5.7)	0.0	c	55.8	(10.3)	37.5	(9.5)	6.8	(4.4)	68.1	(7.7)	31.9	(7.7)	0.0	c
Zhambyl region	68.0	(9.5)	28.3	(9.0)	3.7	(3.6)	68.6	(8.2)	27.3	(8.7)	4.1	(4.0)	67.6	(10.0)	29.1	(9.3)	3.2	(3.3)
Mongolia																		
Central	53.6	(4.0)	41.4	(4.2)	5.1	(1.9)	43.7	(4.0)	48.0	(3.9)	8.3	(2.3)	43.7	(4.2)	51.8	(4.2)	4.5	(2.0)
Khangai	69.9	(8.0)	30.1	(8.0)	0.0	c	27.2	(6.7)	65.0	(6.1)	7.8	(5.6)	48.9	(7.6)	46.0	(8.3)	5.0	(3.6)
Western	68.8	(9.2)	31.2	(9.2)	0.0	c	47.7	(10.2)	41.4	(9.5)	10.9	(2.2)	77.1	(9.2)	20.3	(8.9)	2.5	(2.5)
Viet Nam																		
Central	39.7	(6.6)	54.9	(6.5)	5.5	(3.9)	50.6	(7.5)	45.1	(8.0)	4.3	(3.1)	50.7	(8.2)	46.0	(7.6)	3.4	(3.4)
Northern	45.8	(6.4)	47.2	(6.1)	6.9	(4.1)	45.1	(6.1)	47.8	(6.4)	7.1	(4.0)	46.8	(7.2)	45.7	(6.5)	7.5	(4.2)
Southern	39.7	(6.8)	56.5	(6.6)	3.7	(2.7)	37.4	(6.6)	50.0	(6.3)	12.6	(3.0)	40.6	(7.5)	59.0	(7.5)	0.4	(0.4)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Notes: PISA adjudicated region is shown in bold.
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.
See Table II.B1.6.31 for national data.

Table II.B2.39. Reasons for transferring students to another school [3/4]

Results based on principals' reports

		Percentage of students in schools where students are transferred to another school for the following reasons:											
		Special learning needs						Parents' or guardians' request					
		Not likely		Likely		Very likely		For all subjects		For some subjects		Not for any subjects	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD	**Belgium**												
	Flemish community	67.3	(3.7)	30.2	(3.8)	2.6	(1.0)	43.3	(3.9)	46.3	(4.3)	10.4	(2.8)
	French community	62.3	(5.5)	34.3	(5.5)	3.5	(2.0)	20.4	(4.9)	47.0	(5.4)	32.6	(5.3)
	German-speaking community	c	c	c	c	c	c	c	c	c	c	c	c
	Canada												
	*Alberta**	75.2	(5.6)	23.2	(5.3)	1.6	(1.7)	35.2	(6.8)	55.0	(6.7)	9.8	(4.6)
	*British Columbia**	98.0	(1.4)	1.7	(1.4)	0.3	(0.3)	42.9	(5.8)	51.2	(5.9)	6.0	(3.1)
	*Manitoba**	98.2	(1.1)	1.8	(1.1)	0.0	c	59.7	(3.0)	35.0	(2.7)	5.3	(1.0)
	New Brunswick	94.7	(0.3)	5.3	(0.3)	0.0	c	52.2	(1.7)	43.9	(1.7)	3.9	(0.3)
	*Newfoundland and Labrador**	99.4	(0.6)	0.6	(0.6)	0.0	c	68.2	(3.5)	30.0	(3.5)	1.9	(0.2)
	*Nova Scotia**	95.9	(1.9)	4.1	(1.9)	0.0	c	58.7	(2.1)	32.6	(2.0)	8.6	(0.5)
	*Ontario**	92.2	(1.9)	7.1	(1.8)	0.7	(0.7)	49.0	(4.2)	39.9	(4.3)	11.1	(2.9)
	Prince Edward Island	100.0	c	0.0	c	0.0	c	82.9	(2.4)	10.8	(1.1)	6.3	(2.2)
	*Quebec**	49.5	(4.8)	46.6	(4.8)	3.9	(1.9)	43.9	(4.8)	52.5	(4.8)	3.7	(1.7)
	Saskatchewan	79.9	(0.9)	18.4	(0.8)	1.7	(0.2)	39.6	(2.5)	48.6	(2.4)	11.9	(0.9)
	Colombia												
	Bogotá	89.1	(4.2)	10.9	(4.2)	0.0	c	6.3	(3.3)	53.4	(8.4)	40.3	(7.9)
	Italy												
	Bolzano	73.8	(0.6)	26.2	(0.6)	0.0	c	21.5	(0.5)	54.1	(0.6)	24.4	(0.6)
	Trento	91.9	(0.5)	8.1	(0.5)	0.0	c	14.1	(0.5)	62.7	(0.8)	23.2	(0.7)
	Spain												
	Andalusia	77.2	(6.3)	20.5	(6.0)	2.3	(2.3)	35.7	(7.4)	55.4	(7.5)	8.9	(4.6)
	Aragon	81.2	(6.4)	16.8	(6.1)	2.0	(1.9)	45.7	(8.4)	49.6	(8.5)	4.8	(2.8)
	Asturias	88.7	(4.1)	11.3	(4.1)	0.0	c	52.0	(6.0)	37.1	(5.8)	10.9	(4.0)
	Balearic Islands	73.4	(7.6) †	20.7	(6.3) †	5.9	(4.3) †	37.0	(8.5) †	49.6	(8.5) †	13.4	(6.0) †
	Basque Country	70.6	(5.0)	28.7	(5.0)	0.7	(0.8)	45.9	(5.9)	39.2	(5.0)	14.9	(4.0)
	Canary Islands	85.4	(5.4)	12.6	(5.0)	2.0	(2.1)	41.1	(7.0)	48.6	(5.9)	10.3	(4.7)
	Cantabria	76.5	(6.0)	23.5	(6.0)	0.0	c	34.4	(7.5)	43.6	(6.9)	21.9	(6.1)
	Castile and Leon	89.8	(3.2)	10.2	(3.2)	0.0	c	48.4	(6.5)	38.4	(5.9)	13.2	(5.5)
	Castile-La Mancha	92.2	(3.8)	7.8	(3.8)	0.0	c	50.4	(6.1)	38.7	(6.7)	10.9	(4.5)
	Catalonia	76.1	(5.1)	23.9	(5.1)	0.0	c	41.2	(7.7)	54.7	(7.0)	4.2	(3.0)
	Ceuta	100.0	c	0.0	c	0.0	c	73.1	(1.7)	26.9	(1.7)	0.0	c
	Comunidad Valenciana	93.7	(3.8)	6.3	(3.8)	0.0	c	54.4	(6.9)	38.5	(7.3)	7.1	(4.1)
	Extremadura	83.1	(6.0)	14.9	(5.6)	1.9	(2.0)	45.5	(7.2)	48.6	(7.9)	5.9	(3.4)
	Galicia	91.9	(3.9)	8.1	(3.9)	0.0	c	49.0	(6.6)	39.2	(6.6)	11.7	(4.8)
	La Rioja	77.6	(0.4)	17.6	(0.4)	4.7	(0.3)	59.7	(0.5)	33.0	(0.4)	7.3	(0.3)
	Madrid	82.7	(4.4)	13.4	(4.9)	3.8	(2.7)	38.2	(5.1)	46.7	(5.9)	15.1	(4.4)
	Melilla	79.7	(1.3)	20.3	(1.3)	0.0	c	43.8	(2.1)	51.7	(2.1)	4.5	(0.4)
	Murcia	89.8	(4.6)	10.2	(4.6)	0.0	c	39.7	(7.6)	46.7	(7.2)	13.6	(5.3)
	Navarre	62.7	(6.5)	34.6	(6.5)	2.7	(0.2)	44.8	(5.9)	52.8	(5.5)	2.4	(2.2)
	United Kingdom												
	*England**	91.0	(2.3)	6.9	(2.2)	2.1	(1.2)	59.9	(3.8)	36.9	(3.8)	3.1	(1.2)
	*Northern Ireland**	91.5	(3.2)	6.6	(3.0)	2.0	(1.7)	80.3	(4.4)	19.7	(4.4)	0.0	c
	*Scotland**	95.0	(2.3)	5.0	(2.3)	0.0	c	56.5	(5.1)	34.3	(4.9)	9.2	(3.0)
	*Wales**	92.5	(3.2) †	4.6	(2.7) †	2.9	(1.9) †	63.7	(6.4) †	31.7	(6.3) †	4.6	(2.5) †

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Notes: PISA adjudicated region is shown in bold.
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.
See Table II.B1.6.31 for national data.

Table II.B2.39. Reasons for transferring students to another school [4/4]

Results based on principals' reports

		Percentage of students in schools where students are transferred to another school for the following reasons:											
		Special learning needs						Parents' or guardians' request					
		Not likely		Likely		Very likely		For all subjects		For some subjects		Not for any subjects	
		%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
Partners	**Brazil**												
	North	90.1	(4.5) †	6.7	(4.2) †	3.2	(2.9) †	9.3	(4.7) †	28.2	(7.2) †	62.5	(7.6) †
	Northeast	79.7	(4.4)	17.9	(4.1)	2.4	(1.5)	9.2	(2.0)	42.5	(5.0)	48.3	(5.1)
	South	86.6	(4.1)	10.5	(3.6)	2.9	(2.1)	9.7	(2.3)	41.4	(5.3)	48.9	(5.5)
	Southeast	79.9	(3.1)	18.2	(2.9)	1.9	(1.2)	7.6	(1.6)	47.6	(3.7)	44.7	(3.6)
	Middle-West	83.6	(7.0)	14.8	(7.0)	1.6	(1.2)	3.9	(3.3)	34.0	(7.1)	62.1	(7.5)
	Kazakhstan												
	Akmola region	52.0	(9.1)	35.1	(9.0)	12.9	(6.4)	10.0	(5.1)	57.9	(10.0)	32.1	(8.6)
	Aktobe region	56.9	(8.1)	36.3	(8.8)	6.8	(4.7)	13.8	(4.3)	51.4	(9.5)	34.8	(8.2)
	Almaty	43.4	(11.0)	41.4	(11.9)	15.2	(7.2)	0.0	c	69.0	(9.1)	31.0	(9.1)
	Almaty region	41.5	(9.9)	54.7	(9.1)	3.8	(3.8)	5.8	(4.3)	72.5	(8.7)	21.6	(7.6)
	Astana	58.6	(9.9)	41.4	(9.9)	0.0	c	0.0	c	49.5	(6.5)	50.5	(6.5)
	Atyrau region	47.0	(6.9)	53.0	(6.9)	0.0	c	6.7	(4.8)	47.0	(10.7)	46.3	(9.6)
	East-Kazakhstan region	54.7	(9.5)	38.3	(8.1)	7.0	(5.0)	1.6	(0.9)	58.4	(8.8)	40.0	(8.7)
	Karagandy region	62.5	(11.1)	37.5	(11.1)	0.0	c	3.7	(2.9)	50.4	(6.8)	46.0	(7.5)
	Kostanay region	61.4	(10.3)	38.1	(10.3)	0.5	(0.5)	2.6	(2.6)	47.9	(7.7)	49.5	(8.0)
	Kyzyl-Orda region	57.9	(10.4)	39.6	(10.2)	2.5	(2.5)	1.0	(0.0)	47.3	(9.8)	51.8	(9.8)
	North-Kazakhstan region	60.5	(8.1)	33.0	(7.6)	6.6	(3.4)	4.6	(3.4)	61.6	(5.3)	33.8	(6.2)
	Pavlodar region	65.0	(8.3)	35.0	(8.3)	0.0	c	11.2	(5.5)	71.9	(5.9)	16.9	(5.8)
	Shymkent	45.2	(10.0)	54.8	(10.0)	0.0	c	0.7	(0.7)	65.1	(10.0)	34.2	(9.9)
	Turkestan region	45.0	(10.6)	48.8	(9.9)	6.2	(4.8)	5.3	(3.7)	63.1	(9.2)	31.6	(8.8)
	West-Kazakhstan region	60.3	(7.4)	36.1	(8.1)	3.6	(3.6)	8.3	(4.9)	53.8	(8.5)	37.8	(8.2)
	Zhambyl region	51.3	(9.5)	48.7	(9.5)	0.0	c	10.8	(6.3)	65.4	(6.9)	23.8	(6.5)
	Mongolia												
	Central	34.7	(4.1)	56.2	(4.6)	9.1	(2.9)	11.0	(3.0)	53.6	(4.2)	35.4	(3.5)
	Khangai	33.1	(8.9)	61.3	(7.5)	5.6	(3.4)	11.3	(5.3)	74.8	(7.2)	14.0	(7.0)
	Western	51.4	(9.9)	45.8	(10.5)	2.8	(2.0)	5.5	(5.0)	87.9	(6.3)	6.6	(3.8)
	Viet Nam												
	Central	49.0	(8.9)	47.7	(9.0)	3.2	(4.0)	0.0	c	50.4	(8.4)	49.6	(8.4)
	Northern	35.7	(6.2)	49.5	(6.9)	14.9	(5.5)	0.0	c	41.9	(5.9)	58.1	(5.9)
	Southern	41.9	(7.2)	46.3	(7.3)	11.8	(3.5)	0.0	c	53.1	(6.6)	46.9	(6.6)

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader's Guide, Annexes A2 and A4).
Notes: PISA adjudicated region is shown in bold.
Information regarding the proportion of the sample covered is shown next to the standard error. No symbol means at least 75% of the population was covered; one dagger (†) means at least 50% but less than 75%; and one double-dagger (‡) means less than 50% was covered. For comparisons across cycles, the coverage information corresponds to the cycle with the lowest sample coverage.
See Table II.B1.6.31 for national data.

Table I.B2.44. Results for regions within countries

	Table II.B2.1	Students' sense of belonging at school
WEB	Table II.B2.2	Students' life satisfaction
WEB	Table II.B2.3	Students' enrolment at their school
WEB	Table II.B2.4	Duration and type of school closure
	Table II.B2.5	Confidence in capacity for self-directed learning
WEB	Table II.B2.6	Experience with learning at home
WEB	Table II.B2.7	Problems with self-directed learning
WEB	Table II.B2.8	School actions and activities to sustain learning

WEB	Table II.B2.9	Teacher support in mathematics
WEB	Table II.B2.10	Disciplinary climate in mathematics lessons
WEB	Table II.B2.11	Students' exposure to bullying
WEB	Table II.B2.12	Students' feeling safe at school
	Table II.B2.13	School safety risks
WEB	Table II.B2.14	Student truancy
WEB	Table II.B2.15	Student long-term truancy from primary to upper secondary
WEB	Table II.B2.16	Reasons for long-term absence
WEB	Table II.B2.17	Family support
WEB	Table II.B2.18	Parental involvement
WEB	Table II.B2.19	Attendance at pre-primary school
WEB	Table II.B2.20	Student grade level
	Table II.B2.21	Grade repetition
WEB	Table II.B2.22	Programme orientation, by education level
WEB	Table II.B2.23	Ability grouping
	Table II.B2.24	Shortage of educational staff
WEB	Table II.B2.25	Certified teachers
WEB	Table II.B2.26	Learning time per week in regular school lessons
WEB	Table II.B2.27	Schools providing study help
WEB	Table II.B2.28	Time spent per day on digital resources, by purpose
WEB	Table II.B2.29	Student behaviour when using digital devices
WEB	Table II.B2.30	Shortage of educational material
WEB	Table II.B2.31	School policies on the use of digital devices
WEB	Table II.B2.32	Students' views on using digital devices in class
WEB	Table II.B2.33	Preparedness for digital learning
WEB	Table II.B2.34	Responsibilities for school governance
WEB	Table II.B2.35	Educational and instructional leadership
WEB	Table II.B2.36	School competition for students
WEB	Table II.B2.37	School type
WEB	Table II.B2.38	School admissions policies
	Table II.B2.39	Reasons for transferring students to another school
WEB	Table II.B2.40	Assessment practices at school
WEB	Table II.B2.41	Quality assurance and improvement actions at school
WEB	Table II.B2.42	Using achievement data for accountability purposes
WEB	Table II.B2.43	Monitoring teacher practice

StatLink https://stat.link/xkq9u4

Annex B3. PISA 2022 system-level indicators

System-level data that are not derived from the PISA 2022 student or school questionnaire are extracted from the OECD's annual publication Education at a Glance for those countries and economies that participate in that periodic data collection. For other countries and economies, a special system-level data collection was conducted in collaboration with PISA Governing Board members and National Project Managers.

For further information see: System-level data collection for PISA 2022: Sources, comments and technical notes at https://webfs.oecd.org/pisa2022/PISA2022IR_AnnexB3_TechnicalDocument_v2.docx.

The following tables are available on line. Please click on the StatLink below to access them.

Table II.B3.1. PISA 2022 system-level data collection

Table	Title	Topic
Table B3.1.1	Structure of compulsory education, theoretical age and theoretical duration of each cycle of education (2022)	Information on education system applied to the PISA 2022 participating students
Table B3.1.2	Theoretical age and theoretical duration of each cycle of education (2022)	
Table B3.1.3	Date of the first school day in public institutions on the school year of PISA 2022 administration (2021 or 2022)	
Table B3.1.4	Age of stratification and educational tracks (2022)	
Table B3.1.5	List of educational tracks (2022)	
Table B3.2.1	Gross domestic product (GDP) per capita (2021)	GDP per capita and total education expenditure
Table B3.2.2	Total education expenditure on educational institutions per student (2019)	
Table B3.3.1	Tracking students' absence during the pandemic in lower secondary education (2020 to 2022)	Impact of COVID-19 on education system in lower secondary education
Table B3.3.2	Policies to bring in digitalisation into education in lower secondary education (2022)	
Table B3.3.3	Assessment of impact of COVID-19 crisis on lower secondary education (2021 to 2022)	
Table B3.3.4	Changes in education policies/regulations to mitigate the impact of learning loss/disruption and student well-being in lower secondary education (2021 and 2022)	
Table B3.4.1	Regulations regarding grade repetition in primary education (2022)	Regulations on grade repetition
Table B3.4.2	Regulations regarding grade repetition in lower secondary general programmes (2022)	
Table B3.4.3	Regulations regarding grade repetition in lower secondary vocational programmes (2022)	
Table B3.5.1	Regulations regarding teacher allocation in socio-economically disadvantage public schools at lower secondary level (2022)	Regulations regarding teacher allocation in socio-economically disadvantaged public schools
Table B3.5.2	Regulations regarding teacher allocation in socio-economically disadvantage public schools at upper secondary level (2022)	
Table B3.6.1	Regulations regarding home-schooling in compulsory secondary general programmes (2022)	Regulations on home-schooling

StatLink https://stat.link/q39f6p

Annex C. The development and implementation of PISA: A collaborative effort

PISA is a collaborative effort, bringing together experts from the participating countries, steered jointly by their governments based on shared, policy-driven interests.

A PISA Governing Board, on which each country is represented, determines the policy priorities for PISA, in the context of OECD objectives, and oversees adherence to these priorities during the implementation of the programme. This includes setting priorities for the development of indicators, for establishing the assessment instruments, and for reporting the results.

Experts from participating countries also serve on working groups that are charged with linking policy objectives with the best internationally available technical expertise. By participating in these expert groups, countries ensure that the instruments are internationally valid and take into account the cultural and educational contexts in OECD member and partner countries and economies, that the assessment materials have strong measurement properties, and that the instruments place emphasise authenticity and educational validity.

Through National Project Managers, participating countries and economies implement PISA at the national level subject to the agreed administration procedures. National Project Managers play a vital role in ensuring that the implementation of the survey is of high quality, and verify and evaluate the survey results, analyses, reports and publications.

The design and implementation of the surveys, within the framework established by the PISA Governing Board, is the responsibility of external contractors. For PISA 2022, the overall management of contractors and implementation was carried out Educational Testing Service (ETS) in the United States as the Core A contractor. Tasks under Core A also included the instrument development, development of the computer platform, survey operations and meetings, scaling, analysis and data products. These tasks were implemented in cooperation from the following subcontractors: i) the University of Luxembourg for support with test development, ii) the Unité d'analyse des systèmes et des pratiques d'enseignement (aSPe) at the University of Liège in Belgium for test development and coding training for open-constructed items, iii) the International Association for Evaluation of Educational Achievement (IEA) in the Netherlands for the data management software, iv) Westat in the United States for survey operations, and v) HallStat SPRL in Belgium for translation referee.

The remaining tasks related to the implementation of PISA 2022 were implemented through three additional contractors – Cores B to DP. The development of the cognitive assessment frameworks for mathematics and creative thinking and of the framework for questionnaires was carried out by RTI in the United States as the Core B contractor. Core C focused on sampling and weighting and was the responsibility of Westat in the United States in co-operation with the Australian Council for Educational Research (ACER) for the sampling software ACER Maple. Linguistic quality control and the development of the French source version for Core D were undertaken by cApStAn, who worked in collaboration with BranTra as a subcontractor.

The OECD Secretariat has overall managerial responsibility for the programme, monitors its implementation daily, acts as the secretariat for the PISA Governing Board, builds consensus among countries and serves as the interlocutor between the PISA Governing Board and the international Consortium charged with implementing the activities. The OECD Secretariat also produces the indicators and analyses and prepares the international reports and publications in co-operation with the PISA Consortium and in close consultation with member and partner countries and economies both at the policy level (PISA Governing Board) and at the level of implementation (National Project Managers).

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