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 Ukrainian regions (18 of 27), 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 Ukraine, 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 I.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
OECD	Austria	85 760	82 619	82 619	1 595	81 024	1.93	6 151	76 153
OECD	Belgium	129 814	127 559	127 537	2 438	125 100	1.91	8 286	128 642
OECD	Canada	388 205	385 342	380 510	5 757	374 753	1.51	23 073	357 9 11
OECD	Chile	247 550	230 294	230 175	5 831	224 344	2.53	6 488	214 108
OECD	Colombia	805 258	685 807	685 807	632	685 175	0.09	7 804	586 683
OECD	Costa Rica	73 787	64 582	64 582	0	64 582	0.00	6 113	57 250
OECD	Czech Republic	109 596	102 464	102 464	1 014	101 450	0.99	8 460	100 266
OECD	Denmark	68 110	66 650	66 650	1 160	65 490	1.74	6 200	56 909
OECD	Estonia	14 210	14 097	14 097	457	13 640	3.25	6 392	13 345
OECD	Finland	61 957	62 104	62 104	1 191	60 913	1.92	10 239	58 955
OECD	France	836 624	808 703	808 703	13 612	795 091	1.68	6 770	781 286
OECD	Germany	741 506	741 494	741 494	12 164	729 330	1.64	6 116	681 399
OECD	Greece	107 294	102 085	102 085	529	101 556	0.52	6 403	98 087
OECD	Hungary	102 077	93 826	93 826	2 725	91 101	2.90	6 198	87 990
OECD	Iceland	4 623	4 602	4 602	25	4 577	0.54	3 360	4 352
OECD	Ireland	64 051	63 256	63 256	52	63 204	0.08	5 569	65 497
OECD	Israel	147 380	140 599	140 599	2 876	137 723	2.05	6 251	132 475
OECD	Italy	572 210	527 539	527 539	232	527 307	0.04	10 552	496 263
OECD	Japan	1 109 590	1 070 375	1 070 375	26 926	1 043 449	2.52	5 760	1 021 370
OECD	Korea	418 028	417 968	417 968	3 418	414 550	0.82	6 454	428 012
OECD	Latvia	19 801	19 501	19 501	994	18 507	5.10	5 373	16 833
OECD	Lithuania	26 228	26 027	26 027	802	25 225	3.08	7 257	24 251
OECD	Mexico	2 193 794	1 592 537	1 592 537	9 720	1 582 817	0.61	6 288	1 393 727
OECD	Netherlands	198 577	193 138	193 138	12 948	180 190	6.70	5 046	155 987
OECD	New Zealand	62 470	59 286	59 286	1 410	57 876	2.38	4 682	56 382
OECD	Norway	64 792	64 478	64 478	974	63 504	1.51	6 6 11	58 970
OECD	Poland	382 777	359 547	359 547	13 321	346 226	3.70	6 0 11	341 562
OECD	Portugal	104 433	102 916	102 916	1 038	101 878	1.01	6 793	96 607
OECD	Slovak Republic	49 662	48 584	48 584	476	48 108	0.98	5 824	47 453
OECD	Slovenia	18 932	19 728	19 728	434	19 294	2.20	6 721	18 850
OECD	Spain	507 740	487 620	487 620	2 432	485 188	0.50	30 800	459 029
OECD	Sweden	121 723	121 197	121 197	1 450	119 747	1.20	6 072	108 499
OECD	Switzerland	83 388	81 012	81 012	2 904	78 108	3.58	6 829	75 696
OECD	Türkiye	1 266 433	1 153 239	1 153 239	43 932	1 109 307	3.81	7 250	933 402
OECD	United Kingdom	754 547	744 428	744 428	17 491	726 937	2.35	12 972	731 225
OECD	United States	4 235 296	4 141 007	4 141 007	20 265	4 120 742	0.49	4 552	3 661 328

Table I.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 I.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 I.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 I.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 I.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 I.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	
OECD	Austria	88 013	82 683	73 379	0.83		93 537	89 073	82 242	0.88	
OECD	Belgium	123 630	121 954	114 902	0.93		123 469	121 493	117 912	0.95	
OECD	Canada	396 966	381 660	331 546	0.84		417 873	409 453	348 070	0.83	
OECD	Chile	256 772	245 947	203 782	0.79	Yes	270 812	252 733	229 199	0.85	Yes
OECD	Colombia	760 919	674 079	567 848	0.75		889 729	620 422	560 805	0.63	
OECD	Costa Rica	81 773	66 524	51 897	0.63		81 489	64 326	40 384	0.50	
OECD	Czech Republic	90 391	90 076	84 519	0.94		96 946	93 214	82 101	0.85	
OECD	Denmark	68 174	67 466	60 655	0.89		72 310	70 854	65 642	0.91	
OECD	Estonia	11 676	11 491	10 834	0.93		12 649	12 438	11 634	0.92	
OECD	Finland	58 526	58 955	56 934	0.97		62 523	62 195	60 047	0.96	
OECD	France	807 867	778 679	734 944	0.91		792 983	755 447	701 399	0.88	
OECD	Germany	774 149	774 149	743 969	0.96		798 136	798 136	756 907	0.95	
OECD	Greece	105 530	105 253	96 157	0.91		110 521	105 096	96 640	0.87	
OECD	Hungary	94 515	90 065	84 644	0.90		111 761	108 816	91 179	0.82	
OECD	Iceland	4 254	4 195	3 966	0.93	Yes	4 500	4 491	4 169	0.93	Yes
OECD	Ireland	62 066	59 811	59 082	0.95	Yes	58 668	57 979	54 010	0.92	Yes
OECD	Israel	124 852	118 997	117 031	0.94		118 953	113 278	107 745	0.91	
OECD	Italy	616 761	567 268	495 093	0.80		605 490	566 973	521 288	0.86	
OECD	Japan	1 201 615	1 175 907	1 138 349	0.95		1 241 786	1 214 756	1 128 179	0.91	
OECD	Korea	620 687	619 950	569 106	0.92		687 104	672 101	603 632	0.88	
OECD	Latvia	17 255	16 955	15 320	0.89		18 789	18 389	16 054	0.85	
OECD	Lithuania	33 163	32 097	29 915	0.90		38 524	35 567	33 042	0.86	
OECD	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
OECD	Netherlands	203 234	200 976	191 817	0.94		194 000	193 190	196 262	1.01	
OECD	New Zealand	60 162	57 448	54 274	0.90		60 940	59 118	53 414	0.88	
OECD	Norway	63 642	63 491	58 083	0.91		64 917	64 777	59 432	0.92	
OECD	Poland	380 366	361 600	345 709	0.91		425 597	410 700	379 275	0.89	
OECD	Portugal	110 939	101 107	97 214	0.88		108 728	127 537	96 034	0.88	
OECD	Slovak Republic	55 674	55 203	49 654	0.89		59 723	59 367	54 486	0.91	
OECD	Slovenia	18 078	17 689	16 773	0.93		19 471	18 935	18 303	0.94	
OECD	Spain	440 337	414 276	399 935	0.91	Yes	422 658	404 374	374 266	0.89	Yes
OECD	Sweden	97 749	97 210	91 491	0.94		102 087	102 027	94 988	0.93	
OECD	Switzerland	85 495	83 655	82 223	0.96		87 200	85 239	79 679	0.91	
OECD	Türkiye	1 324 089	1 100 074	925 366	0.70		1 266 638	965 736	866 681	0.68	
OECD	United Kingdom	747 593	746 328	627 703	0.84		738 066	745 581	688 236	0.93	
OECD	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 I.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 I.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 6 11	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 6 11	481 521	0.86
	Japan	1 2 11 642	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 I.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 I.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 I.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 I.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
OECD	Austria	89	758	346	0	0	60	1 253
OECD	Belgium	107	379	177	0	0	0	663
OECD	Canada	759	5 982	1 757	0	0	7 891	16 390
OECD	Chile	0	676	62	0	0	0	738
OECD	Colombia	93	2 481	78	0	0	231	2 882
OECD	Costa Rica	0	7	0	0	20	8	35
OECD	Czech Republic	46	599	307	0	0	54	1 005
OECD	Denmark	91	2 399	449	0	3 371	0	6 311
OECD	Estonia	4	251	27	0	0	91	373
OECD	Finland	29	608	103	11	50	32	832
OECD	France	2 446	10 836	3 088	132	0	0	16 501
OECD	Germany	248	3 131	2 556	0	0	0	5 935
OECD	Greece	192	456	242	0	0	41	932
OECD	Hungary	75	632	193	0	738	0	1 639
OECD	Iceland	11	90	61	14	19	0	195
OECD	Ireland	193	1 371	488	0	357	0	2 409
OECD	Israel	233	1 466	452	0	0	203	2 354
OECD	Italy	0	0	0	0	15 467	0	15 467
OECD	Japan	0	0	0	0	0	0	0
OECD	Korea	214	1 692	928	0	0	0	2 835
OECD	Latvia	8	10	33	0	0	463	514
OECD	Lithuania	44	699	64	0	0	80	887
OECD	Mexico	579	2 634	100	0	0	7 931	11 244
OECD	Netherlands	381	2 213	278	0	0	67	2 939
OECD	New Zealand	178	1 543	310	0	0	0	2 031
OECD	Norway	134	2 789	692	0	0	45	3 659
OECD	Poland	516	2 110	1 245	0	0	0	3 872
OECD	Portugal	87	2 405	440	0	0	95	3 028
OECD	Slovak Republic	67	616	10	0	0	36	729
OECD	Slovenia	25	52	20	0	0	27	125
OECD	Spain	476	11 697	4 047	203	0	413	16 836
OECD	Sweden	0	0	0	0	7 251	0	7 251
OECD	Switzerland	57	1 038	665	0	0	0	1 760
OECD	Türkiye	392	6 679	10 322	0	0	0	17 393
OECD	United Kingdom	2 163	12 290	2 799	0	0	2 520	19 772
OECD	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 I.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 I.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 I.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 I.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 I.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 A2.8. The PISA target population, the PISA samples, and the definition of schools annex tables

	Table I.A2.1	PISA target populations and samples, 2022
	Table I.A2.2	Change in the enrolment of 15-year-olds in grade 7 and above (PISA 2003 through PISA 2022)
	Table I.A2.3	PISA target populations and samples in adjudicated regions, 2022
	Table I.A2.4	Exclusions, PISA 2022
WEB	Table I.A2.5	Exclusions in adjudicated regions, PISA 2022
	Table I.A2.6	Response rates, PISA 2022
WEB	Table I.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]