PISA 2022 Results

UNESCO GAML

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PISA 2022

An introduction
Two volumes were released on 5 December 2023

*The first results of OECD’s PISA 2022*

**PISA 2022 Results**
*The State of Learning and Equity in Education*

*Volume I*

**PISA 2022 Results**
*Learning During – and From – Disruption*

*Volume II*
What is PISA?

Programme for International Student Assessment

assesses 15-year-old students’ abilities and knowledge in mathematics, reading and science
Programme for International Student Assessment

assesses 15-year-old students’ abilities and knowledge in mathematics, reading and science
Around 690,000 15-year-old students in 81 countries and economies took PISA 2022

PISA Newcomers: El Salvador, Jamaica, Mongolia, the Palestinian Authority and Uzbekistan
PISA 2022 international results
The state of global education
Trends across OECD countries

Performance in all three subjects declined since PISA began

Between 2018 and 2022
- 15 points decline in mathematics
- 10 points decline in reading
- No significant decline in science
Trends across OECD countries

Performance in all three subjects **declined** since PISA began

Between 2018 and 2022
- 15 points decline in mathematics
- 10 points decline in reading
- No significant decline in science
Recent performance changes in the context of pre-2018 performance trends

**Mathematics**

Score-point difference

- Pre 2018 4-year trend
- Change between 2018 and 2022
### Snapshot of PISA 2022 results

#### Mathematics

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SDG Target 4.1: Students’ proficiency in mathematics

Figure I.3.1

Students at Level 2 or above

Students below Level 2
TRIANGULAR PATTERN

Alex drew the following pattern of red and blue triangles.
The first four rows of the pattern are shown below.

If Alex were to extend the pattern to a fifth row, what would be the percentage of blue triangles in all five rows of the pattern?

- 40.0%
- 50.0%
- 60.0%
- 66.7%
SDG Target 4.1: Students’ proficiency in reading

Figure I.3.4

Students at Level 2 or above

Students below Level 2
PISA 2022 international results

Beyond mathematics, reading and science
Criteria used to identify resilient education systems

**Performance**
Mathematics scores

**Equity**
Link between students’ performance and socio-economic status

**Well-being**
Students’ sense of belonging at school
10 systems achieving greater equity

Figure I.4.2

- Socio-economic fairness is below the OECD average
- Socio-economic fairness is not statistically significantly different from the OECD average
- Socio-economic fairness is above the OECD average

Mean score in mathematics

Above-average in mathematics performance and socio-economic fairness

Below-average in mathematics performance and socio-economic fairness

OECD: 472 points

Socio-economic fairness is below the OECD average
Socio-economic fairness is not statistically significantly different from the OECD average
Socio-economic fairness is above the OECD average

Percentage of variation in performance accounted for by socio-economic status

Greater socio-economic fairness
Advantaged and disadvantaged students’ performance equally went down

Mathematics score

Figure I.5.5

Disadvantaged students in 2018
Disadvantaged students in 2022
Advantaged students in 2018
Advantaged students in 2022
Life satisfaction is closely linked to satisfaction with school life

Average of countries/economies with available data

Change in life satisfaction when students reported that they are satisfied or totally satisfied with the following:

- Their relationship with their parents/guardians
- Their life at school
- Their health
- All the things [they] have
- The way they look
- The friends they have
- How they use their time
- The neighbourhood they live in
- Their relationship with their teachers
- What they learn at school

Point change on the life-satisfaction scale
Index of sense of belonging at school

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<td>Vietnam (Southern)</td>
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<td>Vietnam (Central)</td>
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<tr>
<td>Vietnam (Central Highlands)</td>
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</tr>
</tbody>
</table>

Mean index

Greater sense of belonging at school between 2018 and 2022

Table II.b1.1.5
Resilient education systems

Figure II.1.1

Resilience in EQUITY
- Hong Kong (China)*
- United Kingdom *
- United States *

Resilience in PERFORMANCE
- Singapore
- Japan, Korea, Lithuania, Chinese Taipei
- Australia *

Resilience in WELL-BEING
- Austria, Croatia, Finland, France, Georgia, Germany, Hungary, Iceland, Montenegro, Portugal, Romania, Saudi Arabia, Serbia, Slovenia, Sweden
Characteristics of resilient education systems

- Learning during school closures
- School life and home support
- Students’ pathways through school
- Material and educational resources
- School governance

Performance
Equity
Well-being
Ten actions related to resilience

- Learning during school closures
  - Keep schools open longer for more students
  - Prepare students for self-directed learning

- School life and home support
  - Build strong foundations for learning and well-being
  - Strengthen school-family partnerships

- Students’ pathways through school
  - Delay institutional stratification
  - Provide additional support to struggling students

- Material and educational resources
  - Limit digital distractions
  - Align staff and materials with needs

- School governance
  - Make schools hubs for social interaction
  - Combine school autonomy with quality assurance
Ten actions related to resilience

Learning during school closures
- Keep schools open longer for more students
- Prepare students for self-directed learning

School life and home support
- Build strong foundations for learning and well-being
- Strengthen school-family partnerships

Students’ pathways through school
- Delay institutional stratification
- Provide additional support to struggling students

Material and educational resources
- Limit digital distractions
- Align staff and materials with needs

School governance
- Make schools hubs for social interaction
- Combine school autonomy with quality assurance
PISA 2022 international results

Learning during school closures
High performers kept schools open longer for more students

Percentage of students who reported their school building was closed for three months or less because of COVID-19

OECD average

Mean score in mathematics

R² = 0.11
Systems with improved sense of belonging kept schools open longer for more students

Figure II.2.3

- Stronger sense of belonging in 2022 than 2018
- Weaker sense of belonging in 2022 than 2018

Percentage of students who reported their school building was closed for three months or less because of COVID-19

OECD average

Statistically significant change between 2018 and 2022 in sense of belonging
No statistically significant change between 2018 and 2022 in sense of belonging
Less problems with remote learning, better sense of belonging and higher performance

**Sense of belonging**
- Finding someone who could help them with their school work
- Motivating themselves to do school work
- Access to a digital device when they needed it
- Access to school supplies

**Mathematics performance**
- Finding someone who could help them with their school work
- Motivating themselves to do school work
- Access to a digital device when they needed it
- Access to school supplies

Figure II.2.15

- Before accounting
- After accounting for students' and schools' socio-economic profile, and mathematics performance

Students never or only a few times faced the above problems when completing their school work.
Prepare students for autonomous learning

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

- Using a video communication program
- Motivating myself to do school work
PISA 2022 international results

Digital distractions
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

- Students get distracted by using digital devices
- Students get distracted by other students who are using digital devices

**Figure II.3.4**
Over a half of students feeling nervous/anxious when digital devices are not near

Based on students' reports
Time spent on digital devices at school and mathematics performance

Based on students' reports; OECD average

Figure II.5.14

<table>
<thead>
<tr>
<th>Time spent on digital devices at school per day</th>
<th>Mean score in mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Learning: None, Leisure: None</td>
</tr>
<tr>
<td>Up to 1 hour</td>
<td>Learning: Up to 1 hour, Leisure: Up to 1 hour</td>
</tr>
<tr>
<td>More than 1 hour and up to 2 hours</td>
<td>Learning: More than 1 hour and up to 2 hours, Leisure: More than 1 hour and up to 2 hours</td>
</tr>
<tr>
<td>More than 2 hours and up to 3 hours</td>
<td>Learning: More than 2 hours and up to 3 hours, Leisure: More than 2 hours and up to 3 hours</td>
</tr>
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<td>More than 3 hours and up to 5 hours</td>
<td>Learning: More than 3 hours and up to 5 hours, Leisure: More than 3 hours and up to 5 hours</td>
</tr>
<tr>
<td>More than 5 hours and up to 7 hours</td>
<td>Learning: More than 5 hours and up to 7 hours, Leisure: More than 5 hours and up to 7 hours</td>
</tr>
<tr>
<td>More than 7 hours</td>
<td>Learning: More than 7 hours, Leisure: More than 7 hours</td>
</tr>
</tbody>
</table>
School policies to limit digital distraction

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

<table>
<thead>
<tr>
<th>Frequency of use of digital devices in mathematics lessons</th>
<th>School policies for the use of digital devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>In less than half of the lessons</td>
<td>The school has written statement about the general use of digital devices on school premises</td>
</tr>
<tr>
<td>In about half of the lessons</td>
<td>The use of cell phones is not allowed on school premises</td>
</tr>
<tr>
<td>In more than half of the lessons</td>
<td>Teachers establish rules for when students may use digital devices during lessons</td>
</tr>
<tr>
<td>In every or almost every lesson</td>
<td>Teachers establish rules in collaboration with students about their use of digital resources at school or in class</td>
</tr>
</tbody>
</table>

Odds ratio

<table>
<thead>
<tr>
<th>Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.70</td>
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<td>0.80</td>
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<td>1.30</td>
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<tr>
<td>1.40</td>
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<td>1.50</td>
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</table>

Figure II.5.9
PISA 2022 international results

Teacher support
More teacher support, higher mathematics performance and less anxiety towards mathematics

- More teacher support leads to higher mathematics performance and less anxiety towards mathematics.

**Figure II.3.3**

- **Score-point difference**: Change in mathematics performance associated with a one-unit increase in the index of teacher support.
- **Difference**:
  - Lower performance
  - Higher performance
  - More
  - Less anxiety

**Countries**:
- Afghanistan
- United Arab Emirates
- Denmark
- Hong Kong (China)
- Japan
- Mexico
- Malta
- United Kingdom
- United States

**Countries with Data**: 18 of 27

**Countries without Data**: 9 of 27

**Notes**:
- Data includes 18 participating countries, 9 non-participating countries, and 18 regions (18 of 27).
- Data includes 15 OECD average countries and 12 non-OECD countries.

**Legend**:
- Change in mathematics performance associated with a one-unit increase in the index of teacher support.
- Change in mathematics anxiety associated with a one-unit increase in the index of teacher support.
Increase in teacher help, increase in mathematics performance

- Change between 2012 and 2022 is statistically significant for mathematics performance and the percentage of students
- Change between 2012 and 2022 is only statistically significant for mathematics performance
- Change between 2012 and 2022 is only statistically significant for the percentage of students
- Change between 2012 and 2022 is not statistically significant
- OECD average

Higher mathematics performance and more help provided by teacher when needed in PISA 2022 than in PISA 2012

More students in 2022 than in 2012 reported their teacher gives extra help when they need it.
Principals were more concerned about the shortage of teaching staff in 2022 than in 2018.

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

- A lack of teaching staff
- A lack of educational material

Figure II.5.3
PISA 2022 international results

Parents and families
Decline in parents-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

![Bar chart showing the decline in parents-initiated talks about students’ progress across various countries from PISA 2018 to PISA 2022.](image-url)
Less decrease in parental involvement in schools, less negative trends in mathematics performance

Figure II.3.16

Mean score-point difference

Higher mathematics performance in PISA 2022 than in PISA 2018

Lower mathematics performance and less parent-initiated discussion of students' progress in PISA 2022 than in PISA 2018

Kazakhstan

Percentage-point difference

More students in 2022 than in 2018 reported that their parents initiated discussions about their progress.
More family support, stronger sense of belonging

Students enjoy more support from their families in systems where students receive stronger support from their families.

Average sense of belonging is higher in systems where students receive stronger support from their families.

- Students enjoy more support from their families.
- More family support leads to a stronger sense of belonging at school.

R² = 0.12
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

Figure II.3.18

OECD average

%
More to come

PISA volumes to be released in 2024

1. Creative Thinking
2. Financial Literacy
3. Student readiness for life-long learning
Find out more about our work at www.oecd.org/pisa

* Caution is required when interpreting estimates because one or more PISA sampling standards were not met (see Reader’s Guide of PISA 2022 Results Volume I ).