EDUCATION & SKILLS

The future of education in support of an unknown future

Clap 2024

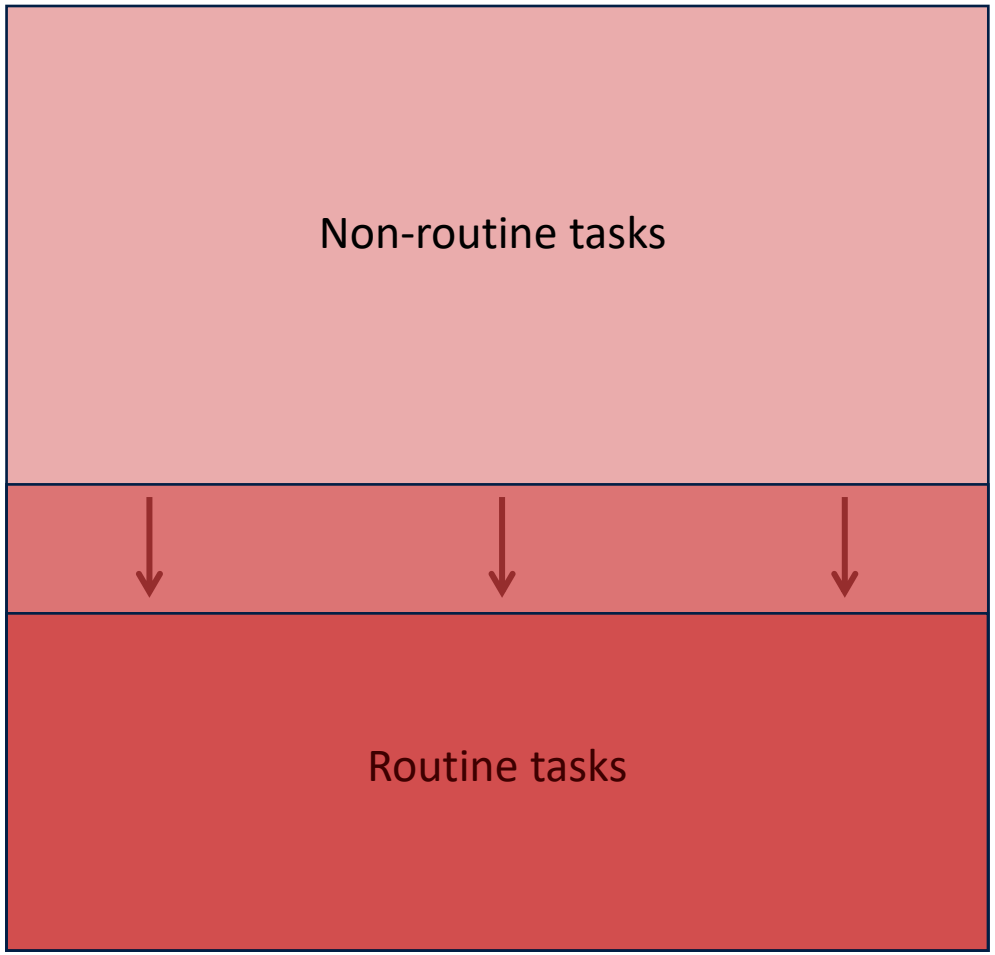
The future will always surprise us

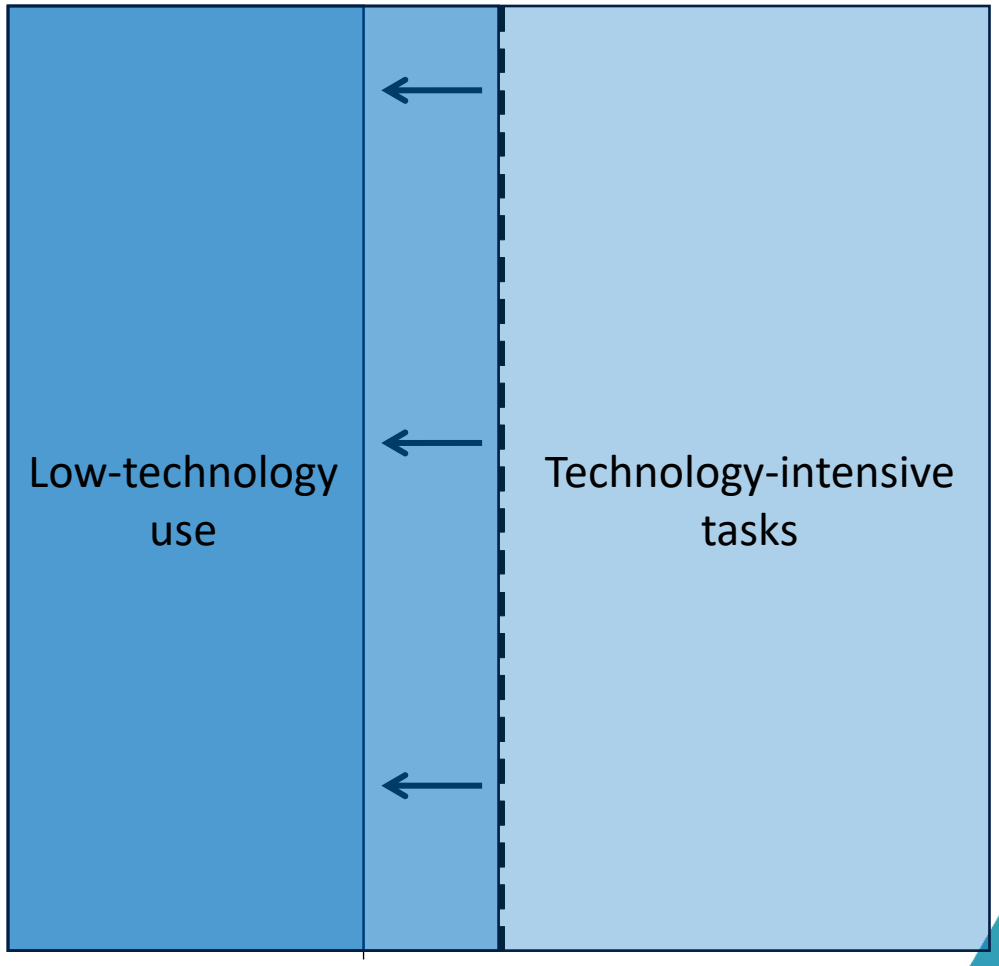
Impact

Uncertainty

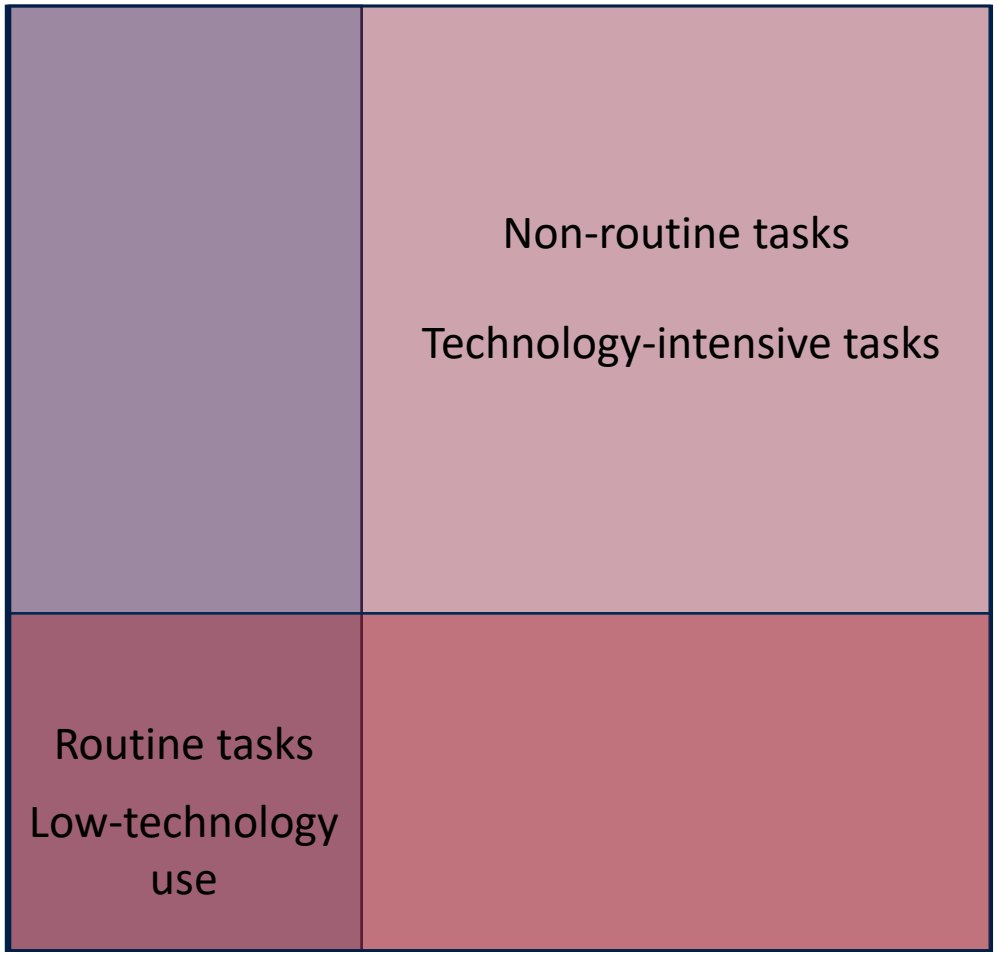
The kinds of things that are easy to teach…

… have now become easy to digitise and automate

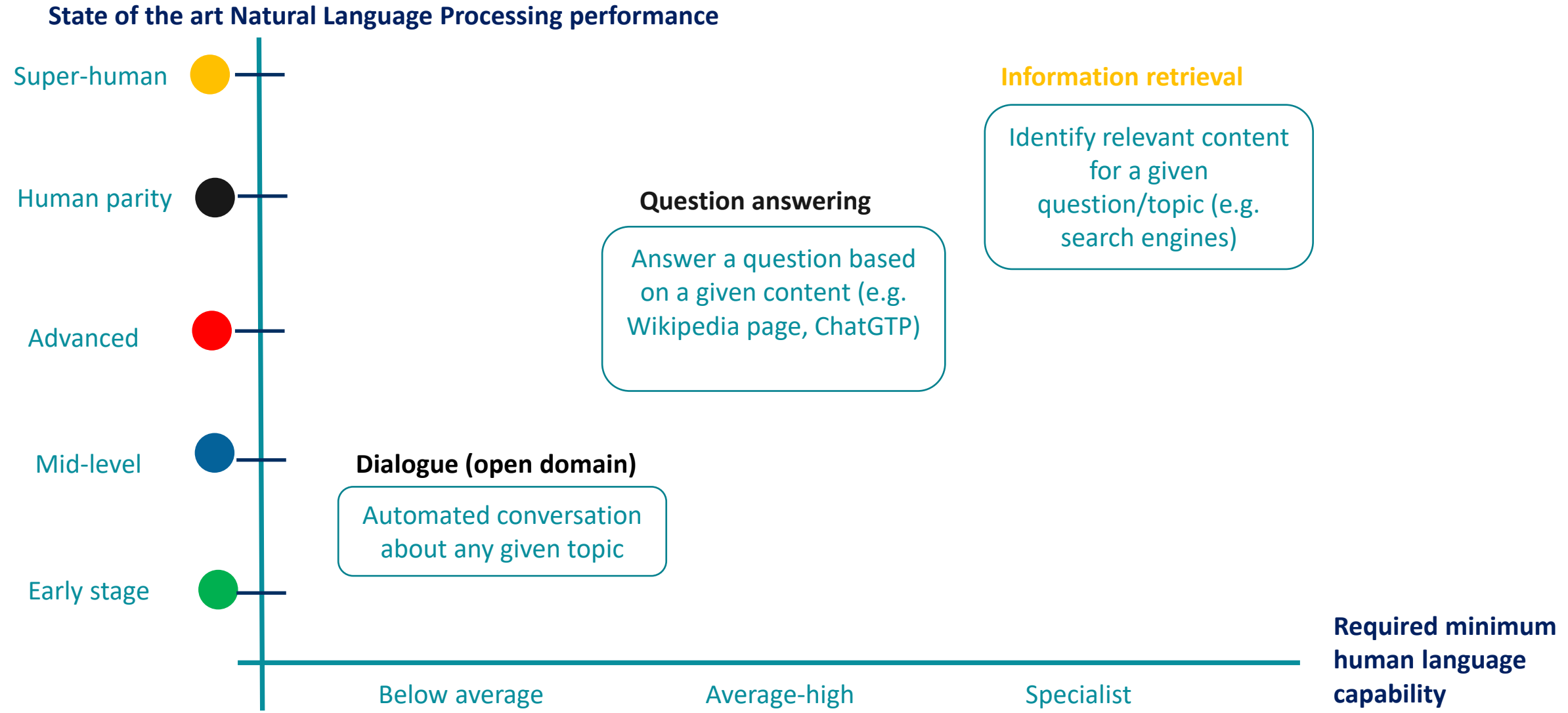




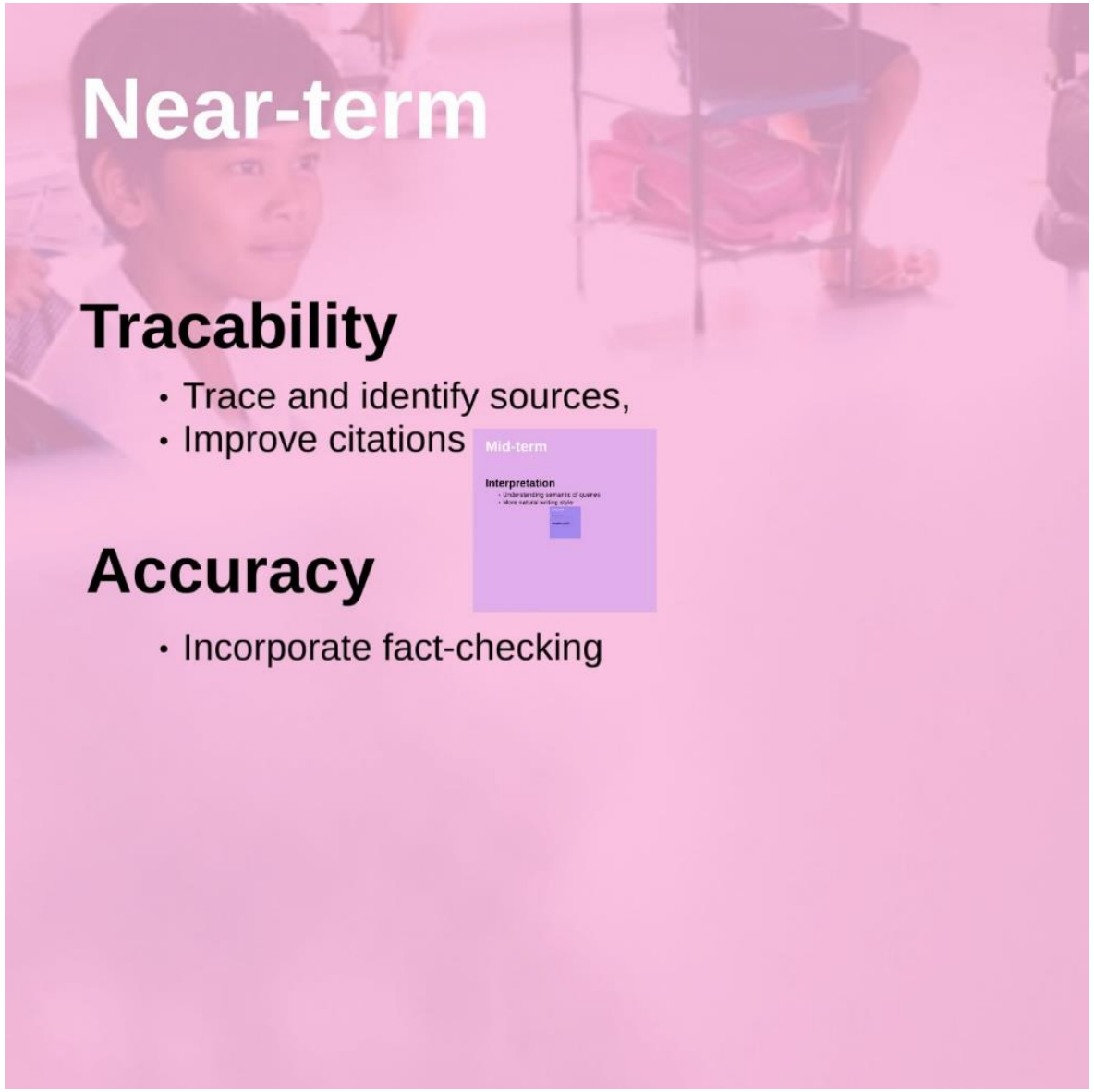
The kinds of things that are easy to teach…
… have now become easy to digitise and automate



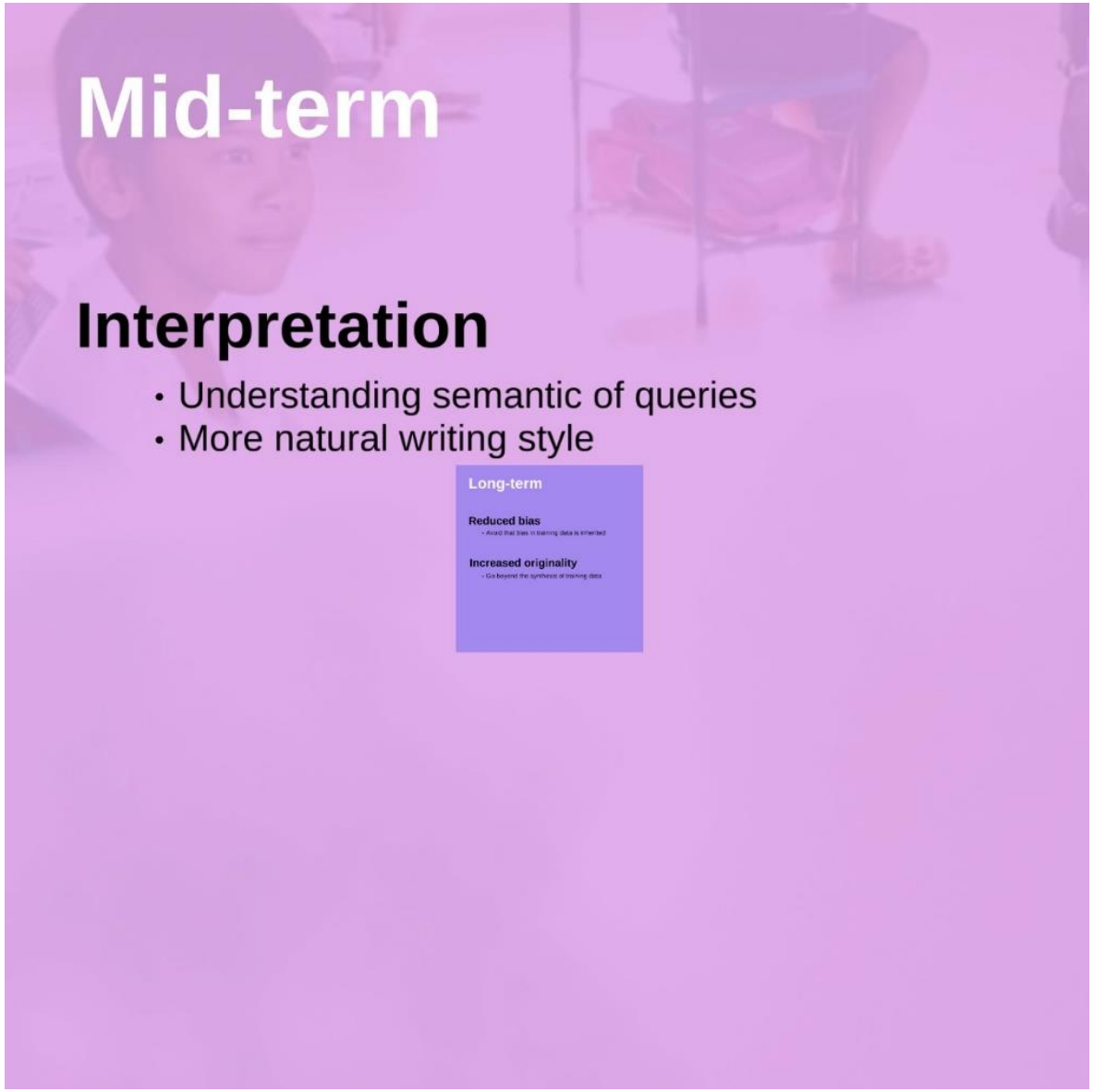
AI versus humans – benchmarks



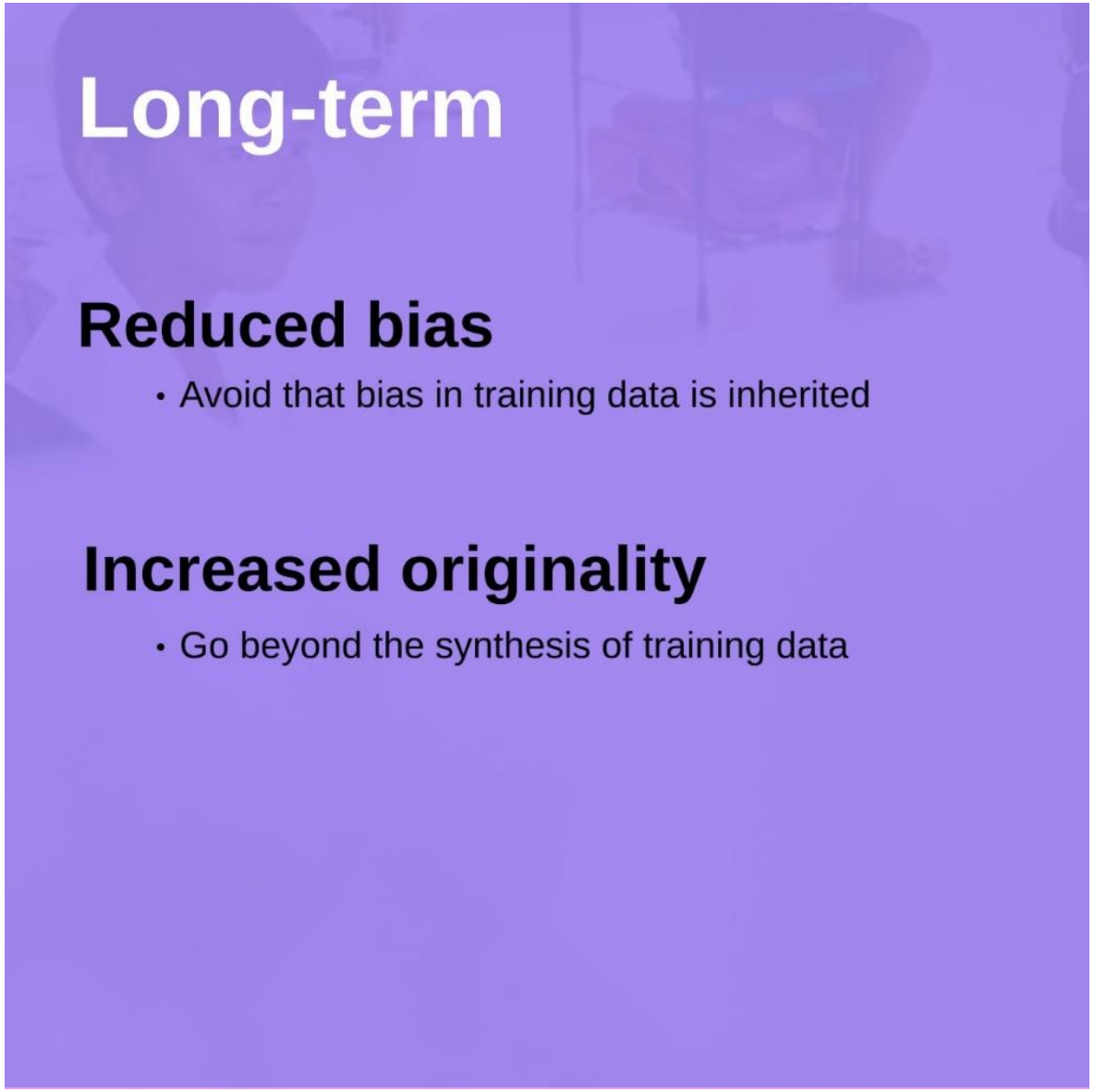
AI still has many limitations, but will improve



AI still has many limitations, but will improve



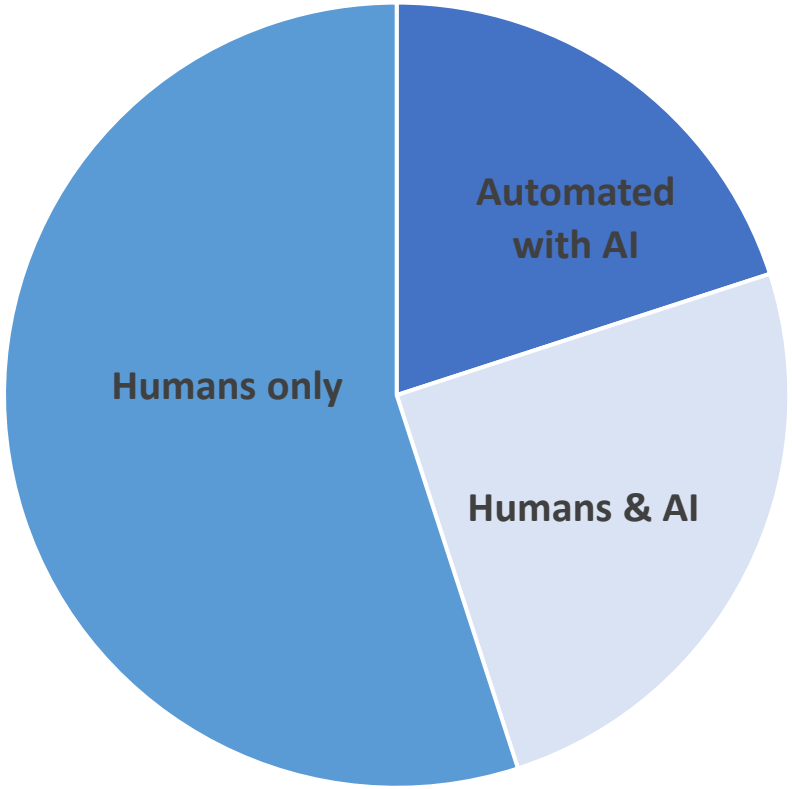
AI still has many limitations, but will improve



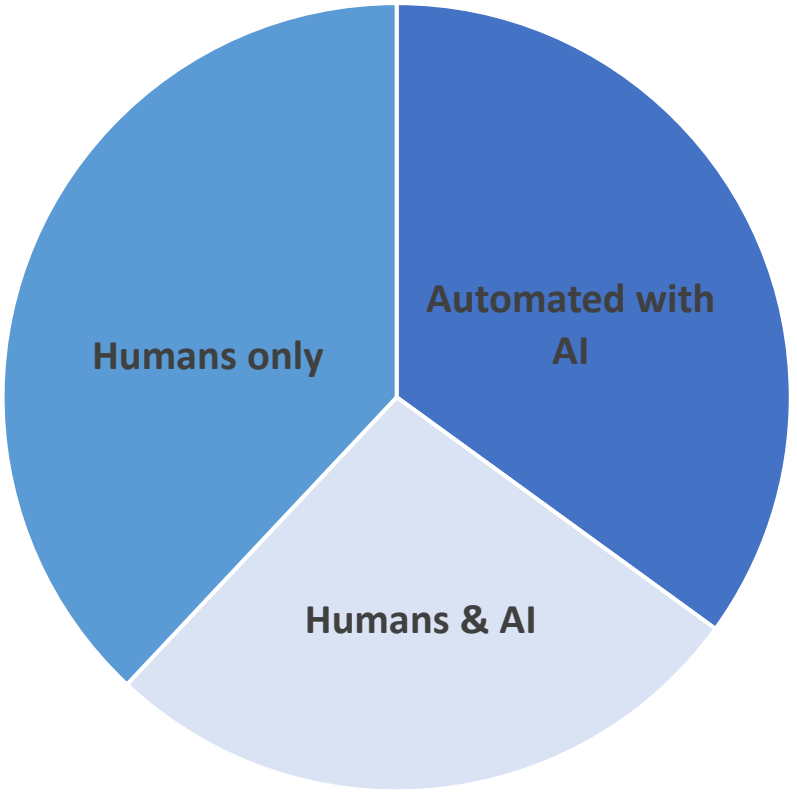
Human tasks are shifting

With many human tasks now automated with AI

Distribution of types of tasks

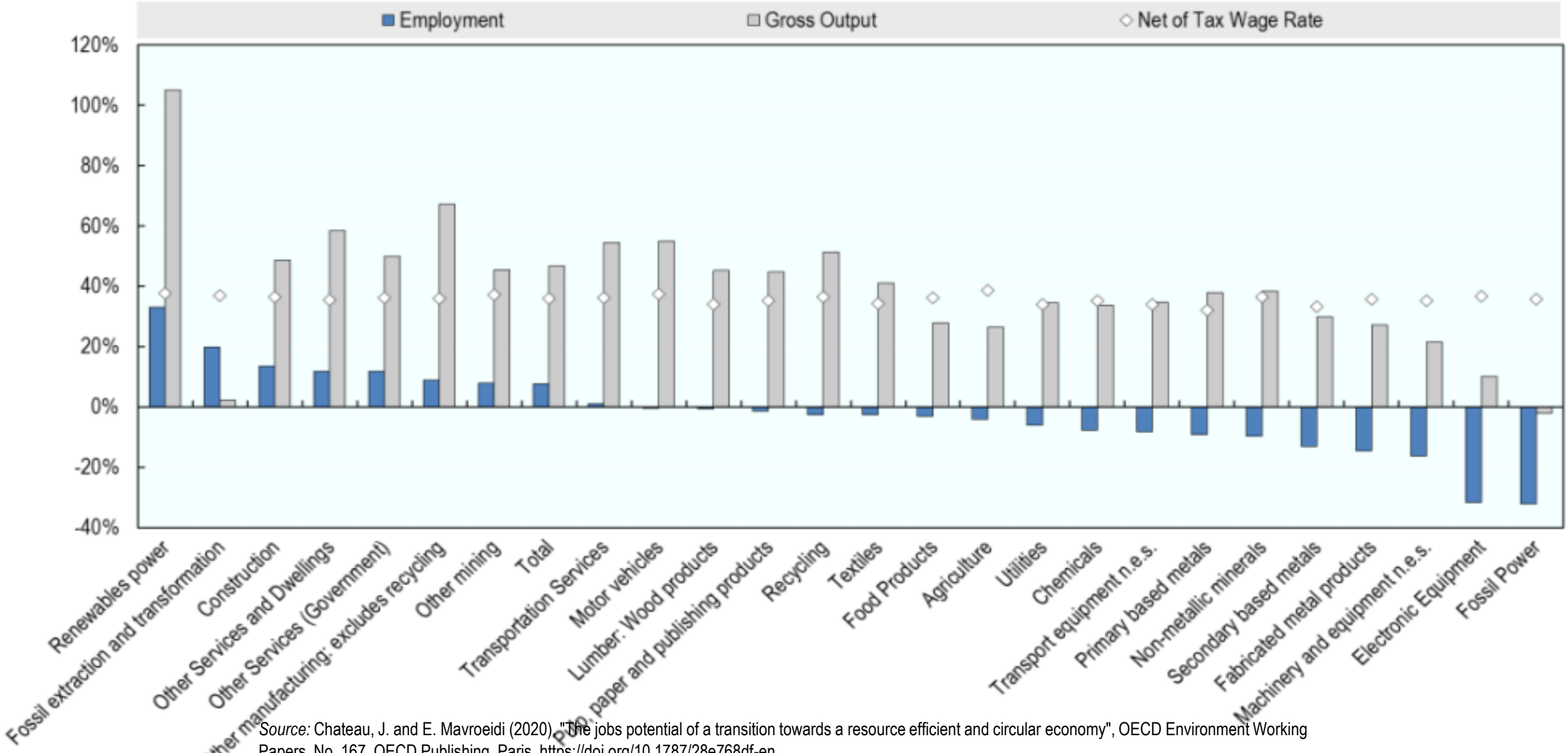


Distribution of types of tasks
with new AI capabilities



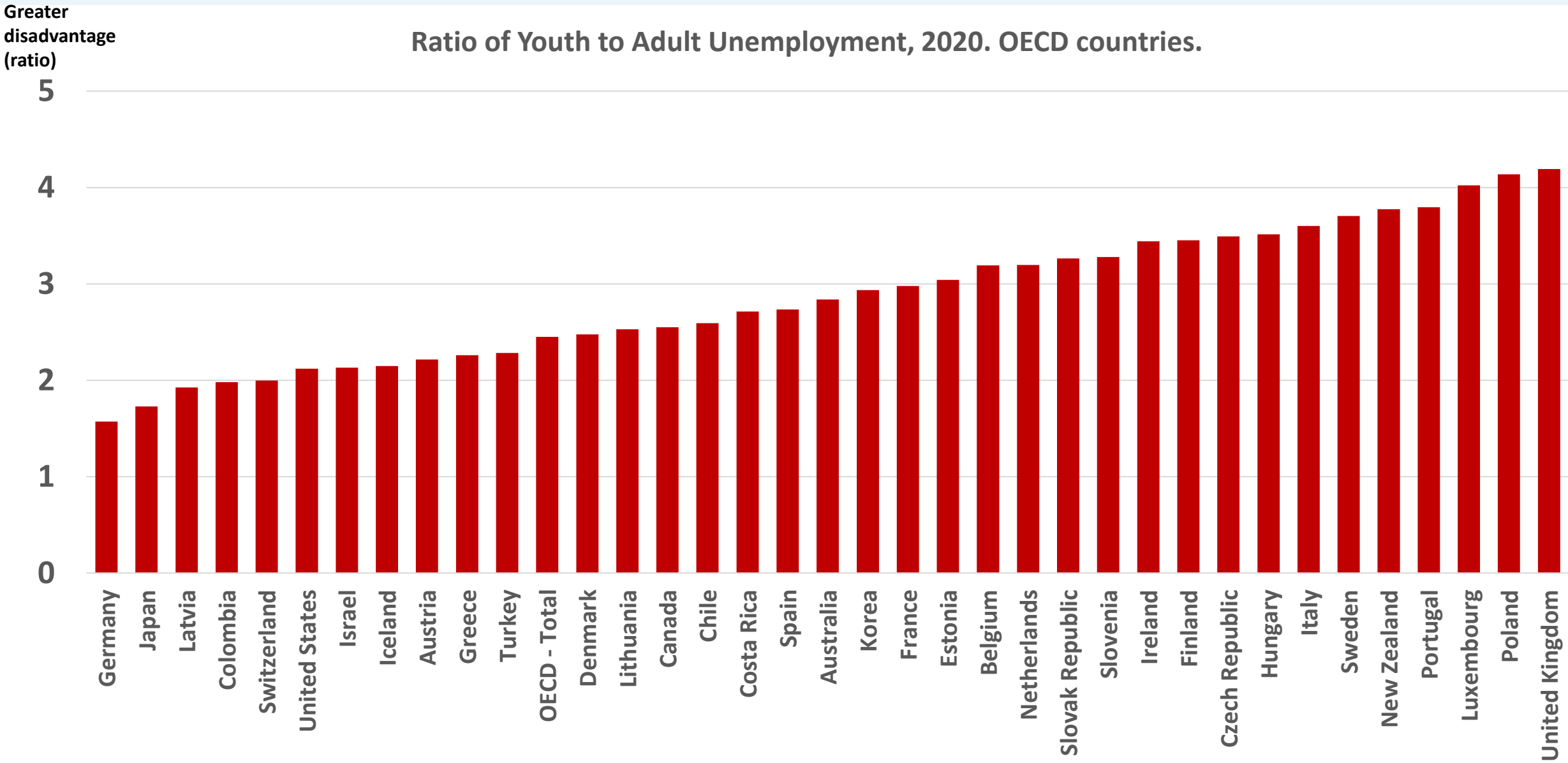
The green transition will impact certain sectors more than others

Projected changes in sectoral composition of employment and output following a policy-driven transition towards a more resource-efficient and circular economy (2040 baseline projection relative to 2017 values)

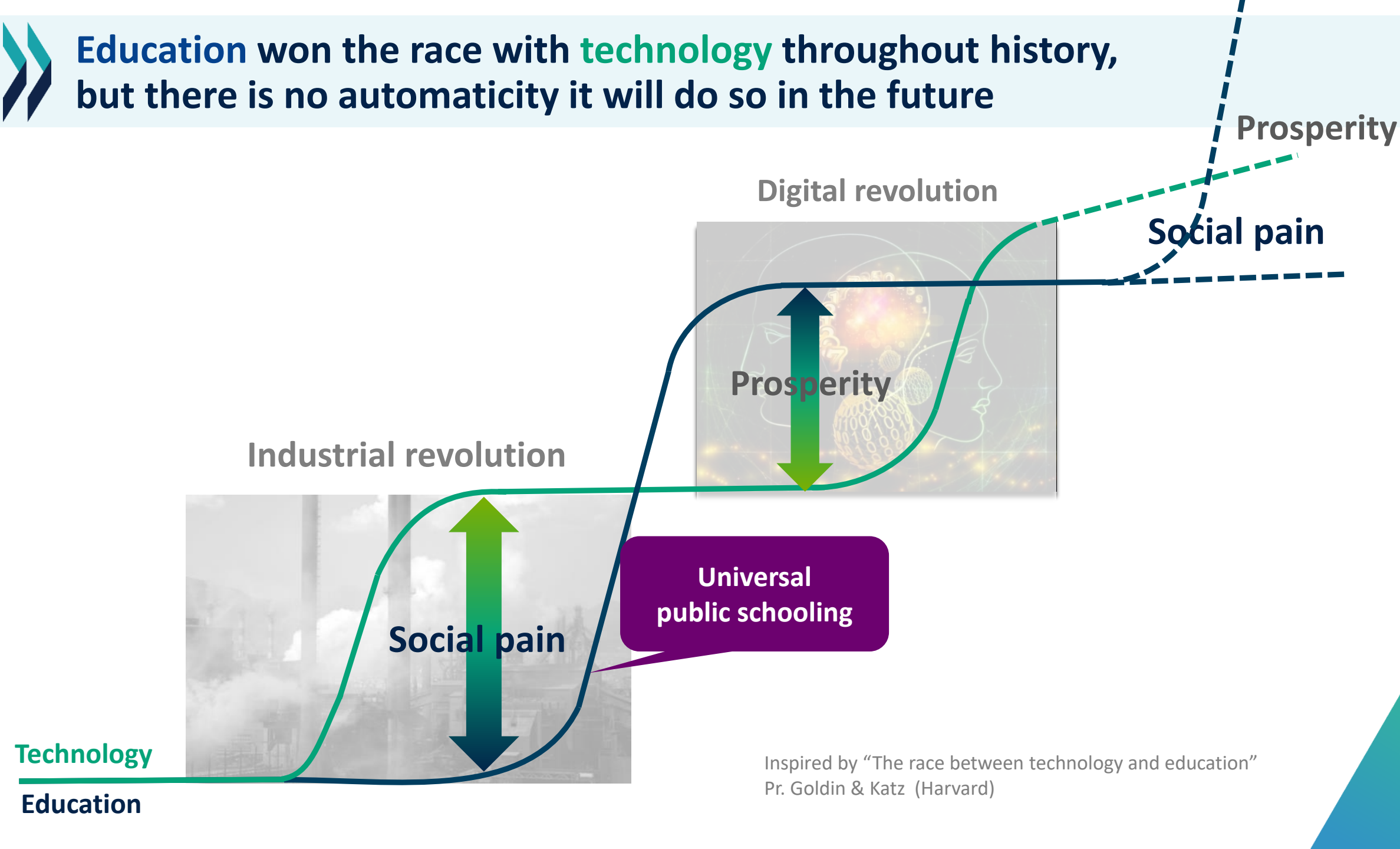


Source: Chateau, J. and E. Mavroeidi (2020), "The jobs potential of a transition towards a resource efficient and circular economy", OECD Environment Working Papers, No. 167, OECD Publishing, Paris, https://doi.org/10.1787/28e768df-en.

Young people are at a disadvantage in the competition for work



Education won the race with technology throughout history, but there is no automaticity it will do so in the future

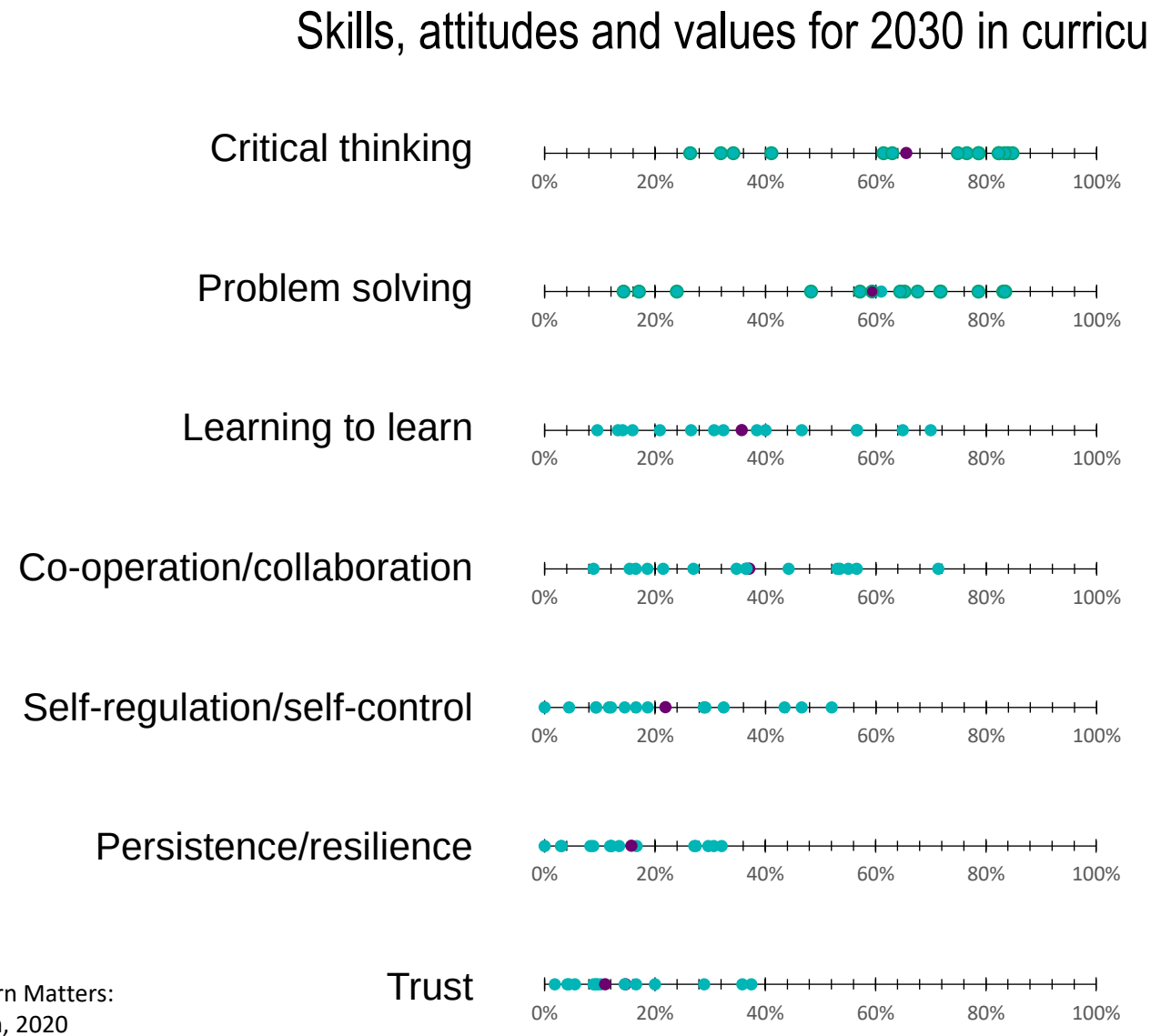


Inspired by "The race between technology and education"
Pr. Goldin & Katz (Harvard)

What does it mean for education?

- Education should offer new ways of seeing, sensing and interpreting the world, in ways that reconcile competing beliefs and values, re-build meaning in people's lives and restore well-being.
- Education should provide opportunity and fulfilment for everyone, respecting and nurturing a broader range of strengths, including dispositions for caring and creativity.
- Education should equip people to design and establish the next set of economic, societal and organisational models.

Skills, attitudes and values are now integrated in many countries' curricula



Source: OECD, What Students Learn Matters: Towards a 21st Century Curriculum, 2020

PISA participants

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 outcomes

- Academic performance
- Psychological well-being
- Agency and engagement
- Resilience
- Engagement with school
- Quality of relationship & community vitality
- School-leisure balance
- Material and cultural well-being
- Openness to diversity

PISA outcomes

Academic performance refers to the knowledge and cognitive skills students have acquired throughout their education and the extent to which they can use what they have learnt to solve real-life problems.

- Academic performance
- Psychological well-being
- Agency and engagement
- Resilience
- Engagement with school
- Quality of relationship & community vitality
- School-leisure balance
- Material and cultural well-being
- Openness to diversity

PISA outcomes

Psychological wellbeing refers to the extent to which students experience positive emotions, are satisfied with their life and believe their life has meaning and purpose.

- Academic performance
- Psychological well-being
- Agency and engagement
- Resilience
- Engagement with school
- Quality of relationship & community vitality
- School-leisure balance
- Material and cultural well-being
- Openness to diversity

PISA outcomes

The agency and engagement dimension looks at whether students have the ability and willingness to positively influence their own lives and the world around them, by setting goals, reflecting on their roles and responsibilities and acting responsibly to improve themselves and bring about positive change.

- Academic performance
- Psychological well-being
- Agency and engagement
- Resilience
- Engagement with school
- Quality of relationship & community vitality
- School-leisure balance
- Material and cultural well-being
- Openness to diversity

PISA outcomes

The resilience dimension considers students' beliefs in their ability to withstand stressful and difficult situations, their confidence in themselves and their autonomy as learners

- Academic performance
- Psychological well-being
- Agency and engagement
- Resilience
- Engagement with school
- Quality of relationship & community vitality
- School-leisure balance
- Material and cultural well-being
- Openness to diversity

PISA outcomes

Engagement with school refers to the extent to which students assign value to their time at school, put effort in their studies so to achieve good results, and help their teachers create a productive learning environment.

- Academic performance
- Psychological well-being
- Agency and engagement
- Resilience
- Engagement with school
- Quality of relationship & community vitality
- School-leisure balance
- Material and cultural well-being
- Openness to diversity

PISA outcomes

The quality of relationships and community vitality dimension captures both the quantity and the quality of students' social networks. It reflects the extent to which students feel accepted and appreciated by their peers, and whether they perceive support and care from their parents and their teachers.

- Academic performance
- Psychological well-being
- Agency and engagement
- Resilience
- Engagement with school
- Quality of relationship & community vitality
- School-leisure balance
- Material and cultural well-being
- Openness to diversity

PISA outcomes

Study-life balance means putting enough time into academic work while also taking time to enjoy the other parts of one's life, including social, sporting and cultural opportunities.

- Academic performance
- Psychological well-being
- Agency and engagement
- Resilience
- Engagement with school
- Quality of relationship & community vitality
- School-leisure balance
- Material and cultural well-being
- Openness to diversity

PISA outcomes

Material and cultural wellbeing considers whether students enjoy living conditions that are sufficient for their cognitive and emotional development, as well as their access to a home environment that provides opportunities for cultural development.

- Academic performance
- Psychological well-being
- Agency and engagement
- Resilience
- Engagement with school
- Quality of relationship & community vitality
- School-leisure balance
- Material and cultural well-being
- Openness to diversity

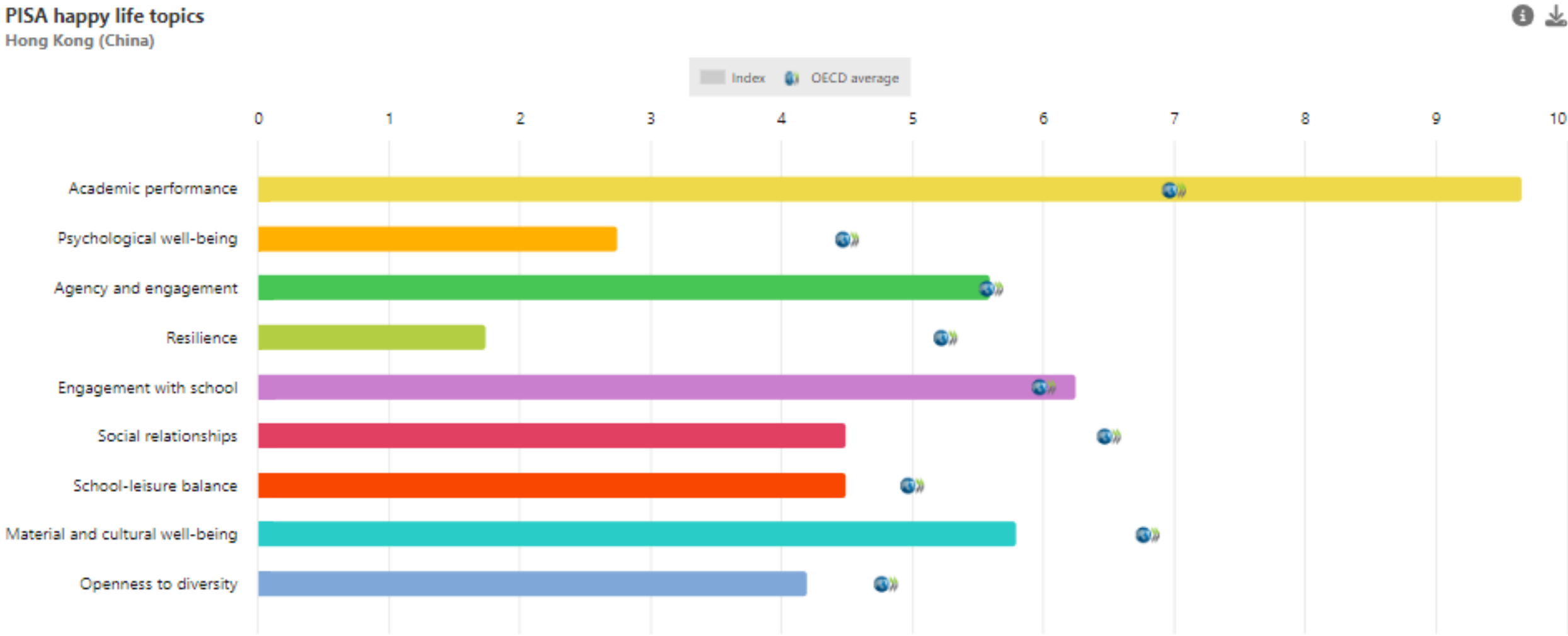
PISA outcomes

Openness to diversity refers to students' capacity to establish deep and respectful connections with people from different cultural backgrounds, being aware and open to different perspectives and willing to learn other people's language, habits and conventions.

- Academic performance
- Psychological well-being
- Agency and engagement
- Resilience
- Engagement with school
- Quality of relationship & community vitality
- School-leisure balance
- Material and cultural well-being
- Openness to diversity

PISA 2022: Hong Kong (China)

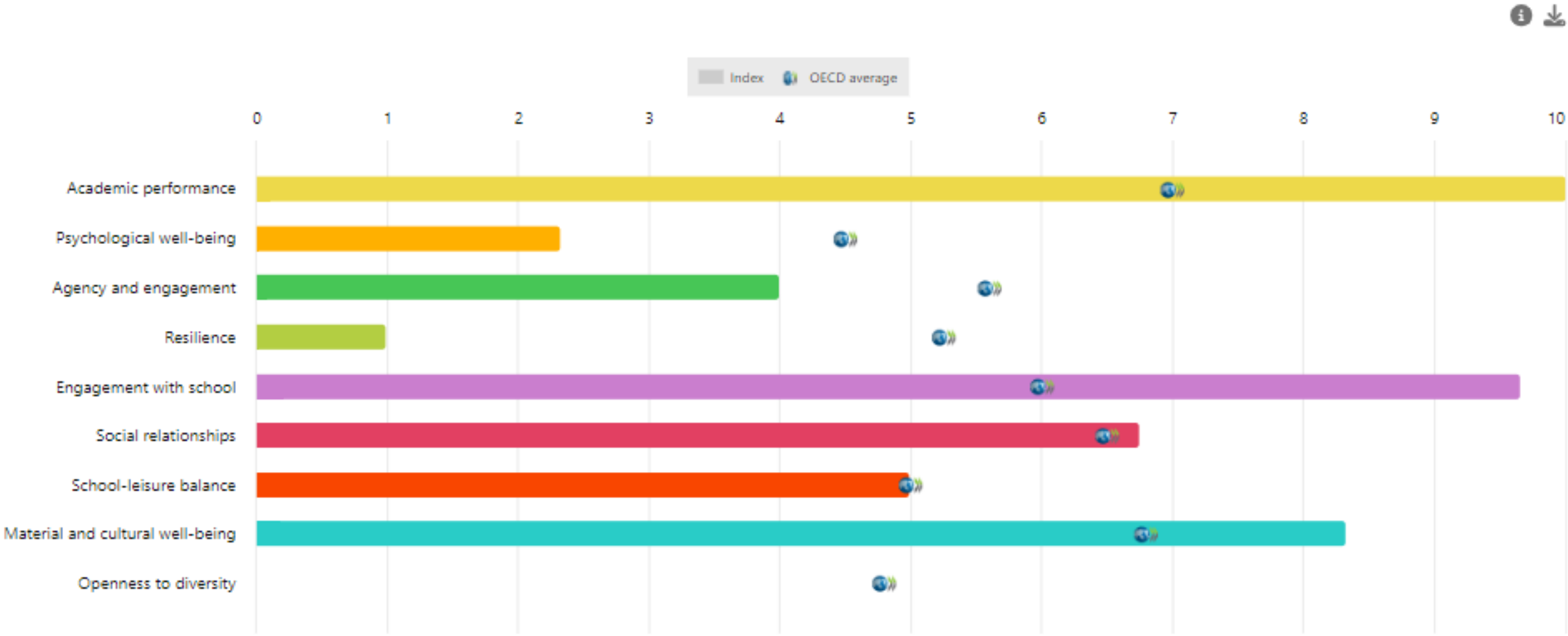
What are Hong Kong (China)'s strengths and areas for improvement



Source: OECD, PISA 2018 Database and PISA 2022 Database.

PISA 2022: Japan

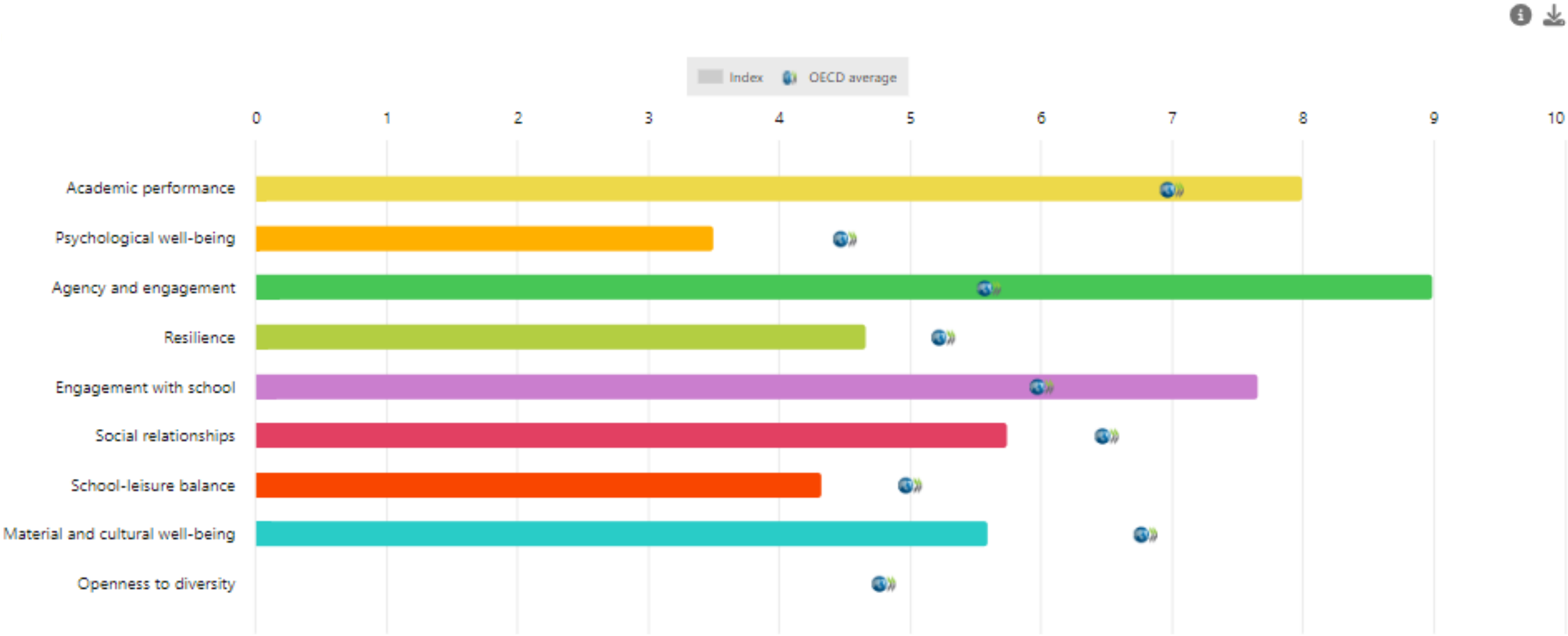
What are Japan's strengths and areas for improvement



Source: OECD, PISA 2018 Database and PISA 2022 Database.

PISA 2022: United States

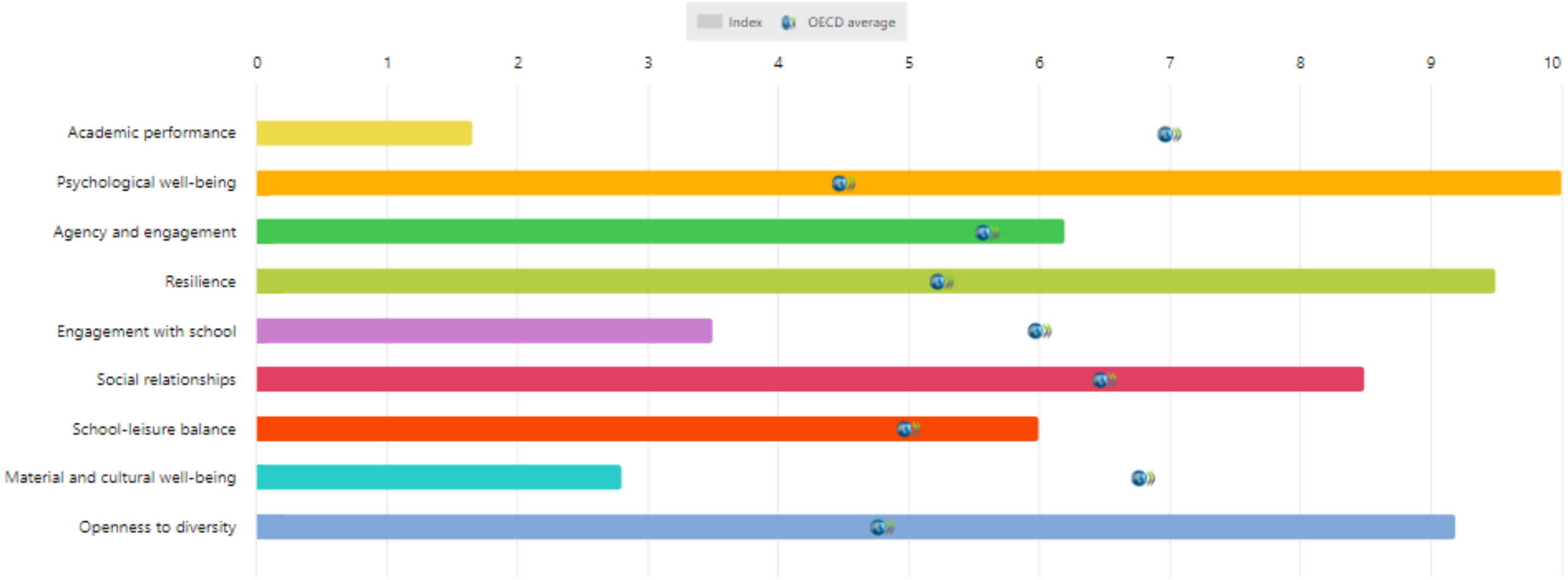
What are United States's strengths and areas for improvement



Source: OECD, PISA 2018 Database and PISA 2022 Database.

PISA 2022: Albania

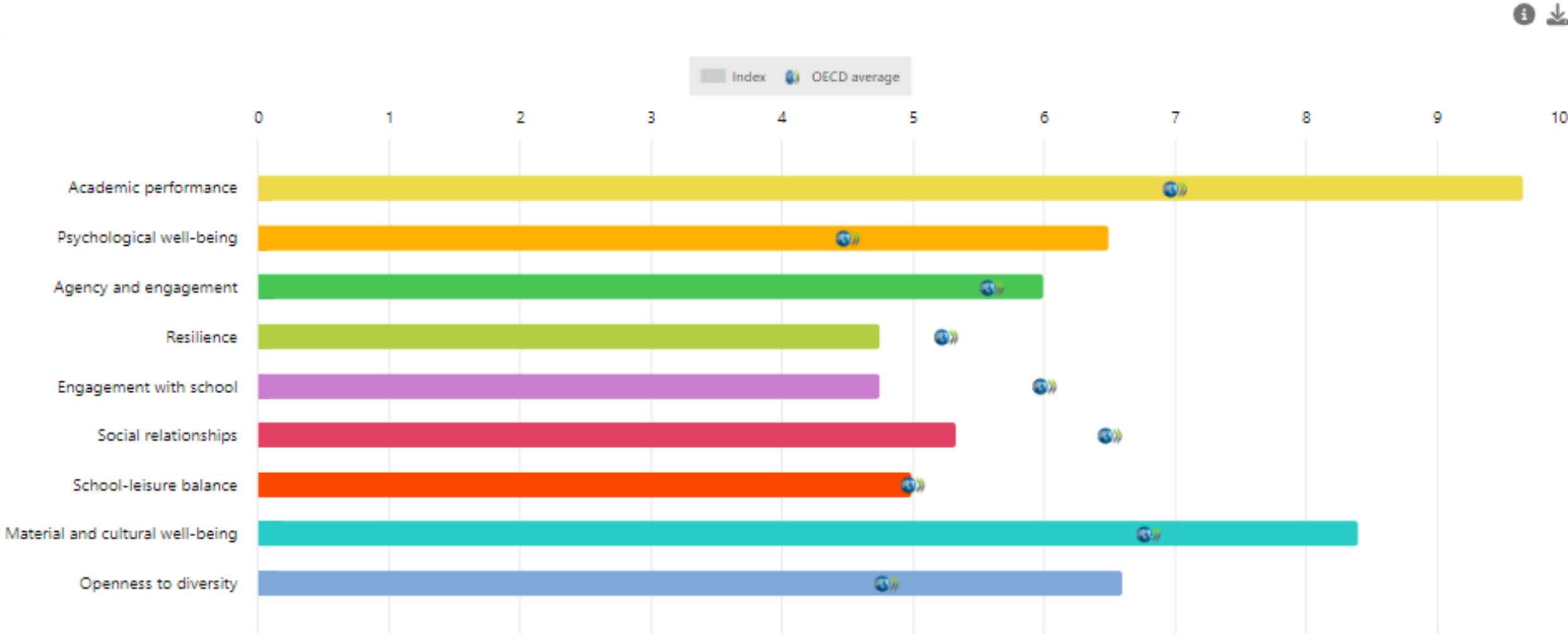
What are Albania's strengths and areas for improvement



Source: OECD, PISA 2018 Database and PISA 2022 Database.

PISA 2022: Canada

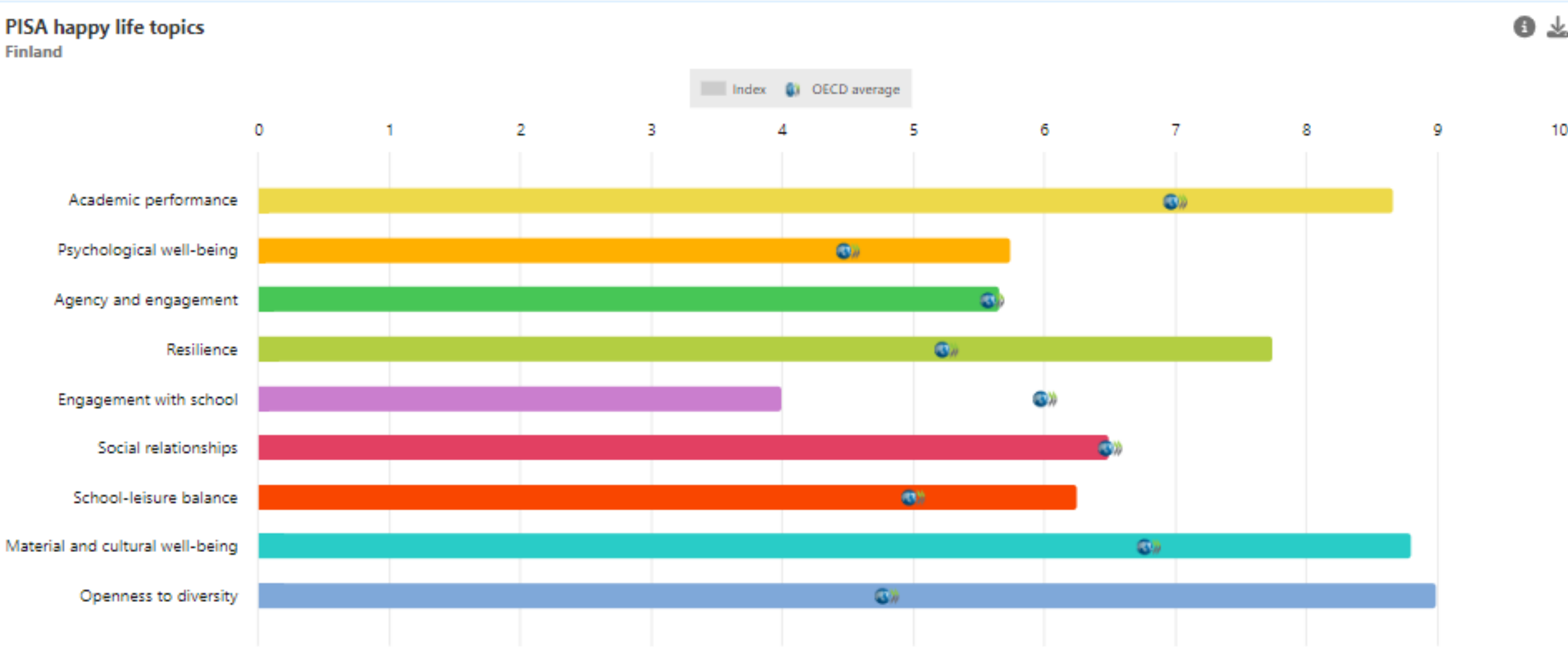
What are Canada's strengths and areas for improvement



Source: OECD, PISA 2018 Database and PISA 2022 Database.

PISA 2022: Finland

What are Finland's strengths and areas for improvement



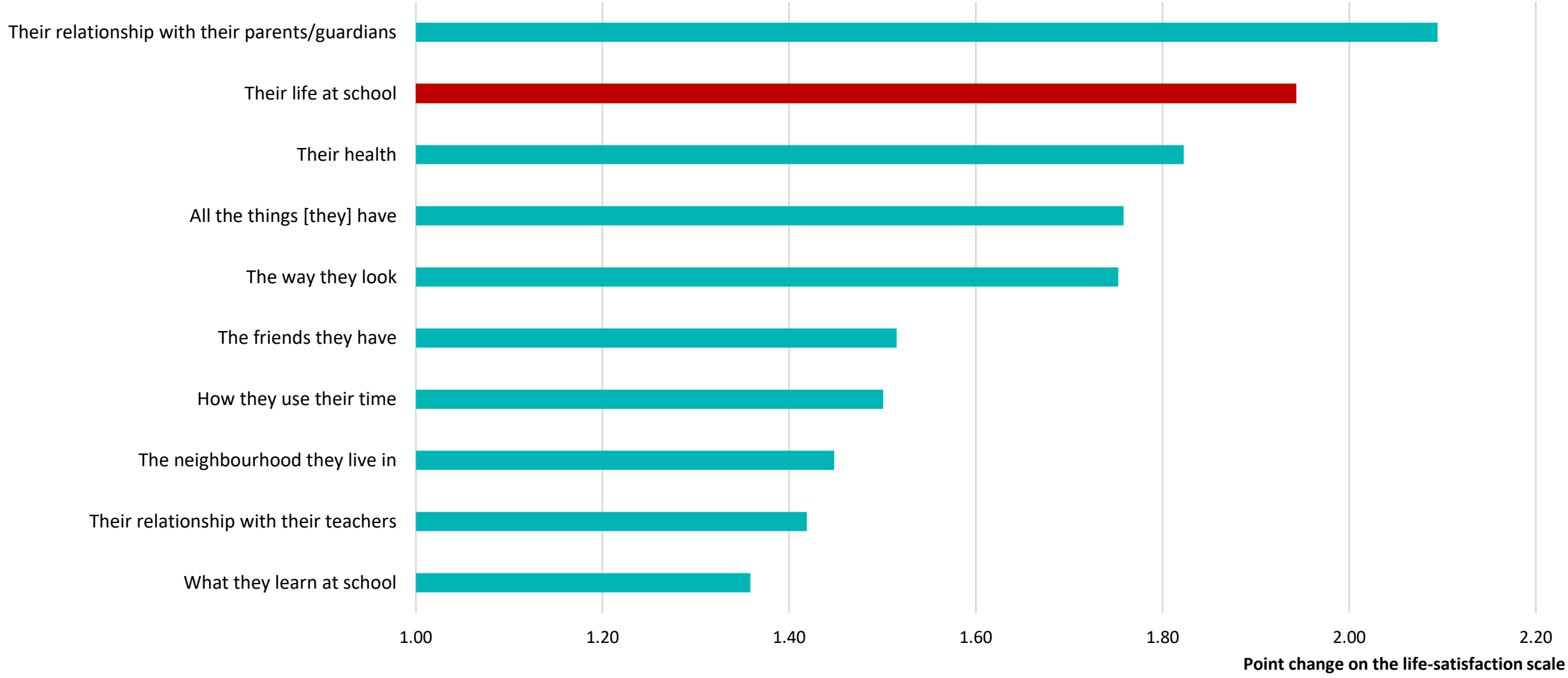
Source: OECD, PISA 2018 Database and PISA 2022 Database.

Life satisfaction and satisfaction with different aspects of life

Figure II.1.7

Average of countries/economies with available data

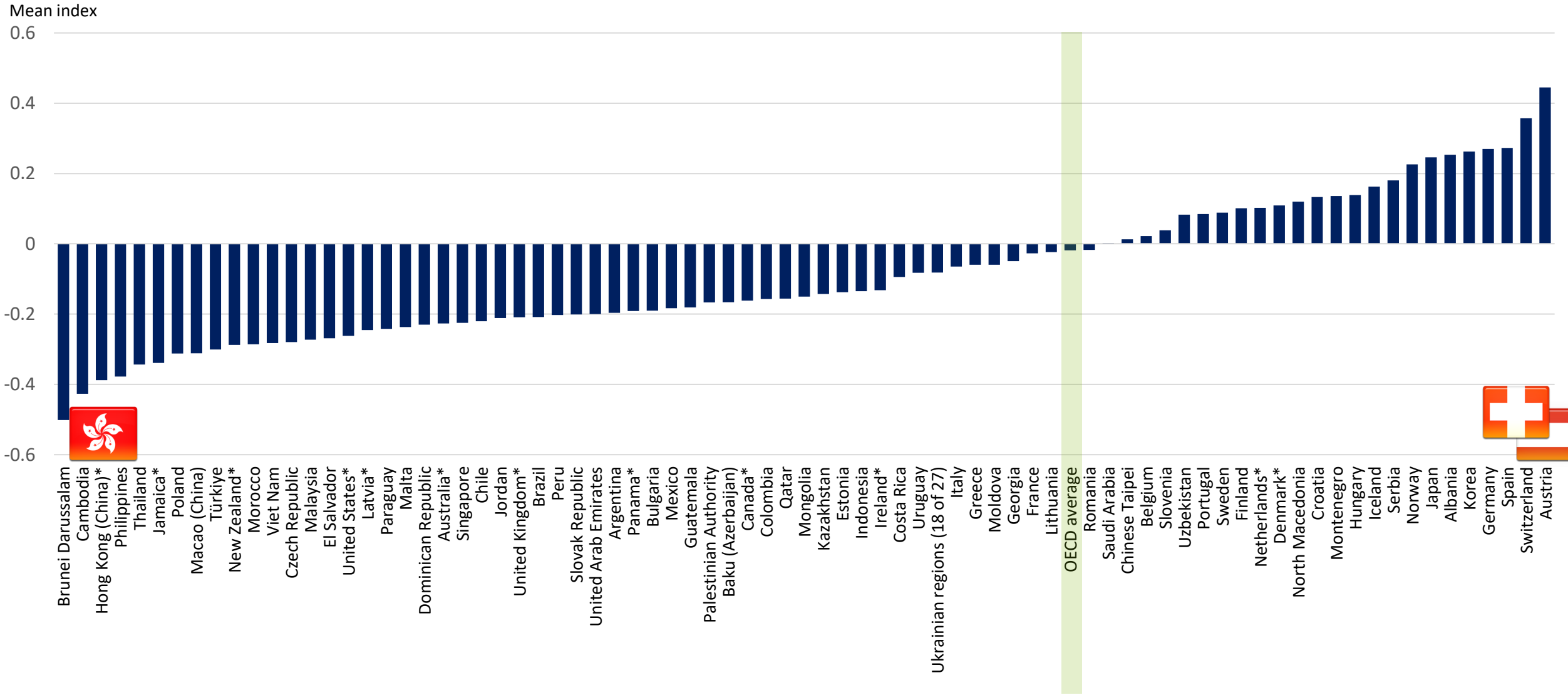
Change in life satisfaction when students reported that they are satisfied or totally satisfied with the following:



Students' sense of belonging at school, across all countries and economies

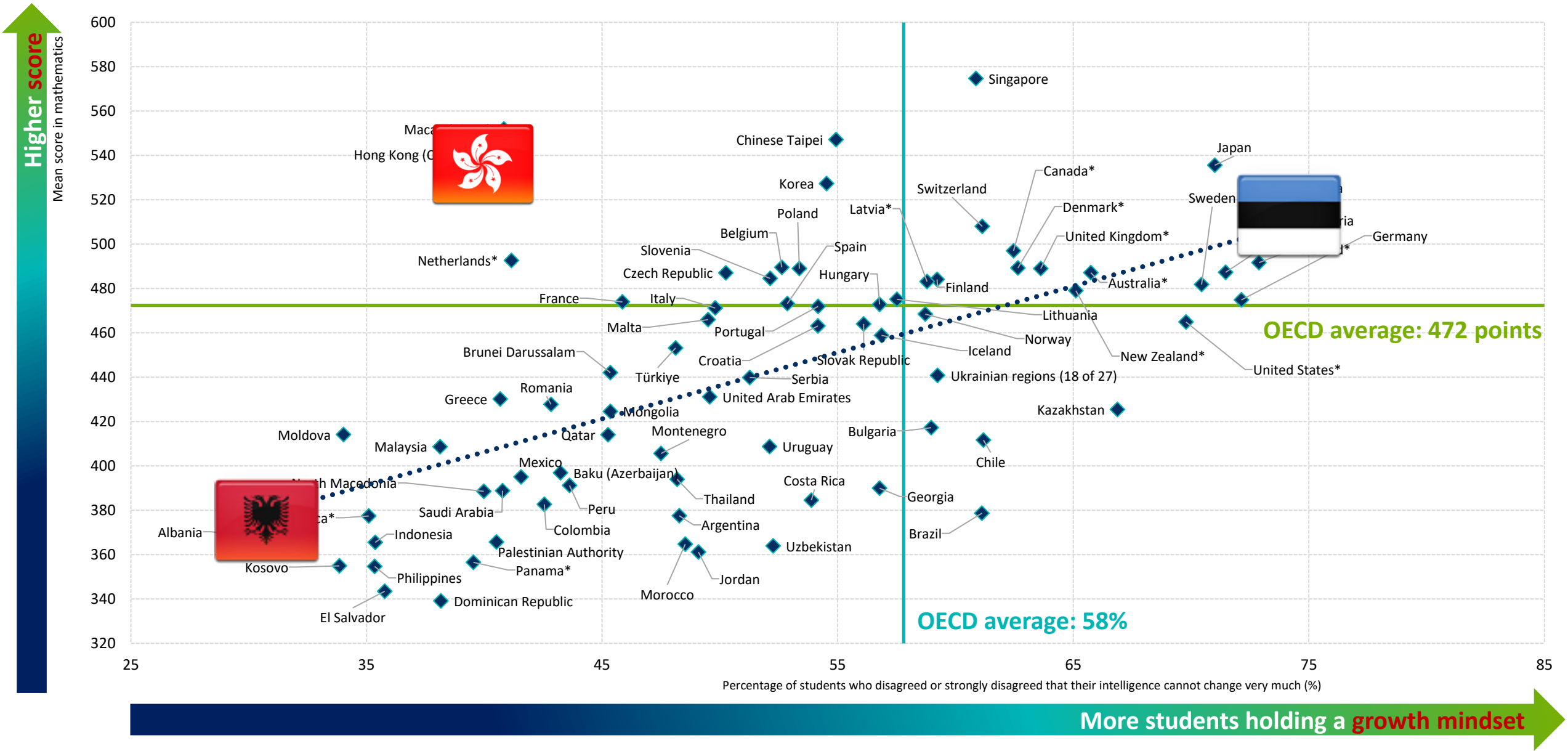
Table II.B1.1.1

Based on students' reports



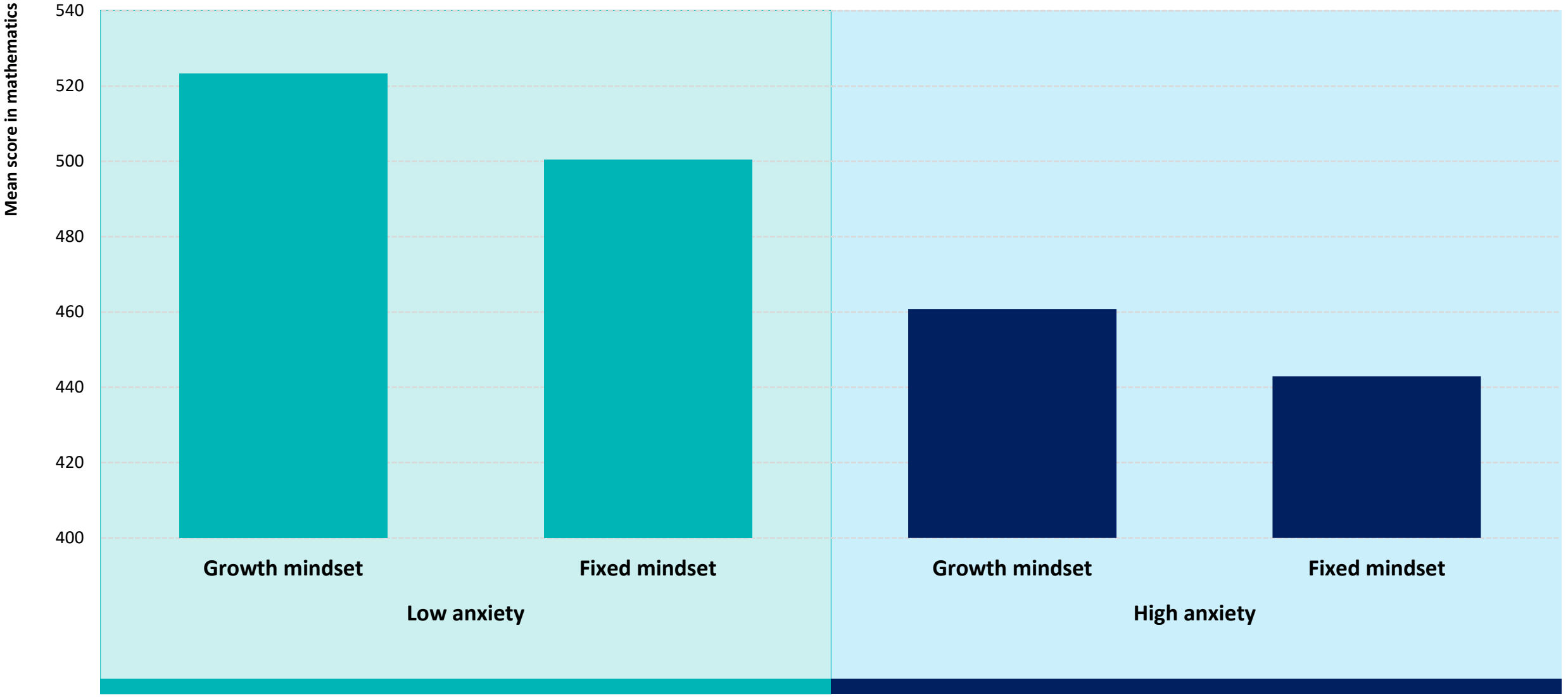
Growth mindset
and mathematics performance

Table I.B1.2.1 &
Table I.B1.2.16



Mathematics performance and anxiety in mathematics among students with fixed and growth mindsets

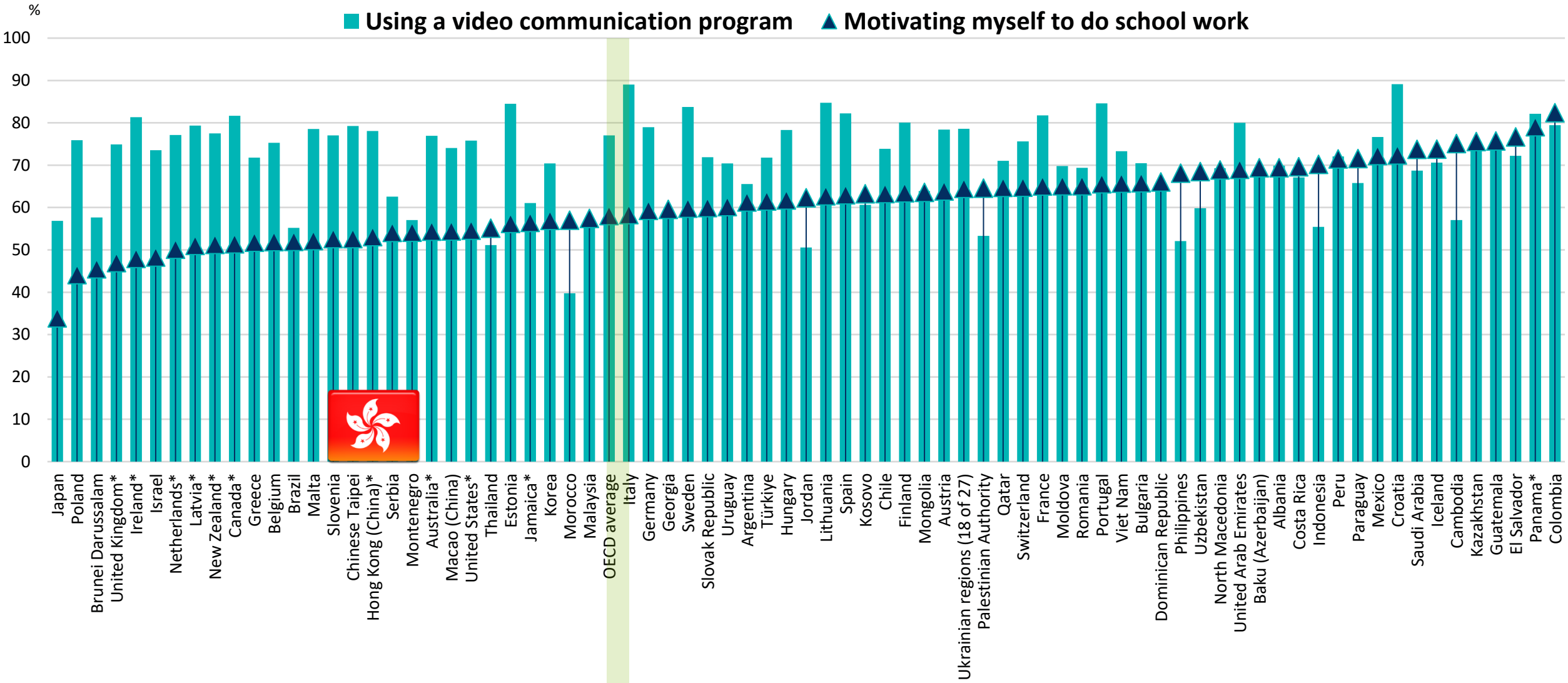
Figure I.2.2

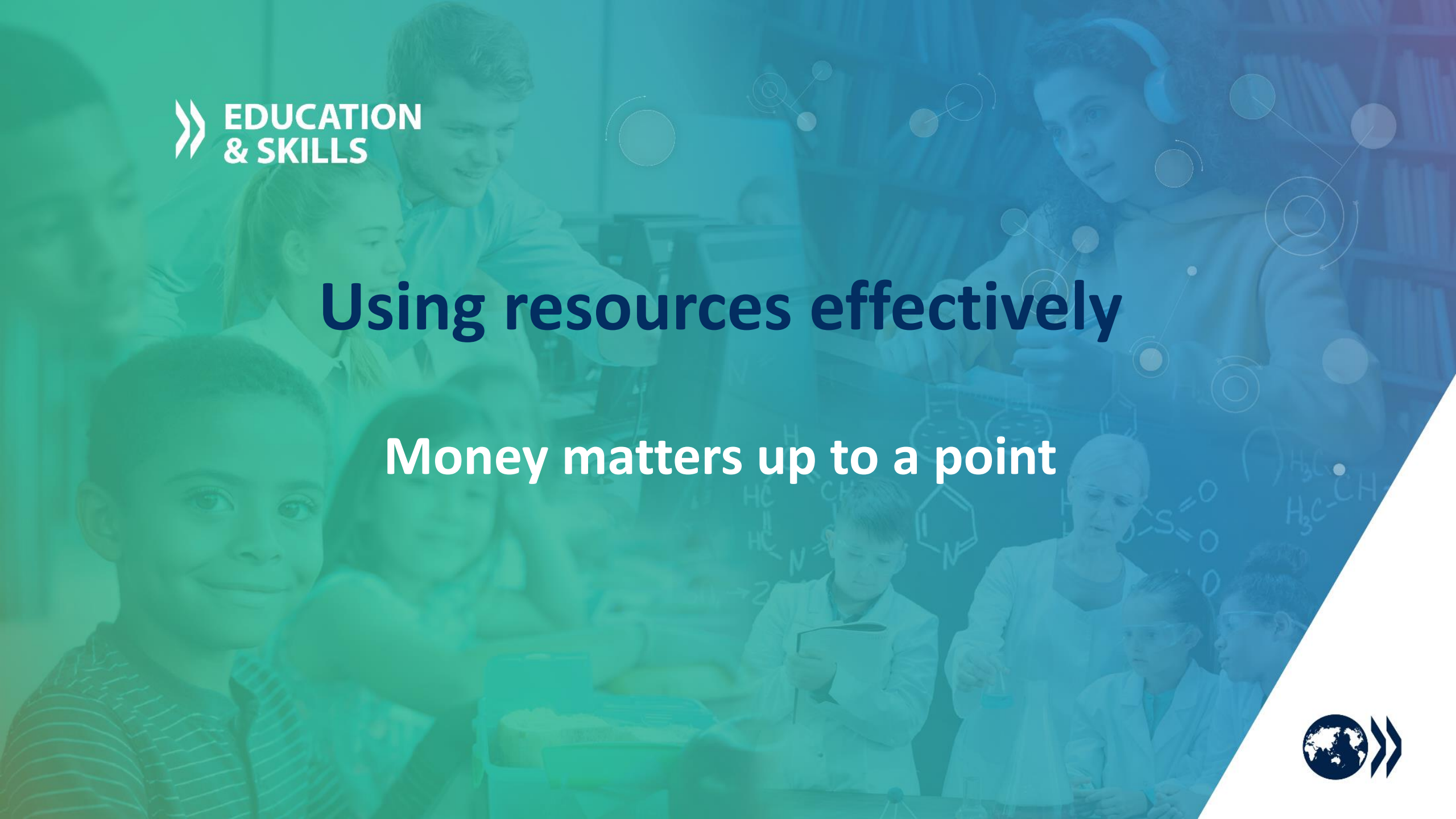


Students' confidence in self-directed learning

Figure II.2.5

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



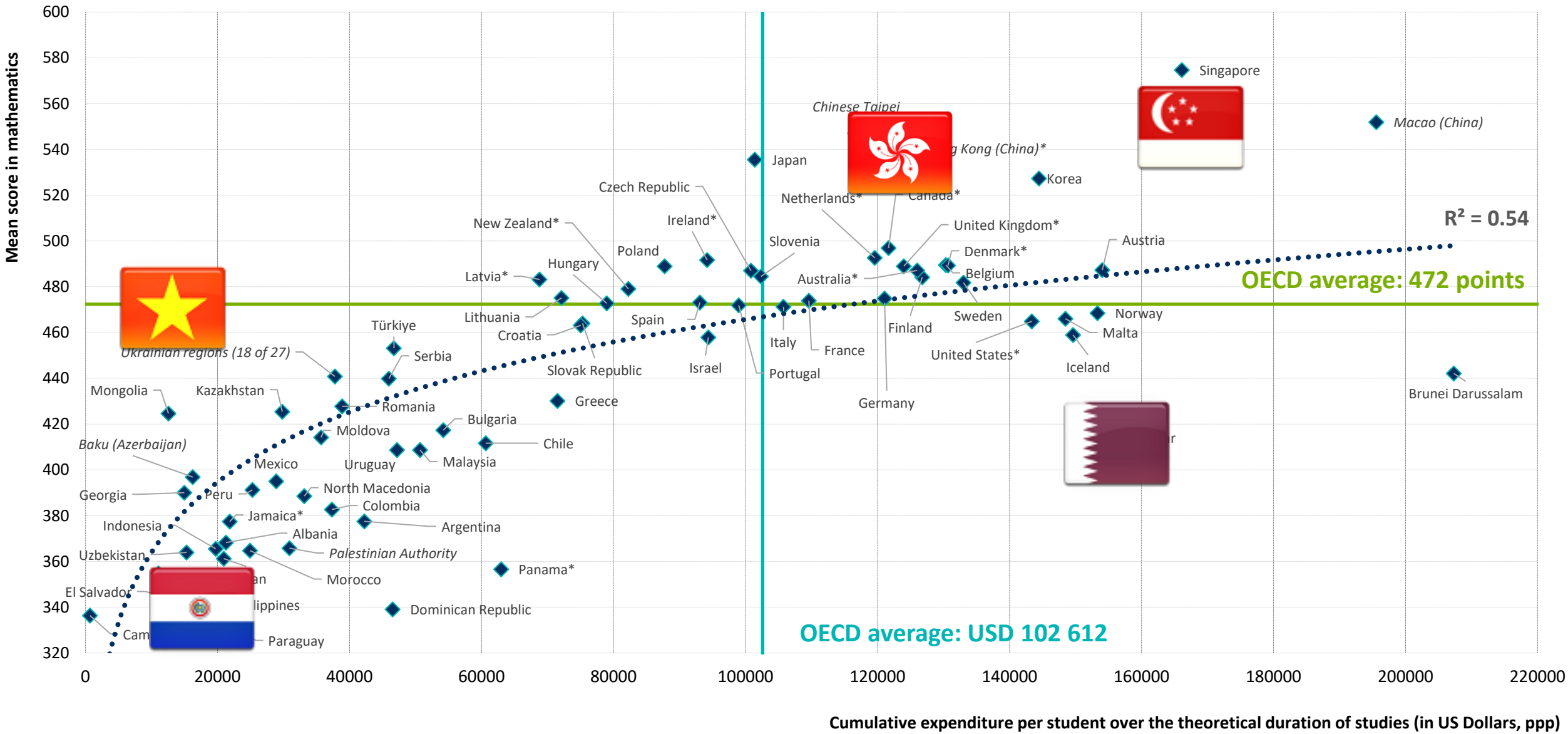


Using resources effectively

Money matters up to a point

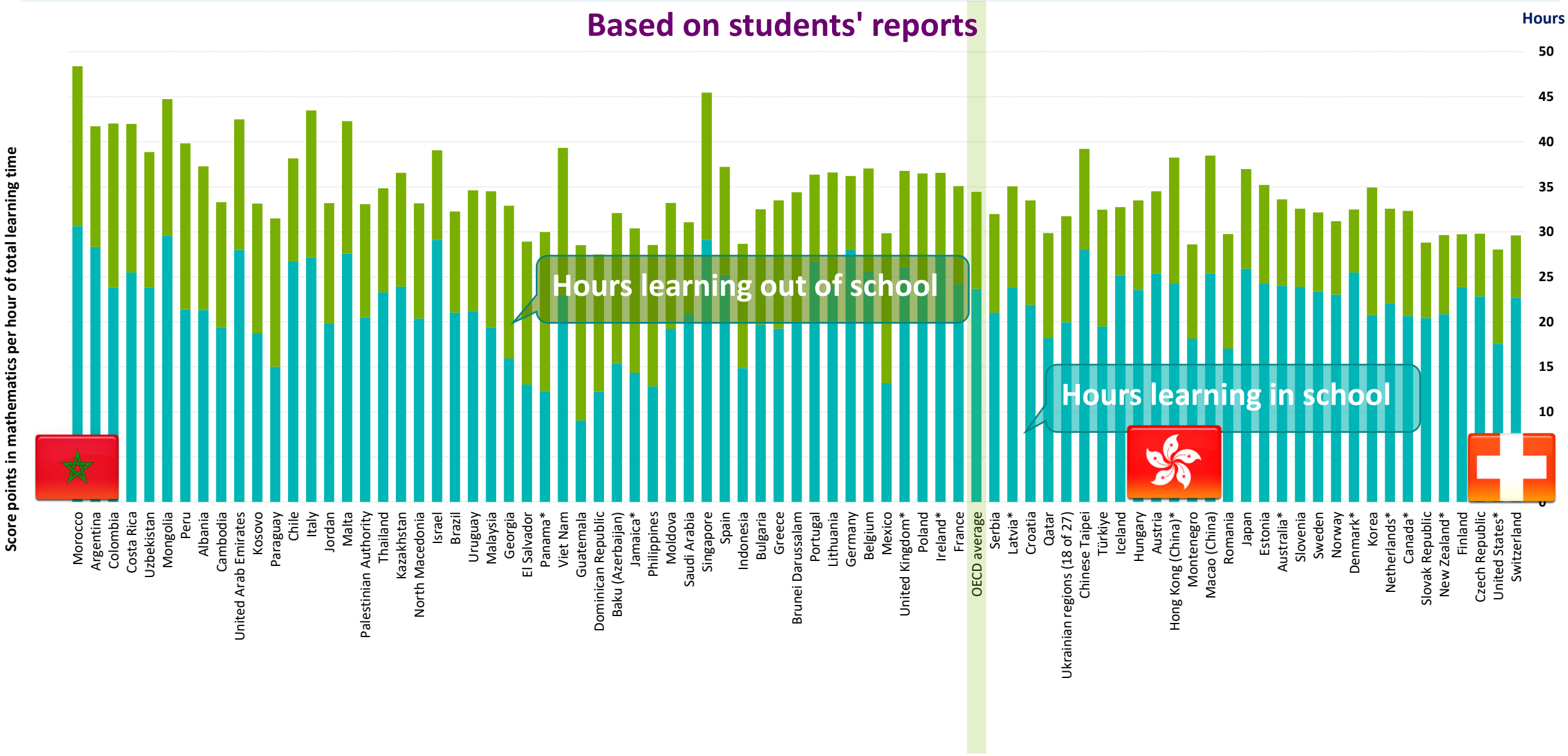
Money is necessary but not sufficient

Figure I.4.15



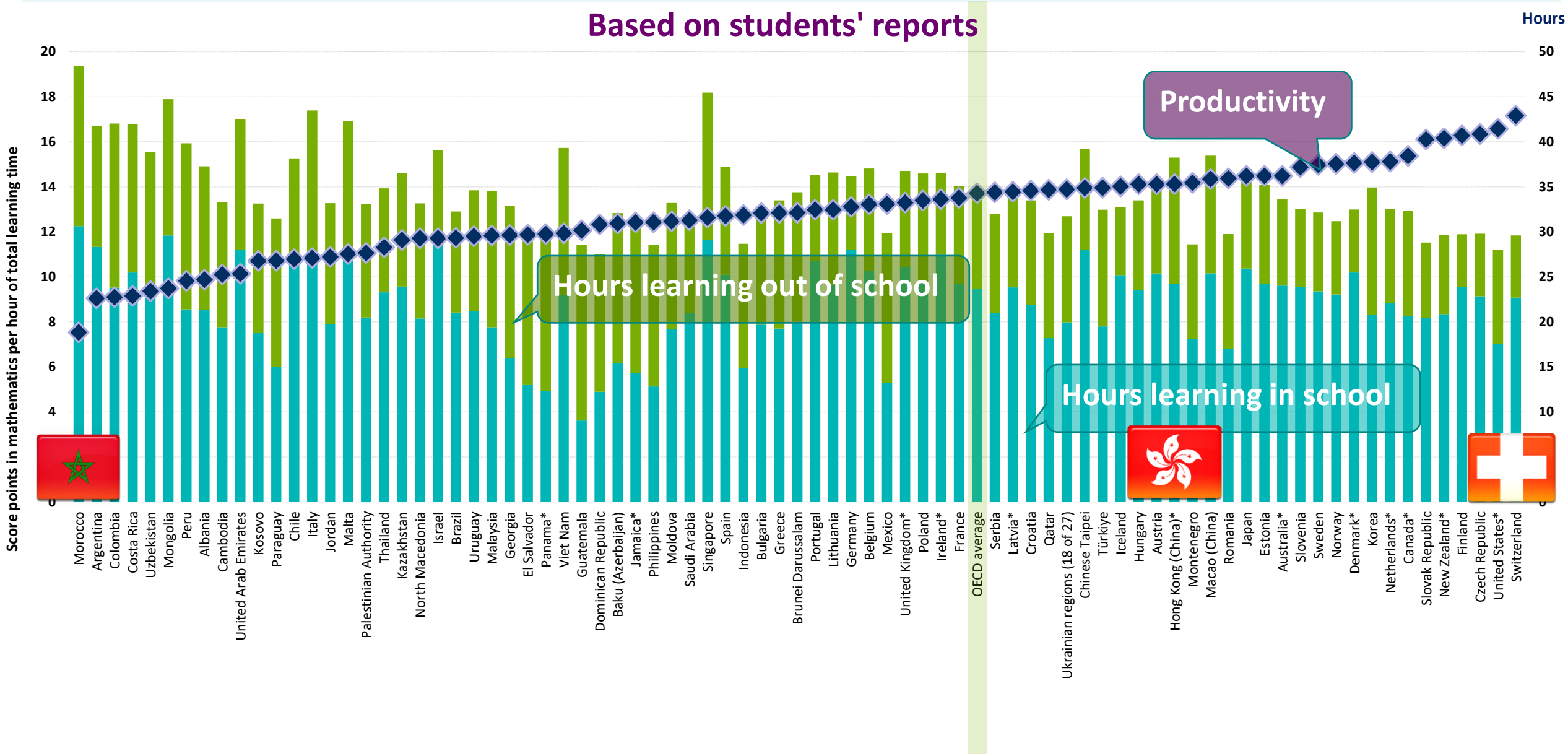
Learning time ≠ learning outcomes

Figure II.5.11



Learning time ≠ learning outcomes

Figure II.5.11



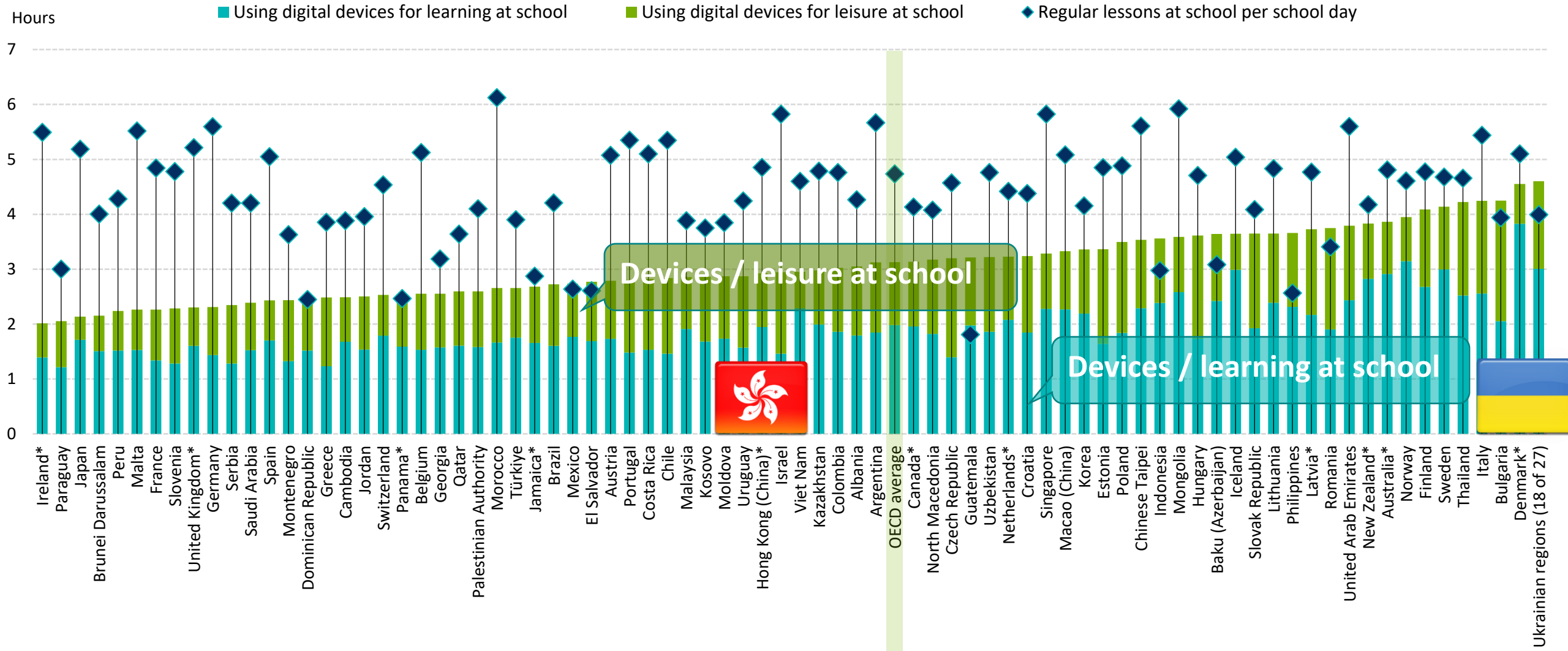
Revolutionising learning?

Unlocking the potential of the digital world

Time spent at school in regular lessons and on digital devices

Figure II.5.15

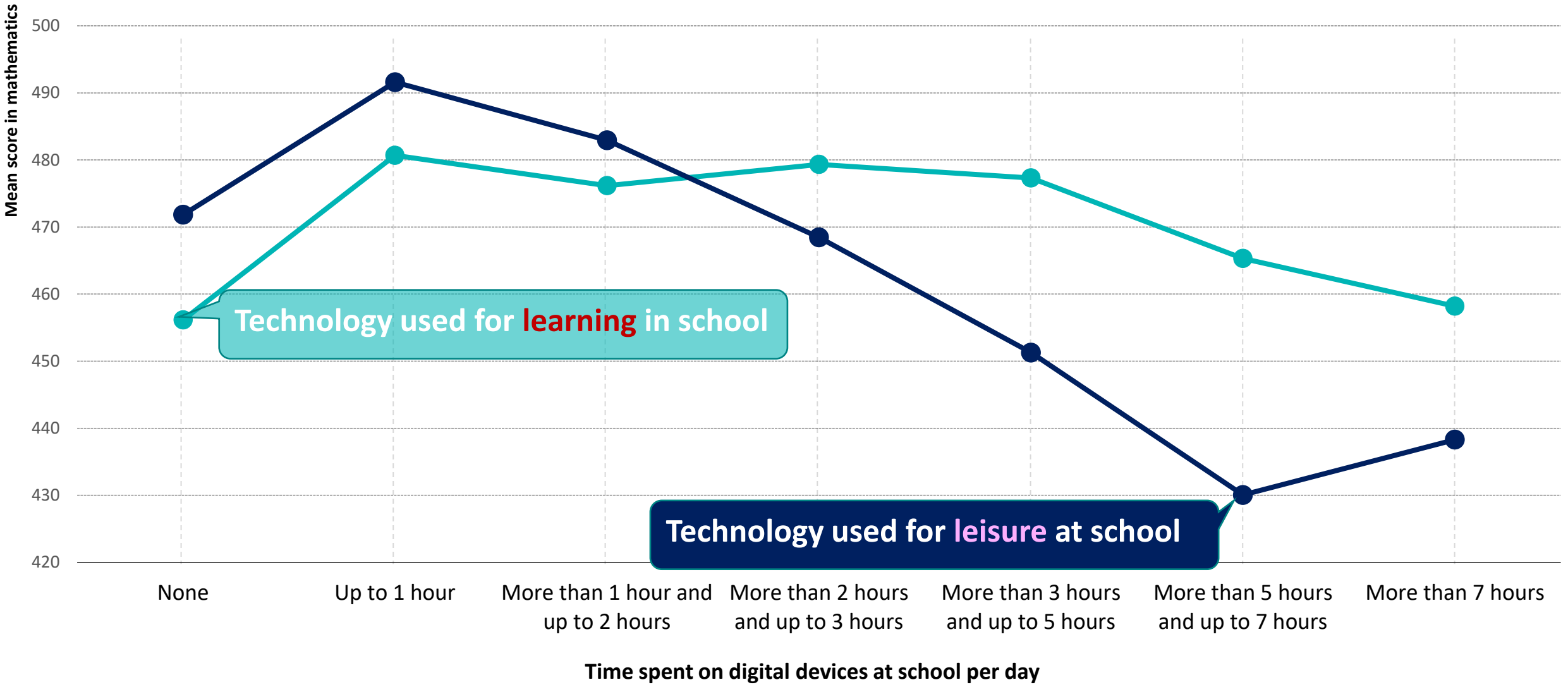
Time spent per day by students (in hours)



Time spent on digital devices at school and mathematics performance

Figure II.5.14

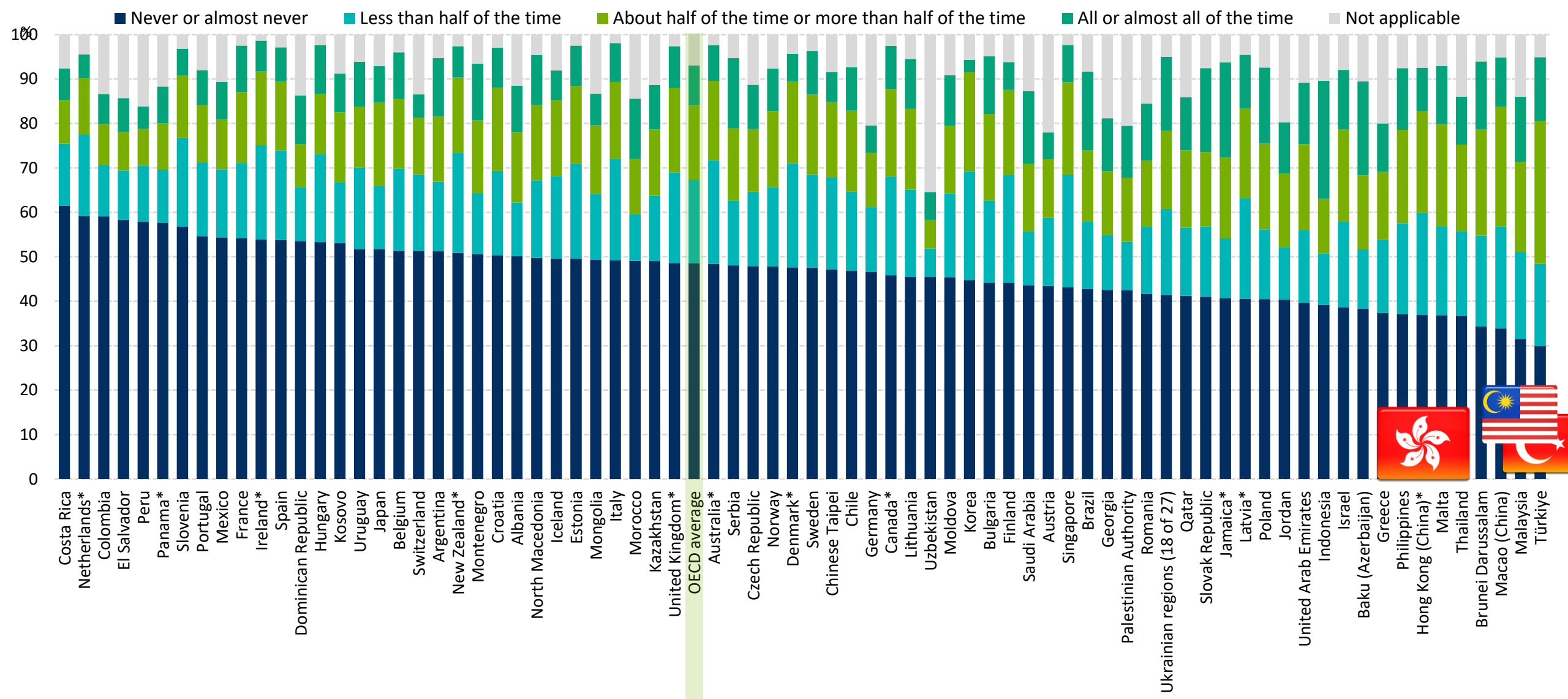
Based on students' reports; OECD average



Feeling nervous/anxious when digital devices are not near

Figure II.5.16

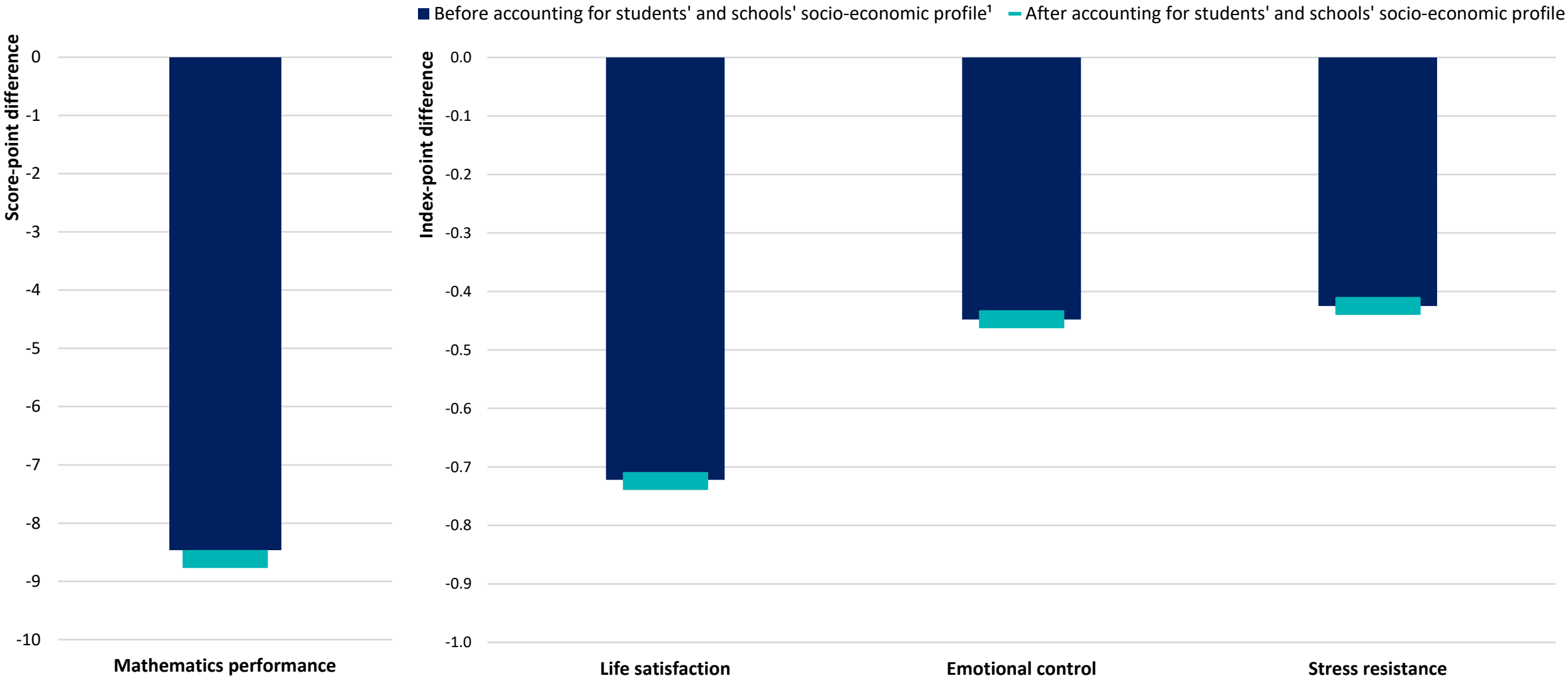
Based on students' reports



Outcomes of feeling nervous/anxious when digital devices are not near

Figure II.5.17

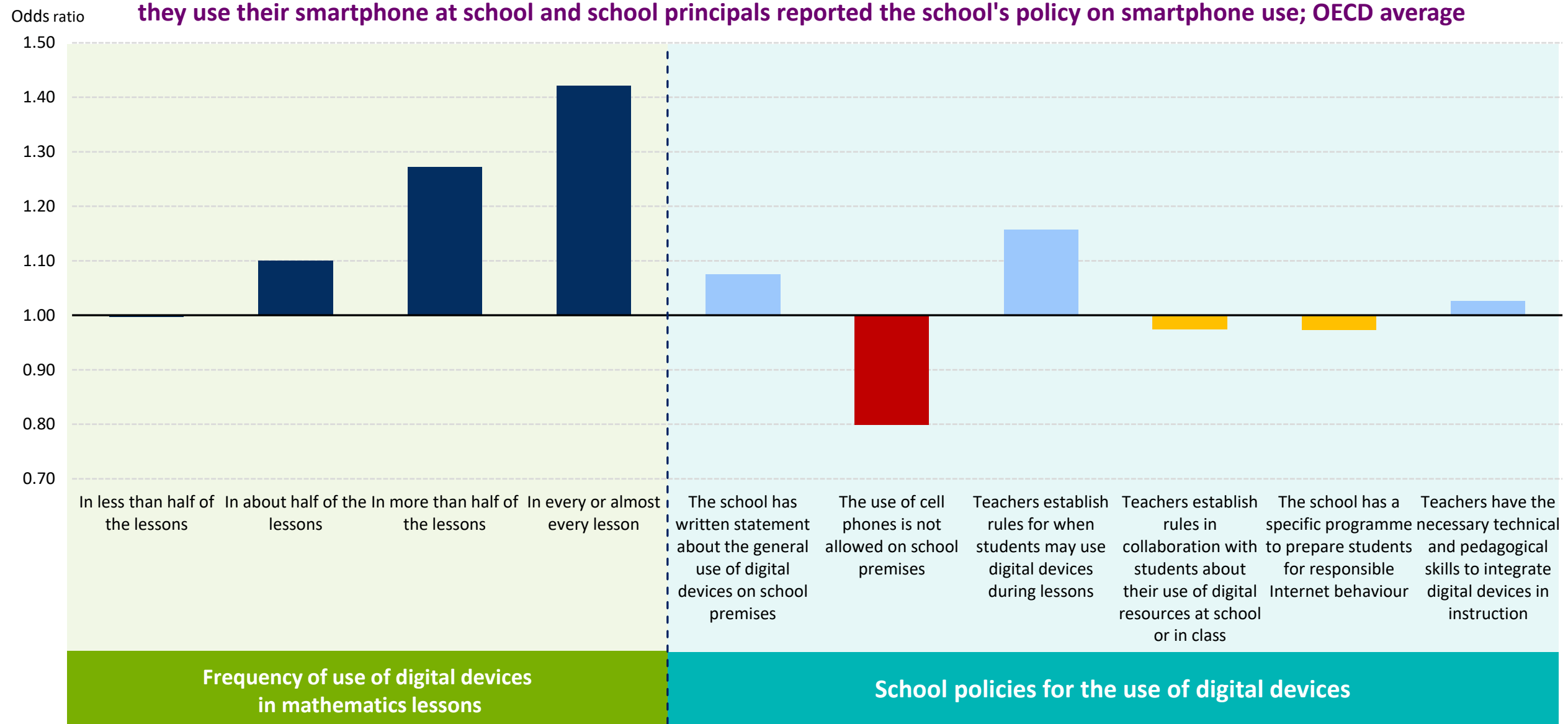
Based on students' reports; OECD average



Digital devices, distraction and school policies

Figure II.5.9

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



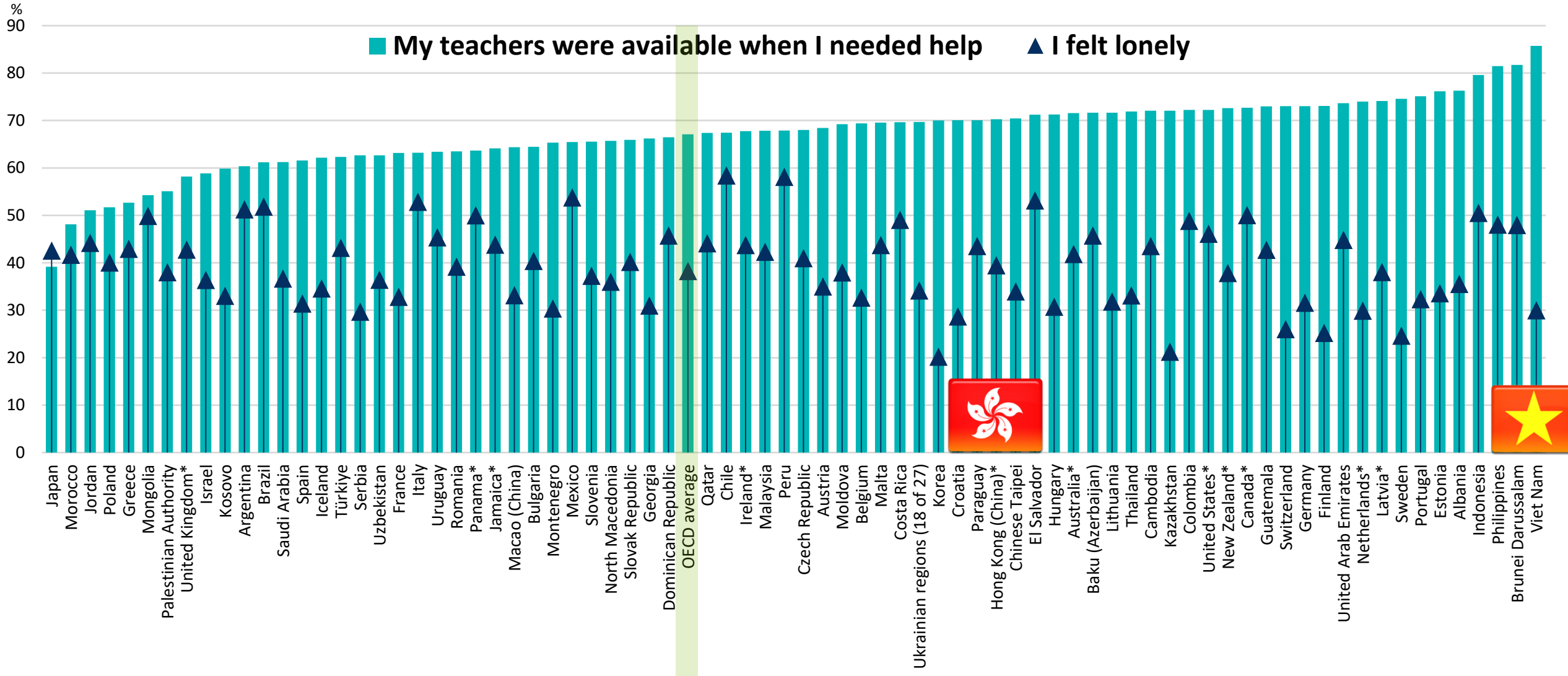
Teachers and teaching

Are some students being let down?

Teacher support

Figure II.2.10

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

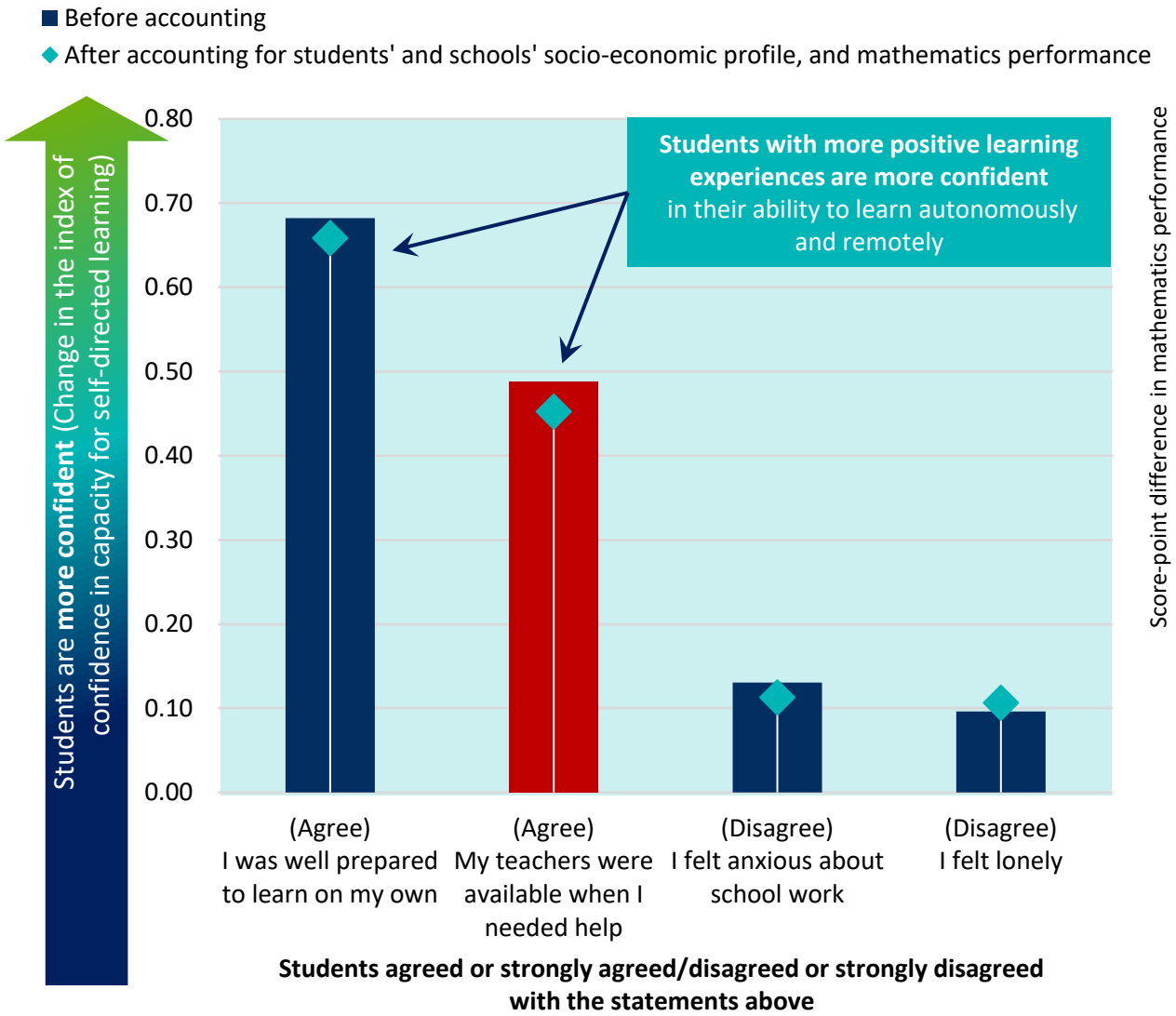


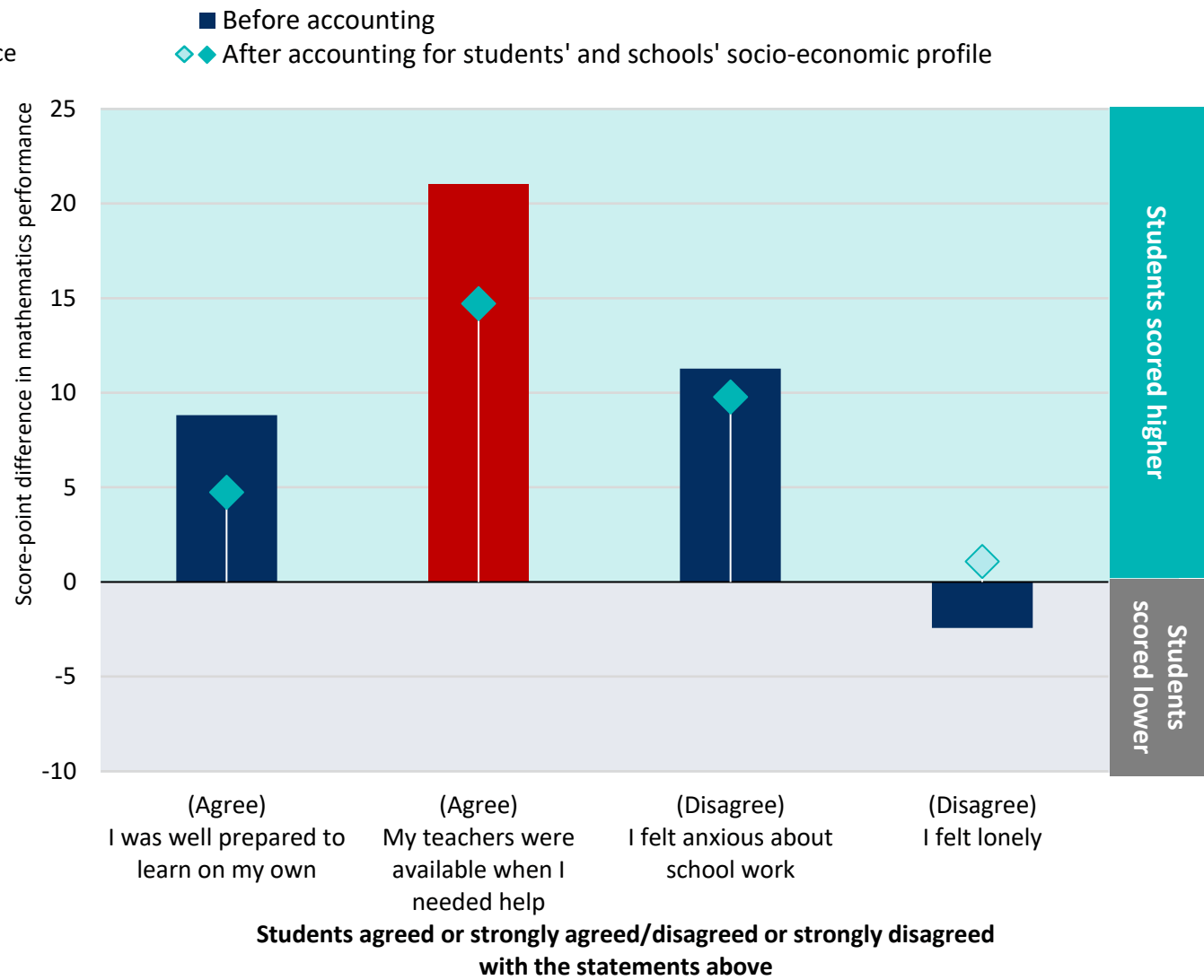
Students learn best from teachers they love

Remote learning, mathematics performance and confidence in self-directed learning

Figure II.2.12

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

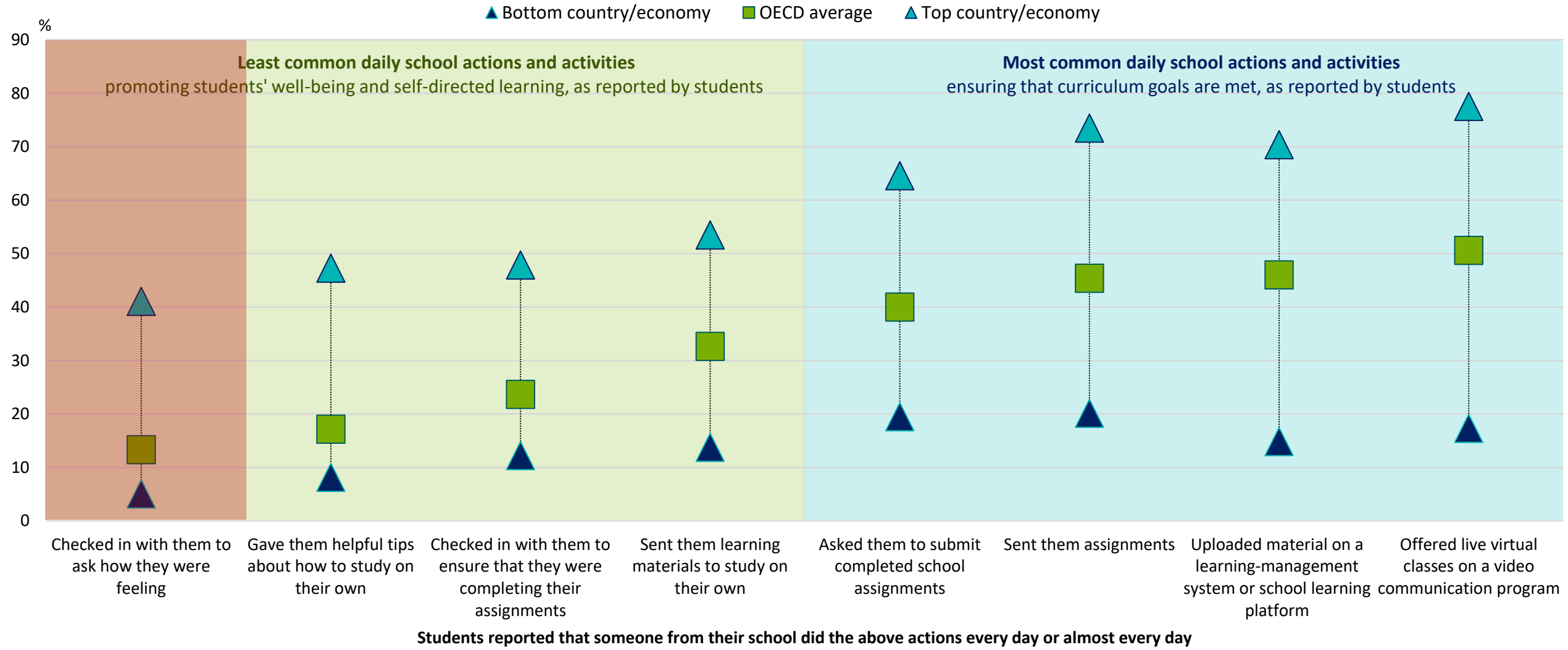




School actions and activities to maintain learning and well-being

Figure II.2.16

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



Skills beyond school

You cannot be what you cannot see

Implications for education and training

Increased demand for skills means education systems have to respond

Education systems need to deliver:

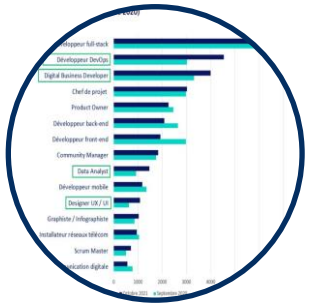
- **Higher skills levels for more people in initial education and training**
- **Opportunities to upskill and reskill throughout life**

Front-loaded learning to lifelong learning

Multiple pathways

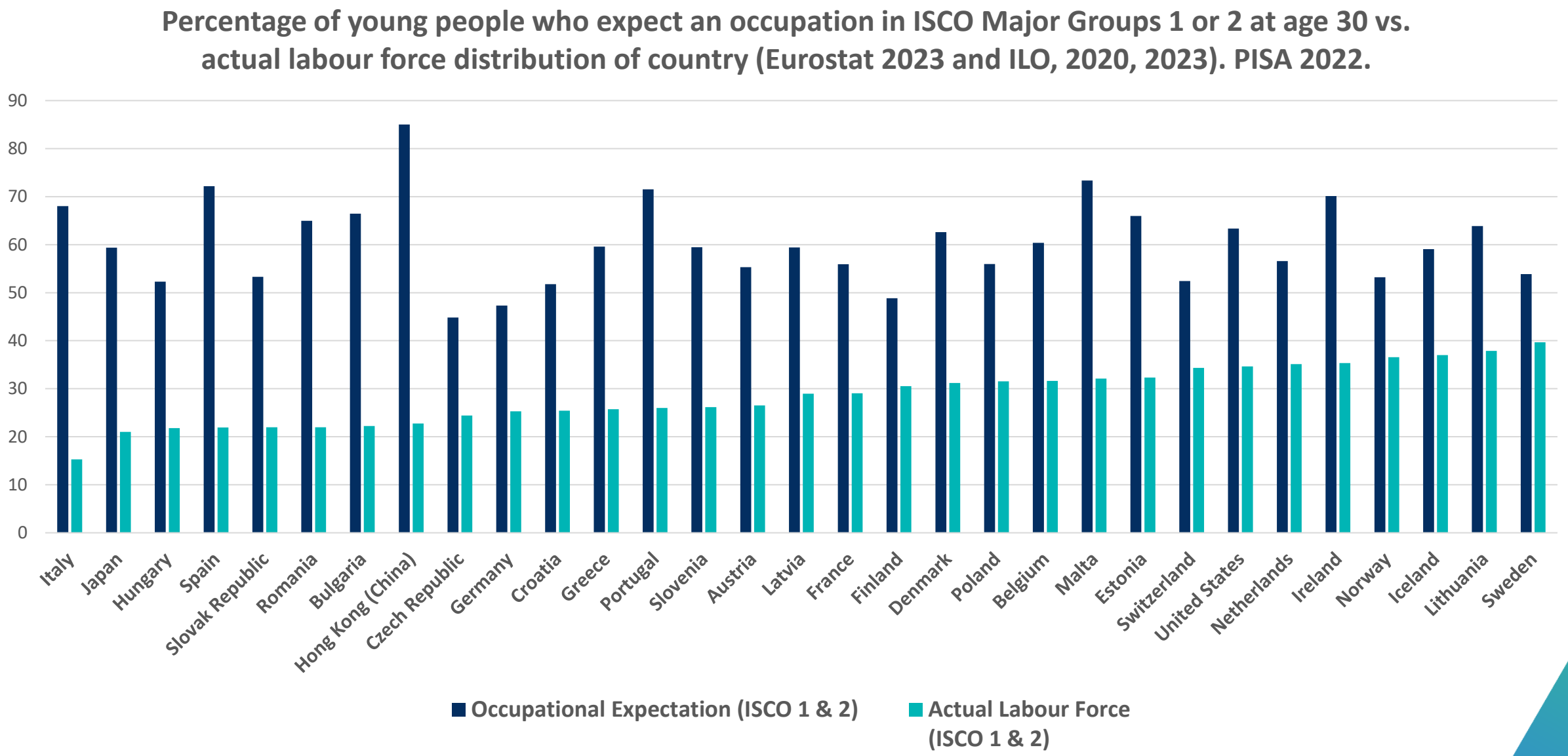
Combining work & study

Responding to priority skills needs (as well as core competencies)

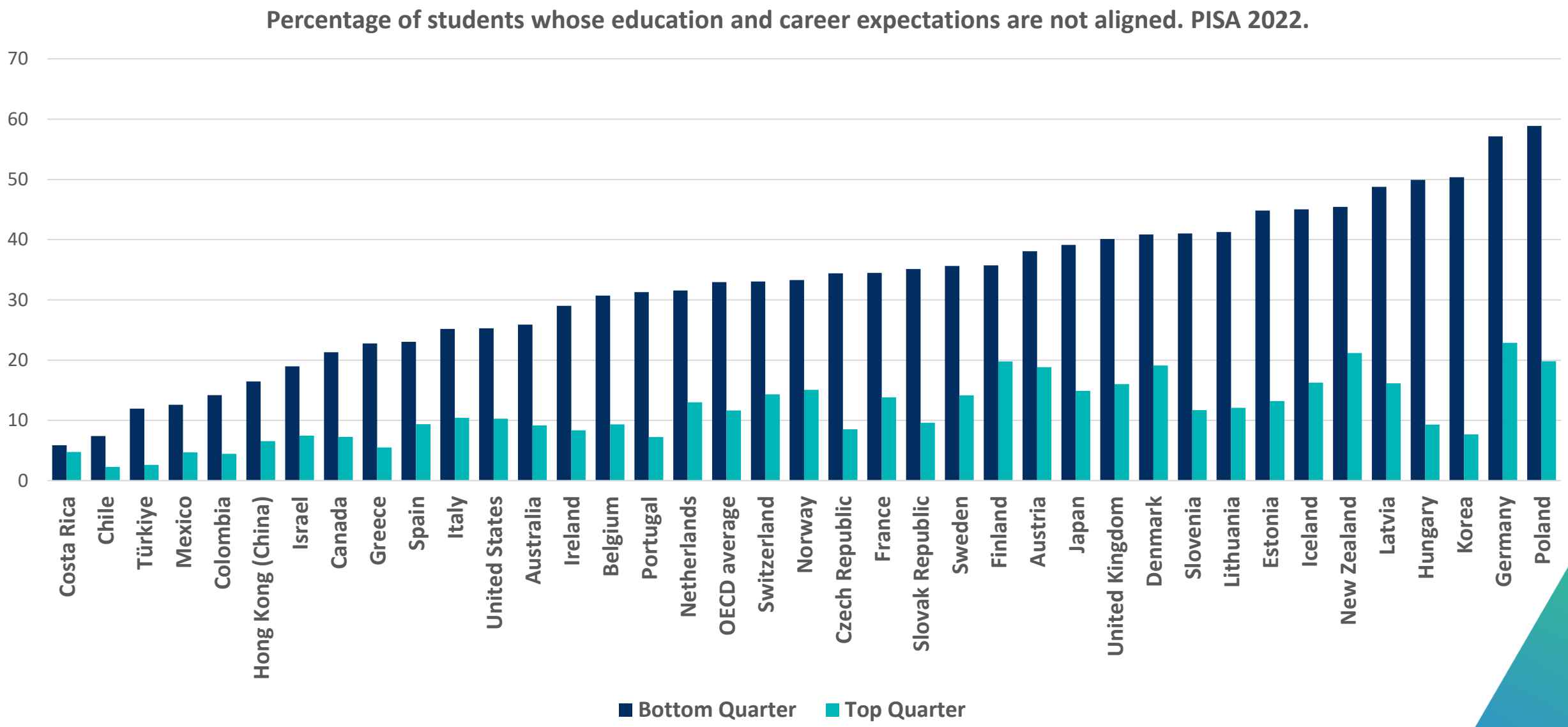


Motivating & incentivising individuals

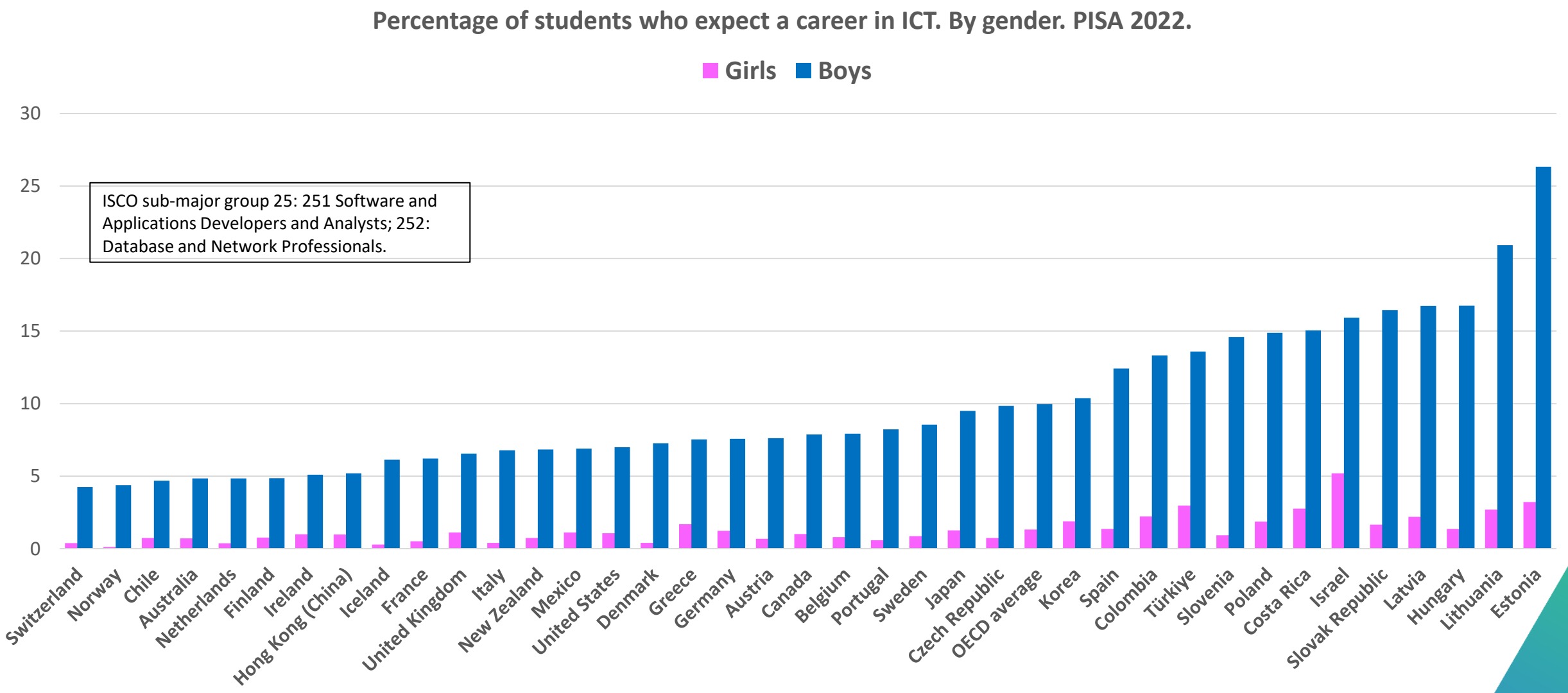
Teenage career expectations bear little relation to actual labour market demand



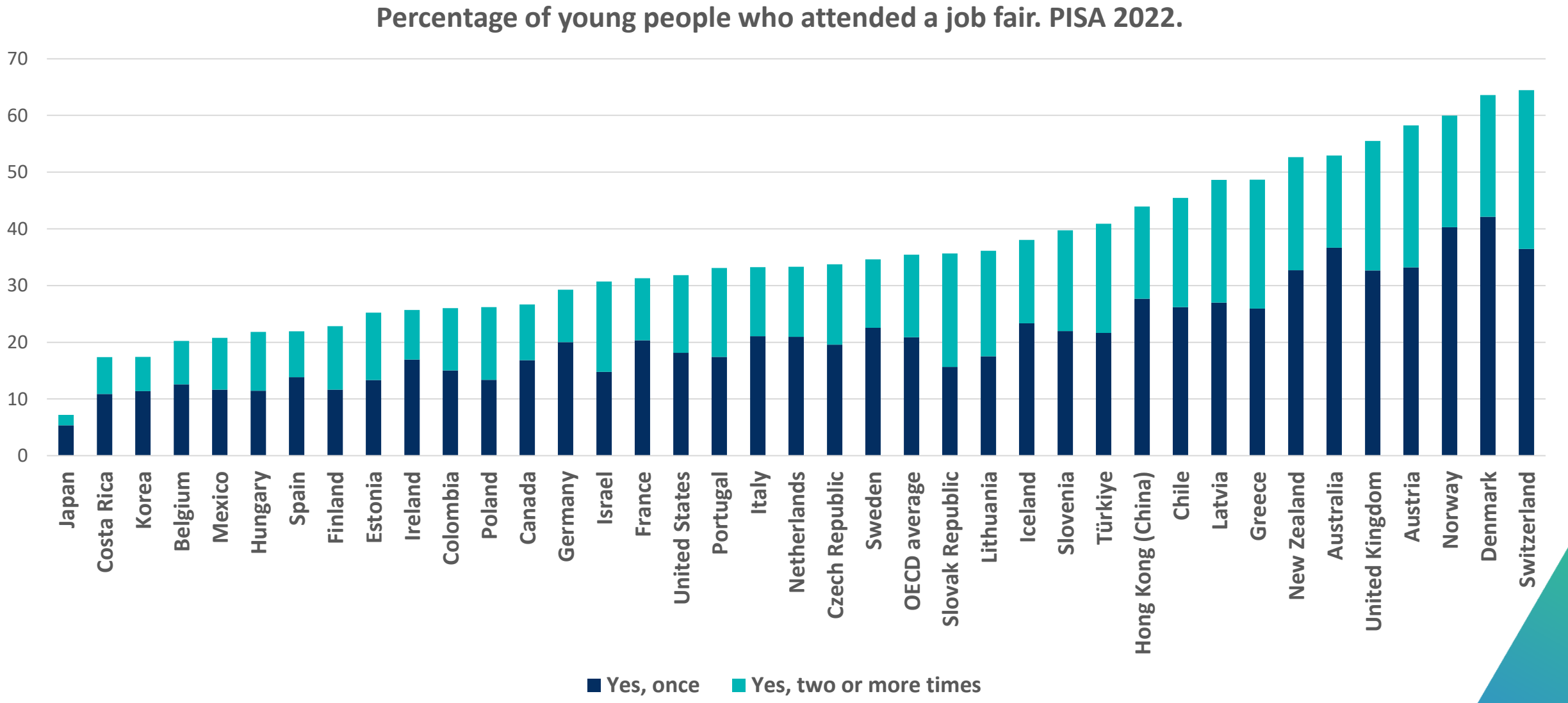
Many disadvantaged students expect to work in jobs that require tertiary education – but do not plan on pursuing it (PISA)



Student interest in IT careers remains severely gendered (PISA)



Too few students are engaging with employers and people in work



EDUCATION & SKILLS

Find out more about our work at www.oecd.org/pisa

PISA main reports

PISA Country notes

Email: Andreas.Schleicher@OECD.org
X : SchleicherEDU
WeChat : AndreasSchleicher
Take the test: bit.ly/PISA-Test
PISA FAQs: www.oecd.org/pisa/pisafaq
PISA Data Explorer: www.oecd.org/pisa/data