PISA IN FOCUS 5

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How do some students overcome their socio-economic background?

- Across OECD countries, 31% of students from disadvantaged backgrounds are "resilient", meaning that they are among the best performers of all students of similar background internationally.
- A key difference between disadvantaged students who are resilient and those who are not is that resilient students attend more regular lessons at school.
- PISA results show that the more self-confident and the more motivated students are, the greater their odds of being resilient.

A cycle of disadvantage is not inevitable.

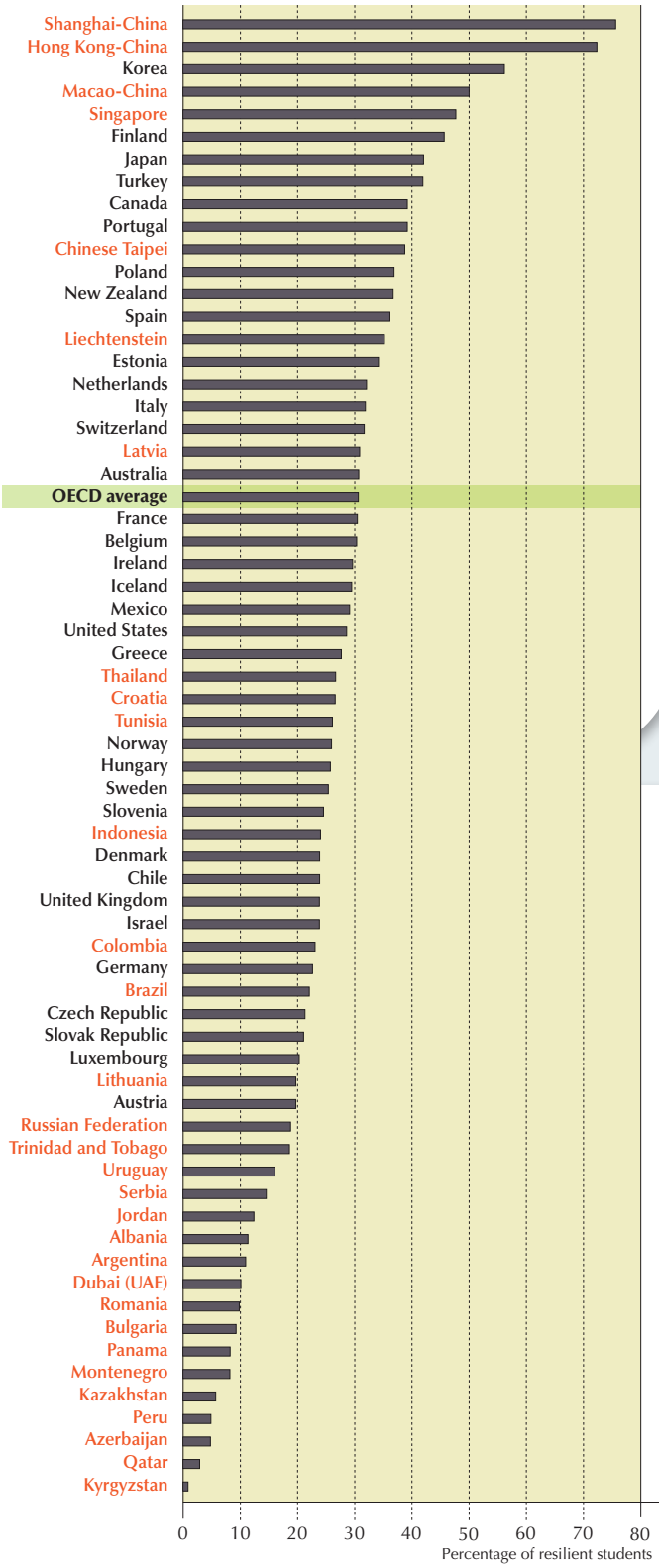
Are socio-economically disadvantaged students condemned to perpetuate an intergenerational cycle of poor academic achievement, poor job prospects and poverty? Not if they attend schools that provide them with more regular classes.

Resilient students in the 2006 and 2009 PISA surveys displayed high levels of academic achievement despite the fact that they came from disadvantaged backgrounds. They beat the odds stacked against them to outperform peers from the same socio-economic background and be ranked among the top quarter of students internationally.

In PISA 2009, nearly one-third of disadvantaged students across OECD countries were identified as "resilient". In fact, the majority of students from disadvantaged backgrounds in Korea and the partner economies Hong Kong-China, Macao-China and Shanghai-China were considered resilient. Over 35% of disadvantaged students in Canada, Finland, Japan, New Zealand, Poland, Portugal, Spain, the partner countries Liechtenstein and Singapore and the partner economy Chinese Taipei were also resilient.

PISA IN FOCUS

Percentage of resilient students among disadvantaged students



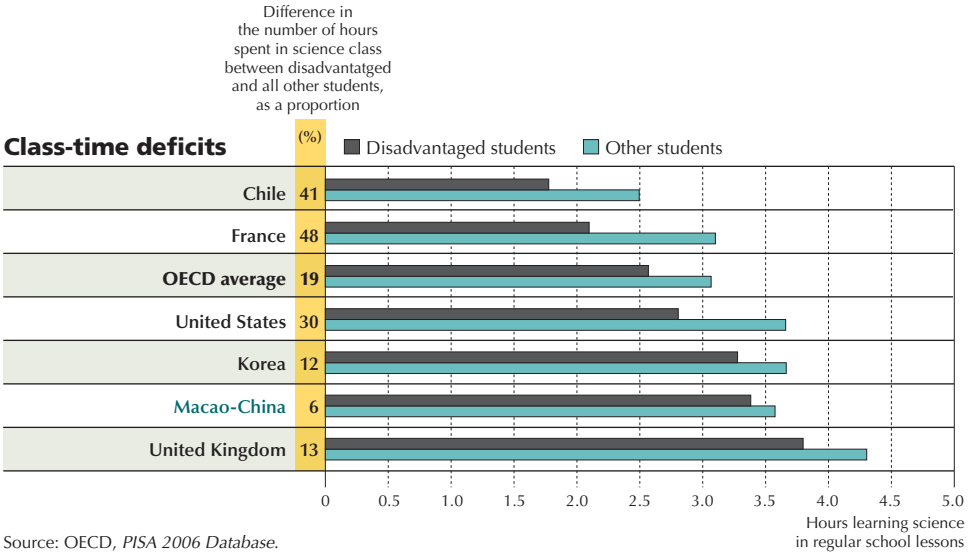
The ingredients of resilience: Time in class…

Results from PISA 2006, which focused on students' performance in science, showed that a large proportion of disadvantaged students do not even attain the PISA baseline proficiency level in that subject. These students risk completing their studies without acquiring the skills and competencies needed to fully participate in society and continue learning throughout their lives.

So what helps some students to overcome their social background and achieve high scores in school? One ingredient associated with resilience is spending more time in class. Analysis of PISA 2006 results found that many disadvantaged students spend less time studying science in school than their more advantaged peers. While relatively advantaged students spend more than three hours a week in regular science classes, disadvantaged students spend about two-and-a-half hours a week. Among disadvantaged students, learning time in school is one of the strongest predictors of which students will outperform their peers. In practically all OECD countries, and all partner countries and economies, the average resilient student spends more time studying science at school – on average, between one and two more hours per week – than the average disadvantaged low-achiever. For example, in France, Germany and the Netherlands, resilient students spend at least one hour and 45 minutes more in science classes per week than disadvantaged low-achievers do.

Source: OECD, *PISA 2009 Database*, Table II.3.3.

Countries have different ways of ensuring that disadvantaged students spend sufficient time in class, including by making courses compulsory. For example, in the United States, compulsory attendance in science class is associated with a relatively modest improvement in student performance – around 15 score points on the PISA science scale. But among disadvantaged students, that advantage triples to more than 40 score points, the equivalent of a full year of schooling. In Australia, the odds that a disadvantaged student who attends a compulsory science course will be resilient are four times greater than that for a disadvantaged student who does not attend compulsory science classes, even after accounting for the students' backgrounds.



Source: OECD, *PISA 2006 Database*.

...motivation and self-confidence.

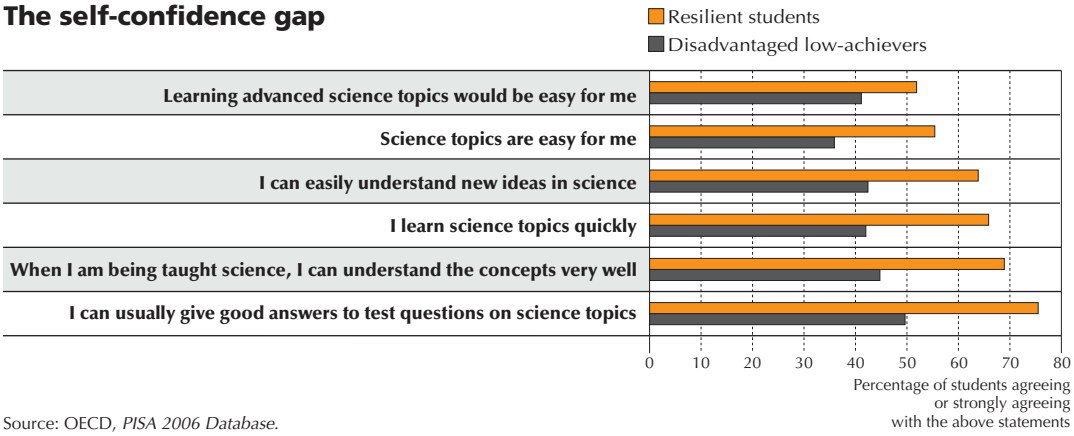
There seems to be another factor associated with resilience: students' confidence in their own academic abilities. PISA results show that the more self-confident students are, the greater their odds of being resilient. PISA 2006 findings revealed that over 50% of resilient students in OECD countries believed that learning advanced science topics would be easy for them, while only about 40% of disadvantaged low-achievers thought so. Some 75% of resilient students believed they can give good answers to test questions on science topics, while only about 50% of disadvantaged low-achievers shared this belief. Motivation, particularly motivation that arises from a personal, internal drive, rather than motivation that is prompted by an external stimulus – such as the prospect of a certain job or salary – is also associated with student resilience in many countries, but that relationship is weaker.

WHO ARE RESILIENT STUDENTS?

Resilient students come from a disadvantaged socio-economic background, relative to students in their country, and attain high scores by international standards. To make comparisons between countries meaningful, the overall relationship between background and performance, as well as the student's own background, are taken into consideration.

All of these findings suggest that schools may have an important role to play in fostering resilience. They could start by providing more opportunities for disadvantaged students to learn in class by developing activities, classroom practices and teaching methods that encourage learning and foster motivation and self-confidence among those students. High-quality mentoring programmes, for example, have been shown to be particularly beneficial. Focusing these activities on disadvantaged students is crucial, as they are the students who are least likely to receive this support elsewhere.

The self-confidence gap



Source: OECD, *PISA 2006 Database*.

And while increasing time spent at school will not, in itself, improve overall performance, PISA results suggest that learning time at school should be considered when designing policies to improve performance among disadvantaged students. Many of these students might have ended up in tracks or schools where there is very little choice and no opportunity to take science – or perhaps any other academic – courses. Students can succeed when given the opportunity – and they can't win if they aren't allowed to play.

The bottom line: Disadvantaged students *can and often do* defy the odds against them when given the opportunity to do so. This includes offering these students equal opportunities to learn, and fostering their self-confidence and motivation so that they can exploit their potential.

For more information

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See *PISA 2009 Results: Overcoming Social Background: Equity in Learning Opportunities and Outcomes (Volume II)* and *Against the Odds: Disadvantaged Students who Succeed in School.*

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