

OECD report on academic resilience of disadvantaged students

Academic Resilience: What schools and countries do to help disadvantaged students succeed in PISA, by Tommaso Agasisti, Francesco Avvisati, Francesca Borgonovi and Sergio Longobardi, OECD Education Working Papers No. 167, OECD Publishing, Paris, 29 January 2018. <http://dx.doi.org/10.1787/e22490ac-en>

This interesting working paper by Tommaso Agasisti and colleagues throws light on a little researched area that should be of growing importance. While researchers and policy makers have been focusing on socio-economic disparities in academic achievement since the 1960s, what makes some children from disadvantaged backgrounds academically resilient while others are not is less well understood.

Some of the factors that help students to be resilient are personal, while others will be a reflection on their home environment. What this working paper looks at is what education systems and individual schools can do to help disadvantaged students succeed. The OECD has used data from its PISA research programme of 15-year-olds, especially the rounds of 2006 to 2015. This showed several countries had increased the share of resilient students among those in the bottom quarter of socio-economic status.

Out of the 51 education systems for which the share of resilient students can be compared between PISA 2006 and 2015, 19 increased the likelihood of resilience among disadvantaged students while in 9 this likelihood decreased. Among OECD countries the increase was particularly pronounced in Germany, Israel, Japan, Norway, Poland, Portugal, Slovenia and Spain. For example, in 2006 only around one in four disadvantaged students in Germany reached Level 3 performance or higher in all three academic subjects tested in PISA. By 2015 as many as one in three did. One of the reasons why Germany was able to increase greatly its share of resilient students, the OECD believes, is the movement towards less selection in middle schools in many of its Länder, along with other measures to promote greater equity. Meanwhile, Australia, Finland, Hungary, New Zealand, Korea and Sweden saw a decline. The decline was perhaps most notable in Finland, where in 2006 almost 56% of disadvantaged students were resilient; by 2015, only 39% were. Finland was the poster boy of PISA, topping the performance tables having achieved the Holy Grail of very high levels of equity and quality for many years. The increase in the number of immigrants may be the cause of this. The UK performed at well below the OECD average.

Looking at system level performance, those countries that have comprehensive systems of secondary education are better able to generate academic resilience in disadvantaged students to a greater degree than those with selective systems. In selective systems, the later the selection takes place the greater the chance of resilience in disadvantaged students. As the lead author of the working paper, Tommaso Agasisti, told *Education Journal*: “When looking overall across PISA-participating countries, I would say that there is evidence to support the hypothesis that academic resilience of disadvantaged students is greater in non-selective comprehensive systems. Contrast Hong Kong and Singapore: both are top performers in PISA, with Singapore performing slightly above Hong Kong in all subjects; yet Hong Kong has a higher share of disadvantaged students who succeed in PISA (resilient students), and it also happens to have a less selective school system (students are tracked for the first time at age 15; in Singapore, they are tracked at age 12). Similarly, Denmark and Norway have similar results in PISA overall to those observed in Belgium and Switzerland, but have higher shares of resilient students: and the former have a non-selective, comprehensive systems up to age 16, while Belgium and Switzerland track students at age 12.”

An in-depth analysis of PISA data revealed that the chances of disadvantaged students being academically resilient varies greatly within each education system. The variation is related to the school such students attend. Together with the observed trends in resilience across time, the finding that resilience varies across schools suggests that the school environment plays a key role in mitigating the risk

of low achievement for disadvantaged students. In other words, although resilience is a property of individuals, education policies and school practices can greatly reduce the vulnerability of disadvantaged students and enable resilience as a result. Since resilience reflects both quality and equity, countries that grew the percentage of resilient students did so either by raising mean levels of achievement (thereby improving the quality of schooling provided), by reducing the extent to which socio-economic status explains proficiency (thereby enhancing equity) or, for many of the fastest improvers, by both.

Its schools that count most

The education systems that have successfully promoted student resilience over the past decade have been varied. This suggests that the key to success is largely at the level of the individual school. Schools that are successful in this area share some common attributes. The likelihood that disadvantaged students will be resilient is higher in schools where students report a good disciplinary climate, compared to schools with more disruptive environments, even after accounting for differences in student and school socio-economic status and other factors associated with resilience. Attending orderly classes in which students can focus and teachers provide well-paced instruction is beneficial for all students, but particularly so for the most vulnerable students.

Resilience among disadvantaged students is only weakly related to the amount of human and material resources available in their schools, measured through indicators of class size and student-computer ratios. Disadvantaged students are more likely to be resilient in schools that offer a high number of extracurricular activities (and have the necessary resources to do so). However, overall the association between resilience and extracurricular activities is weak, and some countries even exhibit a negative association between extracurricular activities and student resilience. The fact that no correlation exists between most resource indicators and the share of resilient students among socioeconomically disadvantaged students does not mean that investments in education do not matter. It suggests, instead, that resources help disadvantaged students to succeed only if they effectively improve aspects of their learning environment that are more directly linked to their opportunities to learn. In particular, the fact that the presence of extracurricular activities is associated with a greater likelihood of resilience among disadvantaged students may reflect the fact that investments in extracurricular activities promote engagement among teachers, students and the students' families, and can help develop a sense of belonging at school.

Students tend to report a better disciplinary climate in schools with a lower turnover among teachers. Unstable teaching teams may lack cohesion and limit the accumulation of experience that is necessary to establish an environment that is conducive to learning even in difficult conditions. Teacher turnover can be reduced by rewarding collaboration between teachers (to reinforce a sense of belonging to a specific school community) and by developing formal and informal mentorship programmes to ensure that more experienced teachers can support new ones and help them quickly establish strong bonds with the school. The leadership style adopted by principals is a second factor associated with the disciplinary climate experienced by students. The schools where the academic and disciplinary climate is better tend to share two key features: a more stable body of teachers, and a leadership style more oriented towards clarifying the mission and directing teachers towards strategic goals and results, i.e. transformational leadership. Transformational leaders foster capacity development, work relentlessly to promote a high level of commitment among teachers towards ensuring high academic results among their students, and are able to ensure that classrooms are orderly so that students make the most of their learning time in school. The working paper notes that "unfortunately, the managerial skills that enable principals to develop and effectively implement a transformational leadership style in their school are seldom taught in academic programmes that train school principals."

Several studies based on cross-country analysis of PISA data have highlighted the importance of a positive classroom climate for students' academic achievement. An analysis of PISA 2003 data highlights that in Japan, Korea and the United States there is a strong correlation between disciplinary climate and mathematics performance. The initial PISA 2003 report suggests that disciplinary climate in mathematics classes is strongly associated with mathematical literacy, while other variables – such as class size, mathematical activities (measured at the school level) and absence of ability grouping – has no substantial effect once the socio-economic status is taken into account.