OECD

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Does homework perpetuate inequities in education?

- While most 15-year-old students spend part of their after-school time doing homework, the amount of time they spend on it shrank between 2003 and 2012.
- Socio-economically advantaged students and students who attend socio-economically advantaged schools tend to spend more time doing homework.
- While the amount of homework assigned is associated with mathematics performance among students and schools, other factors are more important in determining the performance of school systems as a whole.

Mention the word "homework" and most students' eyes roll and shoulders slump. Parents, too, have their own problems with homework – notably, how to encourage their children to finish it before going out with their friends or surfing the web. There are very solid reasons why teachers assign after-school work, from helping struggling or underachieving students to learn the material covered in class, to ensuring that the material is stored in students' long-term memory, to providing additional stimulation for high performers. But homework can be particularly burdensome for disadvantaged students. They may not have a quiet place to study at home or as much time to do homework due to family and work responsabilities; their parents may not feel as capable of guiding, motivating and supporting their children as they do their homework because of work obligations, a lack of resources and other factors. Homework may then have the unintended consequence of widening the performance gap between students from different socio-economic backgrounds.

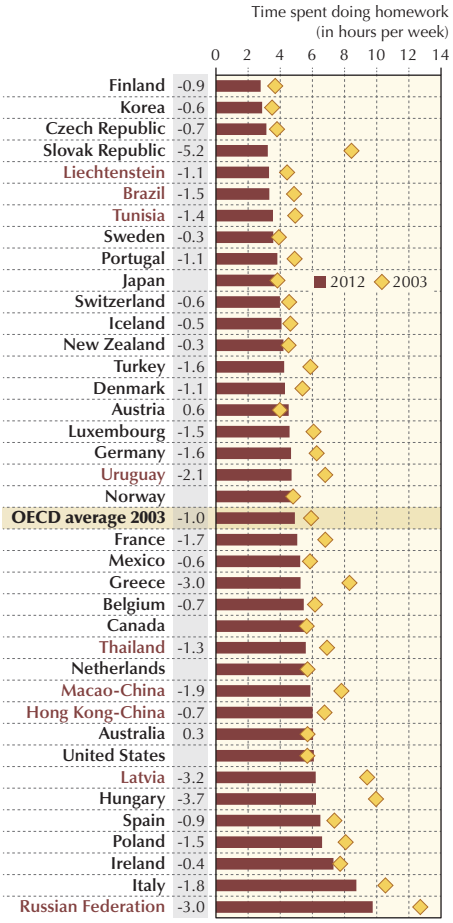
Students around the world are assigned homework.

Homework is assigned in every country and economy that participated in PISA in 2012. Students spend more time doing homework or other study set by their teachers (regardless of the subject) than they spend in other after-school learning activities, such as attending after-school classes organised by a commercial company, working with a personal tutor, or studying with a parent or other family member. On average across OECD countries in 2012, 15-year-old students reported that they spend almost 5 hours per week doing homework. The amount of time students reported that they spend doing homework varies significantly among countries.

For example, in Ireland, Italy, Kazakhstan, Romania, the Russian Federation and Singapore, students reported that they spend seven hours or more per week, on average, doing homework, while in Shanghai-China, students reported that they spend 14 hours per week, on average. By contrast, students in Finland and Korea reported that they spend less than three hours per week doing homework.

The amount of time students spend doing homework shrank between 2003 and 2012 in 31 out of 38 countries and economies with comparable data.

The amount of time students spend doing homework is substantial, but less than it was in 2003



Notes: Only countries and economies with comparable data from PISA 2003 and PISA 2012 are shown.

The change in time spent doing homework (2012 - 2003) is shown next to the country/economy name. Only statistically significant differences are shown.

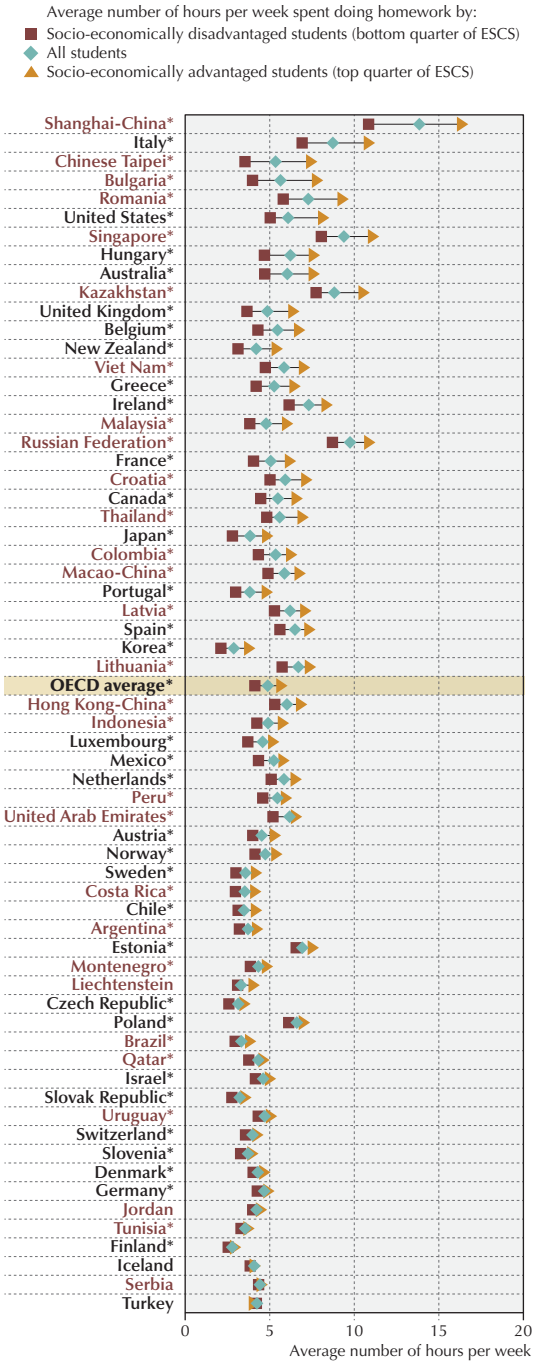
OECD average 2003 compares only OECD countries with comparable results in 2012 and 2003.

Countries and economies are ranked in ascending order of the average time students spent doing homework in PISA 2012.

Source: OECD, PISA 2012 Database, Table IV.3.48.

StatLink http://dx.doi.org/10.1787/888932957479

Advantaged students spend more time doing homework



Notes: ESCS refers to the *PISA index of economic, social and cultural status.*

Countries and economies are ranked in descending order of the difference in the average time spent doing homework between students who are in the top quarter of ESCS and those who are in the bottom quarter (top - bottom quarter).

Countries and economies where the difference is statistically significant are marked with an asterix (*).

Source: OECD, PISA 2012 Database, Tables IV.3.27 and IV.3.28 (web).

StatLink http://dx.doi.org/10.1787/888932957460

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In 2003, the OECD average was 5.9 hours per week per student, one hour a week more than in 2012. In Greece, Hungary, Latvia, the Russian Federation and the Slovak Republic, the amount of time students devoted to homework shrank by three hours per week or more. The reductions in time spent doing homework were particularly steep in those countries where, in 2003, students reported that they spend a considerable amount of time doing homework. Only in Australia and Austria was there a statistically significant increase in the amount of time students spend doing homework.

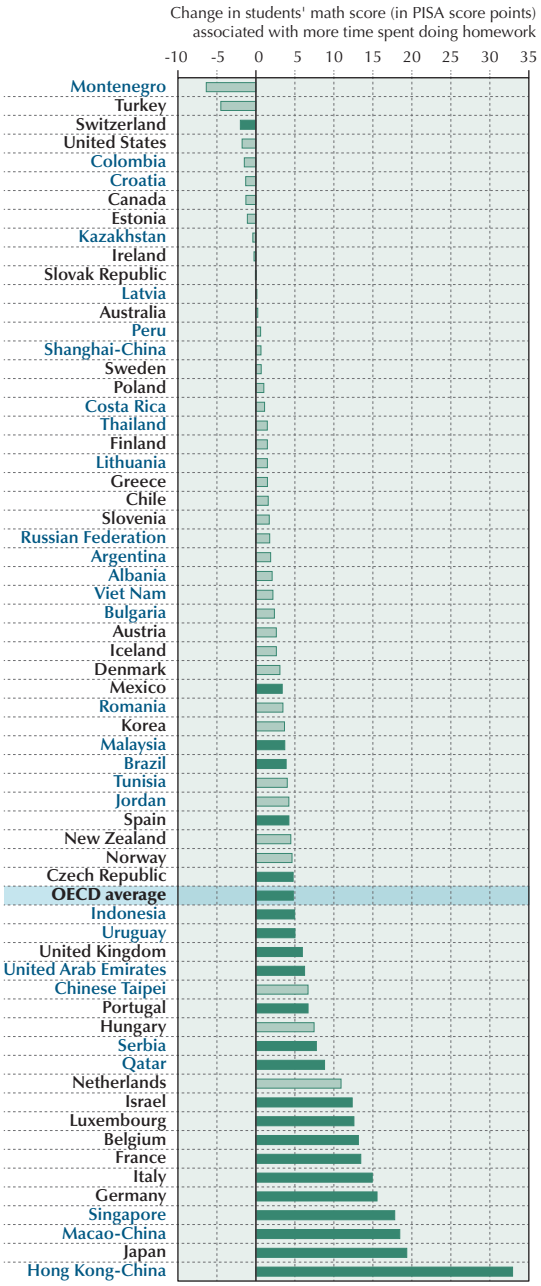
The decline in time spent doing homework might be the result of changing patterns in how students use their free time, reflecting, for example, the growing importance of the Internet and computers in adolescents' lives. It might also be the result of changes in teachers' ideas about whether to assign homework, and how much is enough or too much. Evidence from PISA 2009 suggests that after around four hours of homework per week, the additional time invested in homework has a negligible impact on performance. The changes between 2003 and 2012 in time spent doing homework leave most OECD countries now closer to this four-hour threshold.

Students' socio-economic status and the type of school they attend are related to the amount of time they spend doing homework…

In every country and economy that participated in PISA 2012, socio-economically advantaged students spend more time doing homework or other study required by their teachers than disadvantaged students. In OECD countries, an advantaged student typically spends 1.6 more hours a week doing homework than a disadvantaged student: advantaged students spend an average of 5.7 hours per week, while disadvantaged students spend an average of 4.1 hours per week. The difference in homework time between advantaged and disadvantaged students is particularly large, at 3.5 hours or more, in Bulgaria, Italy, Romania, Shanghai-China and Chinese Taipei.

The difference in time spent doing homework between advantaged and disadvantaged students varies across school systems that are similar in how much time students devote to homework overall. For example, among systems in which students spend more than 6 hours per week, on average, doing homework, Estonia and Poland show relatively small differences in time spent doing homework (one hour or less) between the two groups, while the United States and Ireland show comparatively large differences of 3 and 2 hours, respectively. The fact that there are cross-national variations in these differences suggests that reducing disparities in the amount of time advantaged and disadvantaged students devote to homework is an achievable policy goal.

In most countries, homework time is correlated with student performance



Notes: The figure shows the results of a multilevel regression model (student and school levels). Mathematics performance is regressed on variables indexing the socio-economic and demographic bakground of students and schools and also variables indexing resources invested in schools.

Changes that are statistically significant are indicated by darker bars.

Countries and economies are ranked in ascending order of the change in students' mathematics score associated with a one-hour increase in the average number of hours per week students in a school spend on homework or other study assigned by teachers.

Source: OECD, PISA 2012 Database, Table IV.1.8c (web).

StatLink http://dx.doi.org/10.1787/888932957384

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…and more time spent on homework is, in turn, related to better student and school performance.

Results from previous PISA studies suggest that advantaged students are more likely than disadvantaged students to have an appropriate place to study at home and engaged parents who can convey positive messages about schooling and the importance of doing what is required by teachers, including regularly completing assigned homework. The relationship between the socio-economic composition of a school's student population and the amount of time students spend on homework might reflect differences in teachers' expectations about their students' potential and their capacity to study independently after school hours.

The amount of time students spend doing homework also varies depending on the type of schools students attend. For example, students who attend schools whose student body is predominantly advantaged and students who attend schools located in urban areas reported spending more time doing homework than students who attend schools located in rural areas and schools with a more disadvantaged student body. In addition, students who attend private schools and upper secondary schools spend more time doing homework than students who attend public schools and those who attend lower secondary schools.

The amount of time students spend doing homework is related to their individual performance in PISA and to their school's PISA performance: students who spend more time doing homework tend to score higher in PISA, as do their schools. When comparing students of similar socio-economic backgrounds who attend similarly resourced schools, those who attend schools where students spend more time doing homework perform better in mathematics than those who attend schools whose students devote less time to homework. The net pay-off in mathematics performance from attending a school where more homework is assigned to students is particularly large – 17 score points or more per extra hour of homework – in Hong Kong-China, Japan, Macao-China and Singapore.

But PISA also finds that the average number of hours that students spend on homework or other study set by teachers tends to be unrelated to the school system's overall performance. This implies that other factors, such as the quality of instruction and how schools are organised, have a greater impact on a school system's overall performance.

The bottom line: Homework is another opportunity for learning; but it may also reinforce socio-economic disparities in student achievement. Schools and teachers should look for ways to encourage struggling and disadvantaged students to complete their homework. They could, for example, offer to help parents motivate their children to do their homework and provide facilities so that disadvantaged students have a quiet place to complete assigned homework if none is available in their homes.

For more information

Contact Daniel Salinas *(Daniel.Salinas@oecd.org)*

See OECD (2013), *PISA 2012 Results: Excellence through Equity: Giving Every Student the Chance to Succeed* (Volume II), PISA, OECD Publishing, Paris;
OECD (2013), *PISA 2012 Results: What Makes Schools Successful? Resources, Policies and Practices* (Volume IV), PISA, OECD Publishing, Paris;
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