

Chapter 8

Boys fall behind at school, but catch up shortly thereafter

Key findings

- In 2014 across the OECD, 57% of bachelor's and master's degrees were obtained by women; though only 47% of doctoral graduates were women.
- Among adults whose parents reached upper-secondary or post-secondary (but non-tertiary) education, women are more educationally upwardly mobile OECD-wide; they are, on average, 10 percentage points more likely to go on to study at the tertiary level than men.
- In 22 of the 35 OECD countries, boys are more likely than girls to be all-round low achievers at the age of 15, with any gender differences in the remaining countries small and not statistically significant. By the age of 27, however, young men outperform young women in numeracy and perform on a par with them in literacy. Further research is needed to discern whether this evolution reflects genuine changes in the relative aptitudes of men and women, differences in test engagement across age groups, or differences in survey design between tests.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Women have generally higher upper-secondary and higher education qualifications

Modern economies reward the highly-educated with higher wages, while adults with no or poor qualifications are at greater risk of being unemployed. OECD-wide, the average unemployment rate among adults who did not reach upper-secondary level is 12.4%, but just 4.9% among those with higher education. And full-time workers with upper-secondary education earn 19% more, on average, than those who did not go that far (OECD, 2016a).

Educational attainment is also positively associated with well-being, good health, social integration and civic participation. One of the challenges facing education systems in many OECD countries is school drop-out and the large numbers of pupils who leave school with no upper-secondary qualification. They generally experience great difficulty entering – and remaining in – the labour market.

Women are more likely than men to complete upper-secondary school – the final stage of secondary education in most OECD countries. In 2014, 88% of women OECD-wide were expected to graduate from upper-secondary level education, compared with 83% of men. In all countries with available data – except for China, Ireland and Korea – female pupils make up the bulk of upper-secondary graduates from standard academic programmes – 55% on average. In 32 of the 39 countries with available data, men are more likely than women to graduate from vocational programmes (OECD, 2016a).

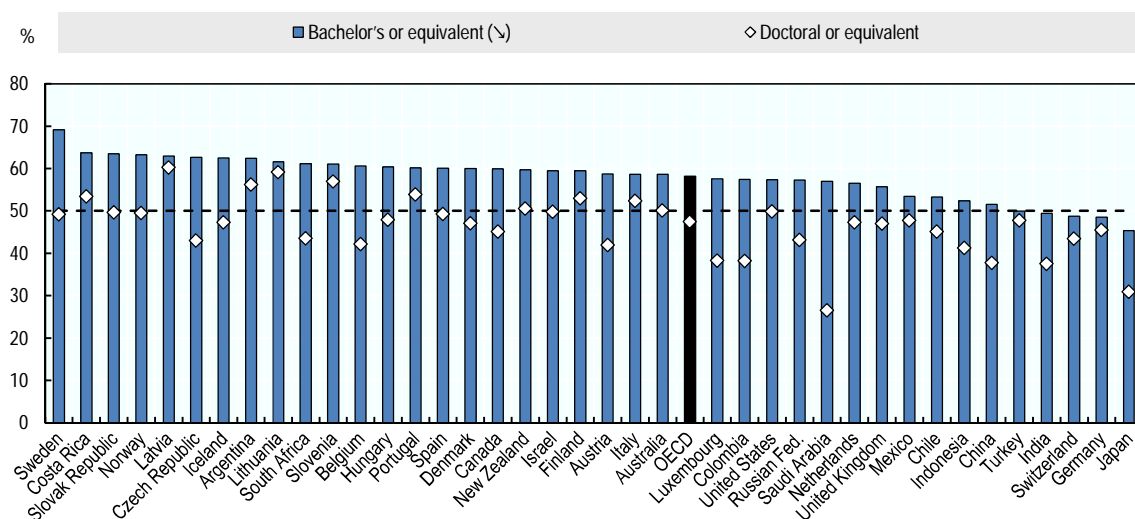
In 2014, more women than men earned tertiary qualifications, except among doctoral graduates (Figure 8.1). They accounted for:

- 56% of short-cycle graduates,
- 58% of graduates with bachelor's degrees, or equivalent;
- 57% of graduates with master's (or equivalent);
- 47% of doctoral graduates.

In only three countries (Germany, Japan and Switzerland) were over half of bachelor's degree graduates men, while in Sweden less than one-third were male.

Figure 8.1. Most students obtaining a bachelor's degree are women, though women are often under-represented among doctoral graduates

Female share of tertiary graduates, by level of tertiary education, 2014 or latest available year^{a)}



a) Data for Argentina, Canada, Iceland, India and South Africa refer to 2013.

Source: OECD (2016), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, <http://www.oecd.org/edu/education-at-a-glance-19991487.htm>.

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Men are less likely to earn a tertiary degree, because they are less likely to enrol or complete courses than females. In several countries, they also take longer than their female peers to graduate within the expected time – 35% do so, compared with 46% of women, in the 15 OECD countries with data on bachelor's degree completion times. The average gender gap is thus 11 percentage points though it is as wide as 20 percentage points or more in Estonia and Finland, but 5 or less in Australia, Austria, Israel and Norway.

Both sexes' completion rates are higher in three-year bachelor's degree courses – 74% of females and 63% of males. The gender gap therefore remains stable at 11 percentage points, though in Finland, New Zealand and the United States, it narrows by 4 points or more when completion rates factor in the extra time that it takes men to complete their studies.

Box 8.1. Intergenerational mobility

Women are more likely than men to improve on their parents' level of education. In 26 of 33 countries with available data, women whose parents completed upper-secondary or post-secondary (but non-tertiary) education are an average 10 percentage points more likely than men to go on further and study at the tertiary level. The gender gap in upward educational mobility in favour of women is particularly wide – 19 percentage points or more – in Denmark, Estonia, Finland and Italy. Among adults whose parents had no upper-secondary schooling, women are also more likely than men to go on to the tertiary level – 24% versus 21% in 2014.

Boys and low achievement

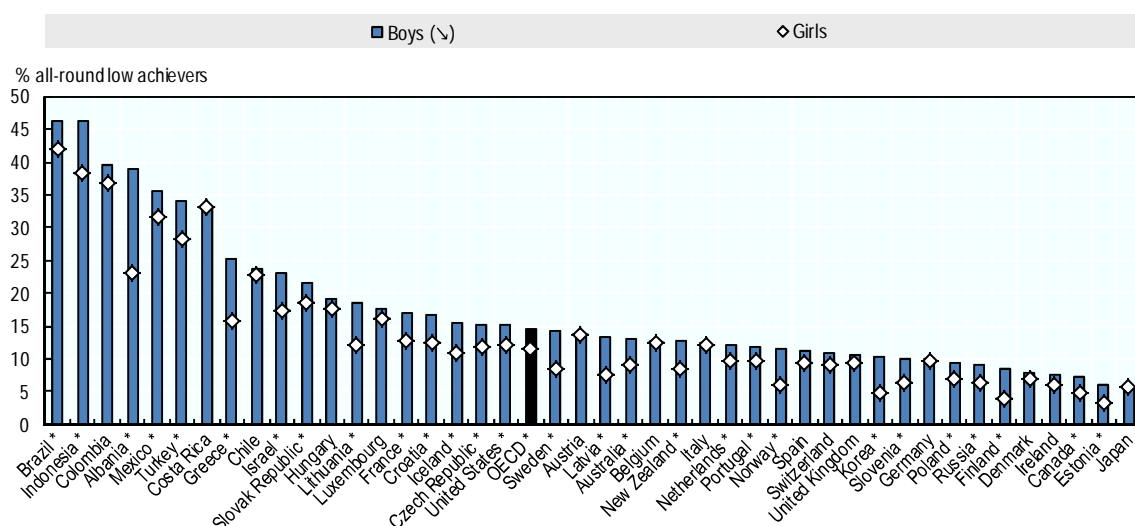
Gender differences in education qualifications are the logical extension of gender differences in educational performance among 15-year-old students. Boys of that age are more likely than girls to be all-round low achievers. In other words, they are more likely to

perform below the baseline level of proficiency in all three subjects tested in PISA assessments: reading, mathematics and science. And they are particularly likely to struggle with reading. In 2015, an average of 14.5% of boys OECD-wide, compared with 11.4% of girls, were all-round low achievers (Figure 8.2).

In 22 of the 35 countries, more boys than girls are all-round low achievers, while in the other 13 there is no significant difference. The gender gap in the percentage of all-round low achievers is wider than 5 percentage points in Greece, Israel, Korea, Latvia, Norway, Sweden and Turkey. In 26 of 35 partner countries and economies with available data, boys are also more likely than girls to be all-round low achievers. Nowhere are higher proportions of girls all-round low achievers.

Figure 8.2. Boys are often more likely than girls to be all-round low achievers

Proportion (%) of students that are all-round low achievers in PISA reading, mathematics and science, by gender, 2015



Note: In countries marked with an asterisk (*), the gender gap in the proportion of all-round low-achievers is statistically significant at the 5% level.

Source: OECD PISA 2015 Database, <http://www.oecd.org/pisa/data/>.

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The sizeable number of boys who fail to make the grade in PISA assessments is a major challenge for education systems (OECD, 2015). Pupils who perform poorly in all subjects are hard to motivate and keep in school because there is very little that teachers, school principals and parents can build on to promote improvement. They may also come to feel disconnected and find it easier to build an identity based on rebellion against school and formal education than to engage and make the effort needed to break the cycle of poor performance and low motivation.

OECD PISA results show that boys' behaviour, both inside and outside school, has a strong impact on their school performance. They are less likely than girls to spend time on their homework or to feel that they belong to their school community. There is also a greater chance that they play videogames, are extreme Internet users, arrive late for school, and have poor relations with their teachers.

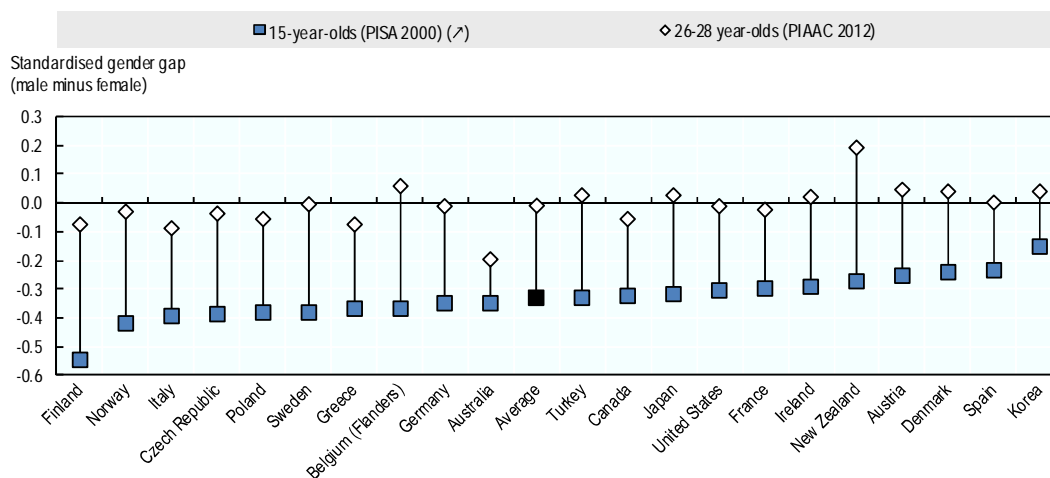
Gender gaps in literacy narrow with age

A comparison between the literacy performance of the 15-year-olds tested in OECD PISA 2000 and the performance of the same (pseudo-) cohort when assessed again at around age 27 in the 2012 OECD Survey of Adult Skills (PIAAC) suggests that gender gaps narrow considerably as young people transition from compulsory schooling to further education, training and the labour market. Borgonovi et al. (2017) show that, in the PISA 2000 study, the average gap in literacy between 15-year-old boys and girls was 0.33 of one standard deviation, a moderate gap. By the time the students had become young adults, the gap had narrowed considerably or closed altogether (Figure 8.3). On average, the gender gap in literacy skills at the age of 27 was 0.01 of a standard deviation (a negligible level) and no larger than 0.25 (New Zealand) in any of the countries that were part of the analysis.

The shrinking gender gap in literacy between the ages of 15 and 27 was observed across the performance spectrum, but was most pronounced among low-performing young men. In the bottom reading and literacy performance decile among 15-year-olds, it was as wide as 0.46 (in favour of girls), but by the time the cohort had reached the age of 27, the gap had nearly closed altogether to just 0.09. At the top of the performance distribution (90th percentile), the gap had been narrower among 15-year-olds (0.23) and had also practically disappeared – it stood at a tiny 0.02.

Figure 8.3. Gender performance gaps in literacy tests among teenagers often disappear by the mid-20s

Standardised gender gaps in literacy among 15-year-olds (PISA 2000) and 26-28 year-olds (PIAAC 2012)^a



Note: The standardised gender gap is the score-point difference between the male and the female scores, divided by the pooled standard deviation. All gender gaps among 15-year-olds are statistically significant at the 5% level. No gender gaps among 26-28 year-olds are statistically significant at the 5% level. Data are based on two different samples of young men and young women drawn from roughly the same birth-cohort at different points in time – from 15-year-olds in 2000, and from 26-28 year-olds in 2012. This design is known as a “pseudo-cohort” analysis – the data show the evolution of the gender gap when following a “pseudo-cohort” over time, as opposed to following exactly the same individuals, as would be the case with full panel data. For more details, see Borgonovi et al. (2017).

a) For Greece, New Zealand and Turkey, data for 15-year-olds are based on PISA 2003 rather than PISA 2000, and data for 26-28 year-olds are based on PIAAC round 2 (2015) rather than PIAAC round 1 (2012).

Source: Borgonovi, F. et al. (2017), “Youth in Transition: How Do Some of the Cohorts Participating in PISA Fare in PIAAC?”, *OECD Education Working Papers*, No. 154, OECD Publishing, Paris, <http://dx.doi.org/10.1787/51479ec2-en>.

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Gender differences in literacy proficiency could stem from a combination of cognitive, motivational and behavioural factors (Ruble et al., 2006), as well as differences in test coverage and survey design. Disparities in gender-related motivation between the PISA and PIAAC tests and in the cognitive and behavioural development of young men and women between the ages of 15 and 27 could account for girls' relatively greater proficiency in PISA than in PIAAC. Boys' performance in the PISA assessment appears to have been particularly affected by their lower motivation and ability to remain focused throughout the test session (Borgonovi and Biecek, 2016). Computer-based delivery and, more crucially, the fact that the Survey of Adult Skills was conducted as a one-to-one study in respondents' homes with a trained interviewer, rather than as a group exercise in a school setting, may have elicited greater engagement, motivation and effort.

It is possible that, in their teenage years, boys may need stronger incentives to display their knowledge and skills. Their performance in school settings, particularly when the stakes are low, may depend more on motivation and engagement. What is more, boys in their teens show indifference to school and, in particular, to reading as a way of asserting their social identity and status among peers (Smith and Wilhelm, 2002; 2006) – which might be a reason for demonstrating little motivation to perform well in school tests.

A final factor which may have contributed to the narrowing of the literacy gender gap was how the two sexes' reading and writing practices evolved. At the age of 15 girls were significantly more likely to read for enjoyment than boys. In the countries that took part in OECD PISA 2000 and OECD PIAAC, almost two-thirds of girls read for pleasure, while only just over 50% of boys did. Girls were also more likely to read more complex matter, such as fiction, at the age of 15 than boys. However, gender gaps in reading and writing practices tended to narrow considerably as students matured to the age where they were part of PIAAC's young adult sample. The proportions of young males and females reading and writing out of interest converged to the point where, in some countries, more young men than women are engaged readers (Borgonovi et al., 2017).

Finding ways to engage low-performing boys and girls

Parents and teachers should seek ways to engage low-performing boys and girls with learning. Teenagers in general, and boys in particular, often struggle with discipline and think too little of their futures even though it would be good for their overall welfare (Thaler and Sustein, 2008). Parents and teachers can devise strategies for nudging teenagers towards greater self-control and discipline, or, at least, for lessening their opportunities for the type of poor behaviour that lead many to drop out of education without qualifications.

OECD PISA results suggest that any reading is better than no reading. Efforts to promote reading should, therefore, take into account students' different reading preferences as well as their reading abilities. Parents and teachers can use online reading, comic books, magazines and newspapers to coax low performers into the habit of reading for enjoyment.

A methodical approach that entices disengaged readers with easy, appealing reads, before gradually introducing more complex tasks and texts, could spark boys' interest in reading and ultimately improve their performance. Some education systems have promoted Drop Everything and Read Initiatives (DEAR) in which students are encouraged to read during school hours. A daily DEAR scheme can do more for students than give more time to read. It also gives teachers a structure for monitoring pupils over a period of time, assessing their progress and offering them targeted reading support. It also affords students the chance to read what they want, share what they have read, and receive the support they need for further reading exploration and reflection. So that reading stays interesting for

initially disengaged or poor readers, daily reading sessions should not last for too long (between 20 and 30 minutes) and ideally be followed by students writing an entry in their reading log.

Parents and teachers should also steer teenagers towards responsible use of digital media by developing their ability to control themselves. While gaming and browsing the web can promote some skills and be used as learning aids, they are associated with poor academic results, greater social isolation and less involvement in school when they take up excessive time. One way in which parents can help is by getting their children to draw up weekly timetables for their online activities and see that they keep to them. If they do, then parents should reward them to strengthen their behaviour as responsible consumers of digital content.

Finally, research on low-performing boys highlights the need for gender transformative programmes and measures. Gender gaps in achievement, attendance and behaviour should be understood in connection to cultural ideals about masculinity that ground boys' disengagement from their schooling (Kimmel, 2010).

Key policy messages

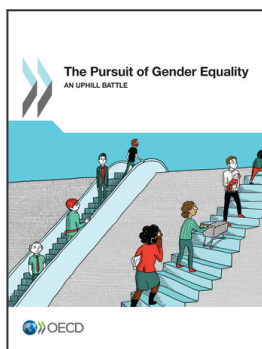
- It is crucial to improve low-performing boys' and girls' involvement in school to curb the risk of dropping out, which would compromise their future access to education and training opportunities.
- A structured approach that entices reluctant readers with easy, appealing reads, before gradually introducing more complex tasks and texts, could spark low-performing boys' and girls' interest in reading and ultimately improve their literacy performance. Parents and teachers could use online reading, comic books, magazines and newspapers to help boys develop the habit of reading for enjoyment.
- Videogaming and web browsing can promote some skills and be used as learning aids. But when young people spend excessive amounts of time online, their academic results are affected, they can become socially isolated and show lower engagement in school. Parents and teachers should help boys and girls become responsible users of digital media by developing their ability to regulate their time through, for example, the use of a weekly timetable of online activity.

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