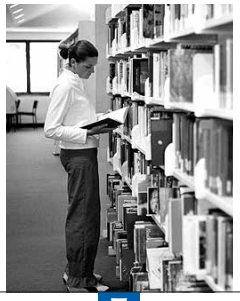


5

Students' motivation to achieve

Motivation is frequently what makes the difference between success and failure, in school as in life. This chapter examines how students' achievement motivation differs among countries and how it is related to students' gender, socio-economic status and immigrant background. It also discusses how the motivation to achieve can influence student performance and have an impact on students' satisfaction with their life.

One of the most important ingredients of achievement, both in school and in life, is motivation to achieve (OECD, 2013). In many cases, individuals with less talent, but greater motivation to reach their goals, are more likely to succeed than those who have talent but are not capable of setting goals for themselves and to stay focused on achieving them (Duckworth et al., 2011; Eccles and Wigfield, 2002). The motivation to achieve goals not only leads individuals to pursue work they perceive to be valuable, it also prompts them to compete with others (Covington, 2000). This drive may come from an internal or external source. Achievement motivation is intrinsic when it is sparked by an interest or enjoyment in the task itself. It is organic to the person, not a product of external pressure. Achievement motivation can be instead extrinsic when it comes from outside the person. Common sources of extrinsic motivation among students are rewards like good marks, or praise from parents and teachers.

Motivating students is one of the major challenges teachers face on a daily basis. Adolescents have new capabilities and interests that should motivate them to do well at school. As they become older, children become more able to exercise complex thought, have greater capacities for self-regulation, and hold a stronger desire for meaningful work (Damon, Menon, and Cotton Bronk, 2003). Despite these blossoming abilities and attitudes, steep declines in motivation to do schoolwork are often documented during adolescence (Lepper, Corpus, and Iyengar, 2005). At a period in life when school should be seen as more relevant, students rate school as less useful and important for their well-being (Wigfield and Cambria, 2010). The capacity to set goals and regulate efforts to achieve these goals is not just a characteristic of the individual but also a result of the home and school environments children encounter (Eccles and Wigfield, 2002). Because people tend to form beliefs about what they can achieve in life at a young age, the development of positive motivation to achieve at school is a prerequisite for success in life.

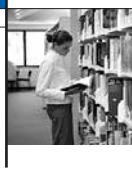
What the data tell us

- Girls were more likely than boys to report that they want top grades at school and that they care more than boys about being able to select among the best opportunities when they graduate. But boys were more likely than girls to describe themselves as ambitious and to aspire to be the best, whatever they do.
- In all PISA countries and economies except Belgium and Switzerland, disadvantaged students have lower levels of achievement motivation than advantaged students. On average across OECD countries, immigrant students reported higher achievement motivation than non-immigrant students.
- Achievement motivation is positively related to performance at school and to life satisfaction. On average across OECD countries, students in the top quarter of the index of achievement motivation score 37 points higher in science and reported 0.7 point higher life satisfaction (on a scale from 0 to 10) than students in the bottom quarter of the index.
- Students who want to be the best in their class or want top grades were more likely to report that they are very anxious about tests even if they are well prepared.

DIFFERENCES IN ACHIEVEMENT MOTIVATION BETWEEN AND WITHIN EDUCATION SYSTEMS

For the first time, PISA 2015 asked students to report whether they "strongly agree", "agree", "disagree" or "strongly disagree" with the following statements: "I want top grades in most or all of my courses"; "I want to be able to select from among the best opportunities available when I graduate"; "I want to be the best, whatever I do"; "I see myself as an ambitious person"; and "I want to be one of the best students in my class". Student responses to these five questions were used to construct the index of achievement motivation, which has a mean of 0 and a standard deviation of 1 across OECD countries.

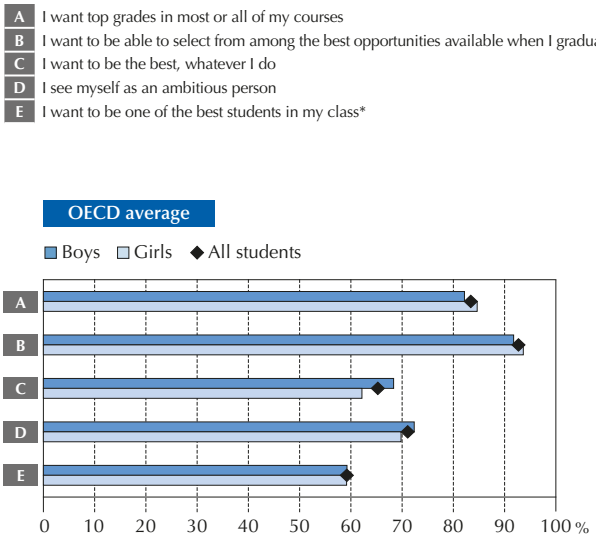
This new measure of achievement motivation provides useful information on the goals students set for themselves. However, the data do not allow for distinguishing between students who have these achievement goals because they are intrinsically motivated (students who internalise and accept as their own the values and activities associated with excellence in and out of school) and students who strive to attain goals that are externally imposed on them. Extrinsically motivated actions can lead to passive compliance, or become seemingly intrinsic as individuals identify with and fully assimilate the external regulation (Ryan and Deci, 2000a). In other words, students can be extrinsically motivated by their parents or community to achieve good results at school, and still be committed and authentic in what they do (Ryan and Deci, 2000b). Striving for good grades and valuing what one learns are not necessarily incompatible goals (Covington, 2000; Hidi and Harackiewicz, 2000).



The degree of internalisation of achievement norms makes a difference for students' outcomes. Students who make efforts because they consciously value a goal or regulation enjoy positive learning outcomes, greater well-being, and value what school has to offer (Fredricks, Blumenfeld, and Paris, 2004). Students whose achievement motivation is instead mostly driven by external incentives and controlling conditions often fail to experience the feelings of joy, enthusiasm and interest that are crucial for autonomous learning. Instead, they suffer from anxiety, boredom or alienation. They are no longer interested in what is taught, but only in learning what content will be tested. Given the difficulty of distinguishing between intrinsically and extrinsically motivated goals in the PISA questions on achievement motivation, the results in this chapter should be considered together with the analysis on students' interest in and enjoyment of science – two clear manifestations of intrinsic motivation – that appears in the first volume of the PISA 2015 report (OECD, 2016a)

Figure III.5.1 ■ **Students' achievement motivation, by gender**

Percentage of students who reported that they "agree" or "strongly agree" with the following statements



		Index of achievement motivation (mean index)	%				
			A	B	C	D	E
OECD	Australia	0.3	89	96	87	81	74
	Austria	-0.3	78	92	46	67	47
	Belgium	-0.5	72	92	39	62	42
	Canada	0.3	89	95	82	82	73
	Czech Republic	0.3	92	96	84	69	72
	Denmark	-0.3	81	93	67	61	42
	Estonia	-0.1	77	83	50	80	69
	Finland	0.0	92	95	66	75	51
	France	-0.6	61	80	36	56	41
	Germany	-0.3	85	94	48	71	45
	Greece	-0.4	77	91	42	65	43
	Hungary	-0.1	73	96	66	78	63
	Iceland	-0.3	76	93	64	61	40
	Ireland	0.4	96	87	75	79	76
	Israel	0.4	93	97	87	85	72
	Italy	0.8	96	97	90	87	86
	Japan	-0.2	88	95	55	73	52
	Korea	-0.5	65	87	39	58	33
	Latvia	0.3	87	96	80	67	82
	Lithuania	0.0	89	93	65	75	59
	Luxembourg	-0.2	83	93	50	63	54
	Mexico	0.2	96	96	83	39	81
	Netherlands	-0.4	92	94	37	73	30
	New Zealand	0.2	89	95	86	77	70
	Norway	0.1	83	95	65	77	64
	Poland	-0.4	65	86	58	74	46
	Portugal	0.2	96	93	77	72	65
	Slovak Republic	-0.3	74	92	71	70	44
	Slovenia	-0.4	69	86	49	65	44
	Spain	-0.2	77	94	61	53	57
	Sweden	0.1	80	92	73	82	64
	Switzerland	-0.4	77	91	39	67	40
	Turkey	0.6	93	94	85	73	89
	United Kingdom	0.5	95	98	90	83	76
	United States	0.6	94	97	93	87	85
Partners	Brazil	0.1	95	97	80	40	64
	B-S-J-G (China)	0.1	72	97	89	73	81
	Bulgaria	-0.1	79	94	57	82	67
	Chile	0.5	97	98	92	40	92
	Colombia	-0.2	68	94	59	73	61
	Costa Rica	0.3	91	93	85	26	90
	Croatia	0.2	88	94	82	64	75
	Dominican Republic	0.0	83	91	66	71	64
	Hong Kong (China)	-0.5	50	91	57	56	49
	Macao (China)	-0.2	77	92	66	81	54
	Montenegro	0.3	96	97	90	39	88
	Peru	0.8	93	95	90	87	89
	Qatar	-0.1	81	95	73	89	56
	Russia	0.4	88	96	89	75	82
	Singapore	0.0	79	97	68	73	68
	Chinese Taipei	0.5	98	98	84	51	86
	Thailand	0.2	92	97	97	67	80
	Tunisia	0.7	97	96	89	91	93
	United Arab Emirates	0.8	94	96	92	89	92
	Uruguay	0.0	88	95	75	47	50

Note: Gender differences that are not statistically significant are shown with an asterisk next to the statement (see Annex A3).
Source: OECD, PISA 2015 Database, Tables III.5.1, III.5.2 and III.5.3.

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The responses to the five statements show that boys and girls differ in their motivation to achieve. Girls were more likely than boys to report that they want top grades at school, and that they care more than boys about being able to select among the best opportunities when they graduate. Girls thus seem to care more than boys that their efforts at school are properly recognised, but they were less likely than boys to report that they are ambitious or competitive in contexts that are not necessarily related to school. On average across OECD countries, about 68% of boys and 62% of girls reported that they want to be the best, whatever they do (Figure III.5.1). In particular, boys in Austria, Italy, the Netherlands and Switzerland were at least 14 percentage points more likely than girls to report that they want to be the best, whatever they do. Some 72% of boys, and 70% of girls, described themselves as an ambitious person. In the Spanish-speaking countries of Chile, Colombia, Costa Rica, Mexico, Spain and Uruguay, boys were at least 13 percentage points more likely than girls to describe themselves as ambitious (Table III.5.2).

Several studies suggest that many boys do not want to be seen by their peers as interested in schoolwork (OECD 2015a; Skelton, Francis, and Valkanova, 2012). Boys can adopt a notion of masculinity that includes a disregard for authority, academic work and formal achievement. For these boys, academic achievement is not "cool" (Salisbury, Rees, and Gorard, 1999) and being studious is regarded as a feminine attribute (Skelton, Francis, and Valkanova, 2012). By contrast, studies show that girls seem to "allow" their female peers to work hard at school, as long as they are also perceived as "cool" outside of school (Van Houtte, 2004). Although a boy may understand the importance of achievement at school, he will choose not to show too much effort for fear of being excluded by his male classmates. Indeed, some have suggested that boys' motivation to achieve at school dissipates from the age of eight onwards, mostly due to the scarcity of male role models in the classroom (Salisbury, Rees, and Gorard, 1999). Low motivation related to peer pressure can be a relevant source of underachievement among boys, particularly among socio-economically disadvantaged boys (OECD, 2015a; Fryer and Austen-Smith, 2005).

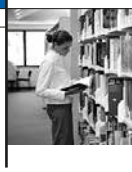
Some argue that girls' and women's relative lack of competitiveness and ambition explains gender differences in pay and career advancement (Dreber, Essen, and Ranehill, 2011; Gneezy, Niederle, and Rustichini, 2003; Niederle and Vesterlund, 2007). Society might equate upper-level management roles and men (Heilman, Block, and Martell, 1995; Ridgeway and Correll, 2004), but in many countries, teenage girls are at least as likely (if not more so) as teenage boys to aspire to a professional or managerial job requiring high academic qualifications (Francis, 2002; Mello, 2008; Schoon, 2006; Schoon, Martin, and Ross, 2007). Still, large gender differences persist in students' ambitions to pursue science-related careers (OECD, 2016a).

Gender differences in either intrinsic or extrinsic motivation to achieve can be related to gender disparities in performance. Figure III.5.2 shows gender gaps in science performance (in favour of girls) are larger in countries, such as Bulgaria and Qatar, where girls care more than boys about being able to select from among the best opportunities available when they graduate. Similar relationships are observed when using the other PISA questions on achievement motivation. This finding suggests that an inability to set clear achievement goals in their school work could be a factor behind the underperformance of many boys.

Socio-economic status is also related to the development of ambition. Young people from privileged homes benefit from more home-based and external opportunities for education, access to resources for their plans, role models, knowledge about career possibilities, and informal networks (Schoon, Martin, and Ross, 2007). Their parents also tend to have high educational aspirations for them. These resources encourage advantaged students to develop ambitious aspirations and the motivation to turn these aspirations into reality. Students who do less well in school may internalise their teachers' low expectations for them as they develop their own beliefs about their abilities and set the goals they wish to achieve.

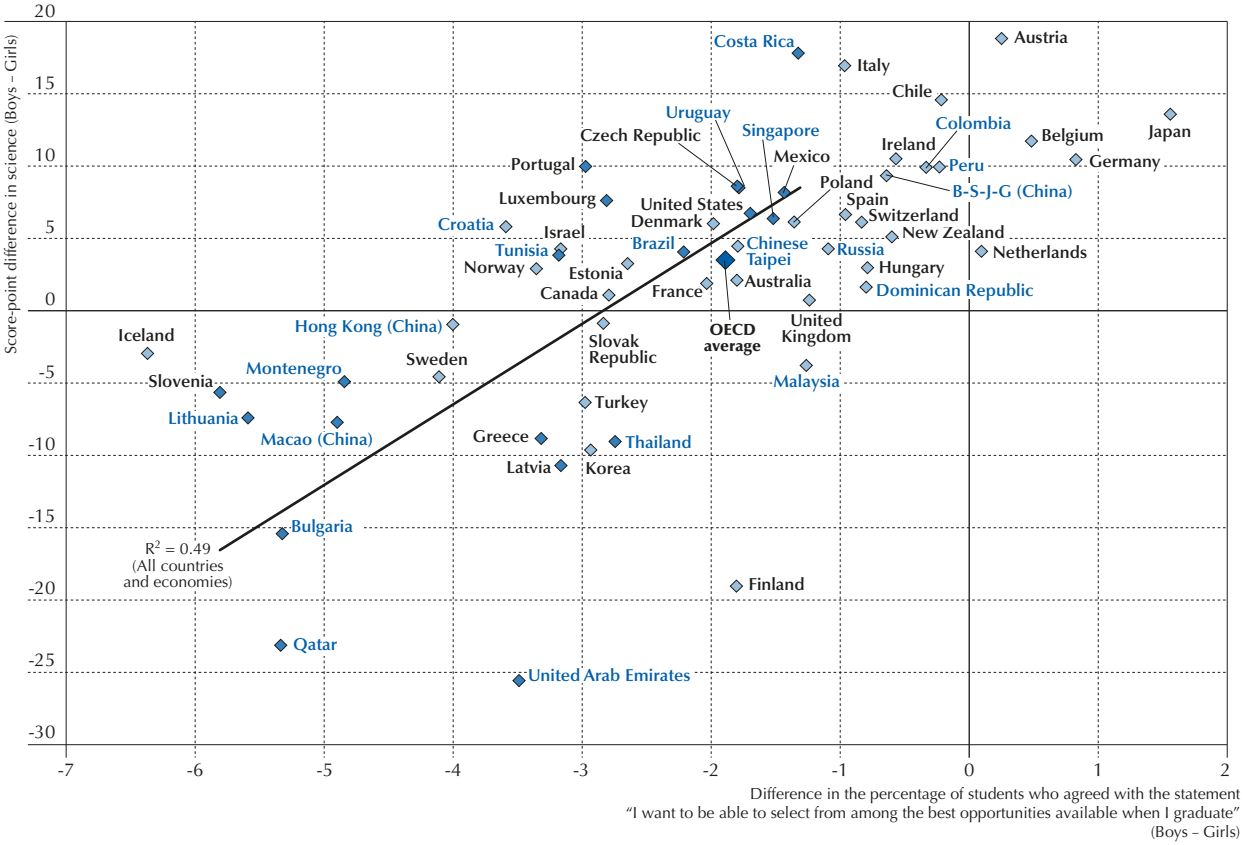
In almost all countries and economies, disadvantaged students have less achievement motivation than advantaged students (Table III.5.3). In Canada, Iceland, Korea, Lithuania and Portugal, disadvantaged students are more than half a standard deviation below their advantaged peers on the index of achievement motivation. On average across OECD countries, disadvantaged students were 11 percentage points less likely than advantaged students to report that they want to be among the best students in the class, and 13 percentage points less likely to see themselves as an ambitious person (Table III.5.2). In Colombia, the percentage of advantaged students who reported that they are ambitious is twice as large as the percentage of disadvantaged students who so reported.

Even though they may come from a relatively disadvantaged background, many immigrant students hold an ambition to succeed that in most cases matches, and in some cases surpasses, the aspirations of students who are native to their host country (OECD, 2015b). PISA 2015 shows that, on average across OECD countries, both first- and second-generation



immigrant students have a greater motivation to achieve (as measured by the PISA index of achievement motivation) than students without an immigrant background (Table III.5.3). Only in Brazil and Israel are first-generation immigrant students lower on the index of achievement motivation than non-immigrant students.

Figure III.5.2 ■ **Gender differences in achievement motivation and science performance**



Note: Gender gaps in both performance and achievement motivation that are statistically significant are shown in a darker tone (see Annex A3).
Source: OECD, PISA 2015 Database, Tables I.2.8a and III.5.2.
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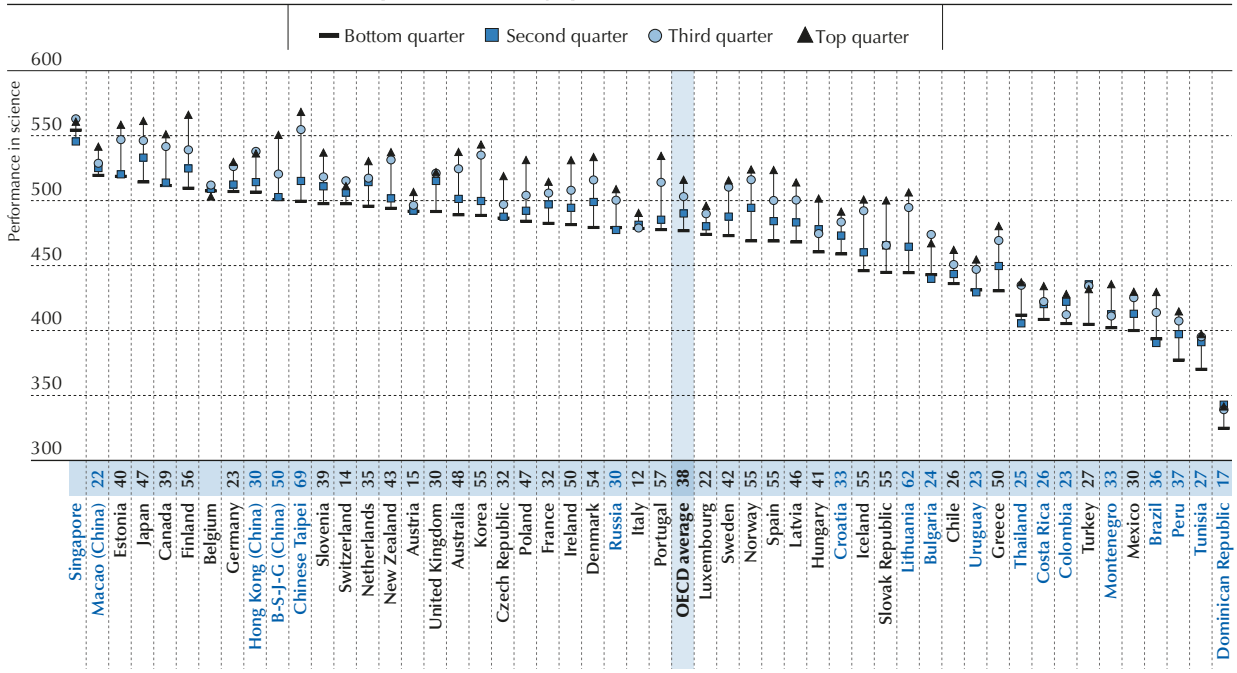
THE POSITIVE AND THE POTENTIALLY NEGATIVE ASPECTS OF ACHIEVEMENT MOTIVATION

Students with high achievement goals tend to do better at school. With higher autonomous and internalised achievement motivation often come higher self-esteem, stronger cognitive flexibility (McGraw and McCullers, 1979) and greater effort invested at school (Burton et al., 2006; Sheldon et al., 2004). Students who are highly motivated to achieve goals they consciously value are often autonomous individuals who believe that they can affect their environment in positive ways and solve problems, keep their living and work spaces organised, have a sense of duty and obligation in their personal and work lives, devote great effort toward achieving success, and regulate their behaviour to achieve their goals (Carter et al., 2012).

On average across OECD countries, students in the top quarter of the index of achievement motivation score 38 points higher in science (the equivalent of more than one year of schooling) than students in the bottom quarter of the index (Figure III.5.3). The difference in performance between the students in the top quarter and those in the bottom quarter of the index of achievement motivation is over 50 points in Denmark, Finland, Iceland, Korea, Lithuania, Norway, Portugal, the Slovak Republic, Spain and Chinese Taipei.

Figure III.5.3 ■ **Achievement motivation and students' performance in science**

Science performance, by quartiles of achievement motivation



Note: Statistically significant differences in science performance between the top and bottom quarters on the distribution of achievement motivation are shown next to the country/economy name (see Annex A3).

Countries and economies are ranked in descending order of the average science performance in the bottom quarter on the distribution of achievement motivation.

Source: OECD, PISA 2015 Database, Table III.5.5.

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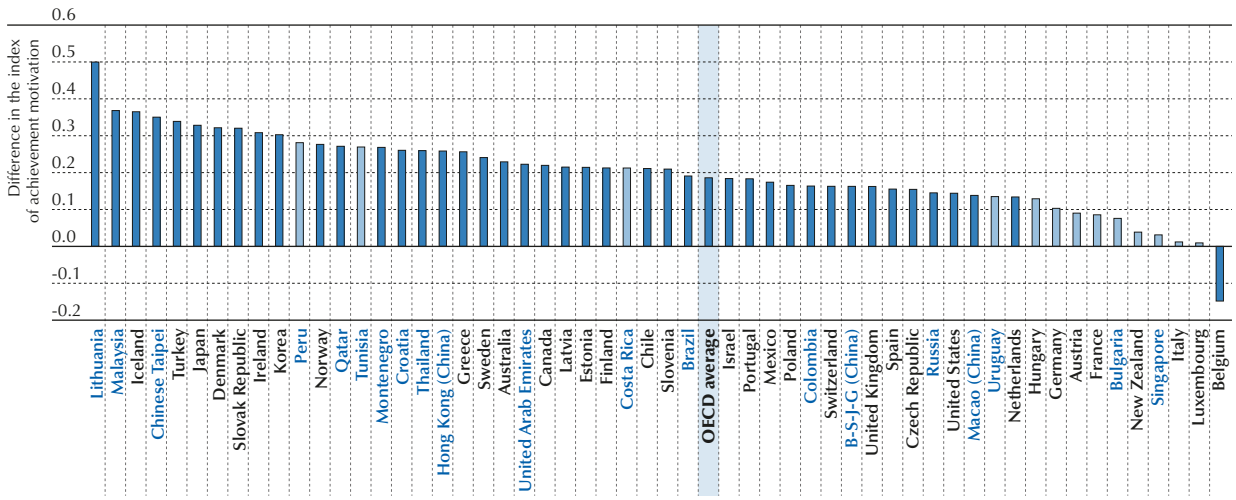
Figure III.5.4 ■ **Students' achievement motivation and resilience**

Difference between resilient students and non-resilient students[1]



1. Resilient students are students who are in the bottom quarter of the PISA index of economic, social and cultural status (ESCS) in their country, and perform in the top quarter of students across all countries and economies, after accounting for socio-economic status. Non-resilient students are students in the bottom quarter of ESCS who do not perform in the top quarter of all students.

Note: Statistically significant differences in the index of achievement motivation are marked in a darker tone (see Annex A3).

Countries and economies are ranked in descending order of the difference in the index of achievement motivation between resilient and non-resilient students.

Source: OECD, PISA 2015 Database, Table III.5.7.

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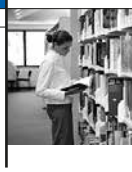
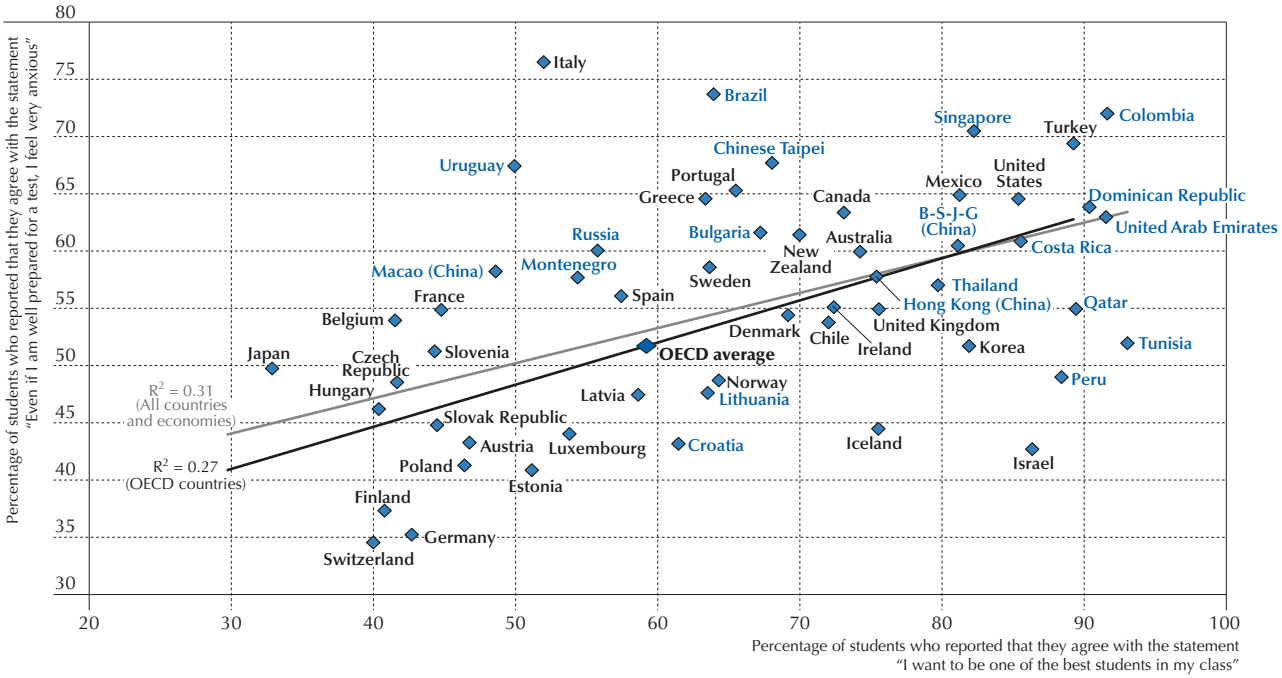


Lack of achievement motivation can explain at least some of the low performance among disadvantaged students. These students, many of whom also live in disadvantaged neighbourhoods, need extraordinary motivation to overcome the many obstacles to succeeding at school. But some disadvantaged students manage to find in themselves the motivation to reach high levels of achievement; and for many of them, high performance at school is required if they are to qualify for financial support to continue their education beyond compulsory schooling. Figure III.5.4 shows that resilient students – those disadvantaged students who beat the odds against them and perform in the top quarter among all students tested in PISA, after taking their socio-economic status into account – have a significantly higher level of achievement motivation than disadvantaged students who are not resilient. Educators in disadvantaged communities need to be aware of the need to nurture autonomous goal-setting by supporting their students' expectations of success (students' beliefs that they can perform particular tasks, and that they are responsible for their own performance) and showing them why learning is valuable (Bandura, 2010; Schultz, 1993; OECD, 2016a, 2016b).

Achievement motivation is related to life satisfaction in a mutually reinforcing way. Students with high life satisfaction tend to have greater resiliency and are more tenacious in the face of academic challenges. A positive view of the world and life circumstances builds their self-efficacy and their motivation to achieve. In turn, a higher motivation to achieve, paired with realised achievements, energises behaviour and gives students a sense of purpose in life. It is thus not surprising that, across all countries and economies that participated in PISA 2015, except Macao (China), students with higher overall achievement motivation reported greater satisfaction with life (Table III.5.6). On average across OECD countries, students in the top quarter of the index of achievement motivation reported a level of life satisfaction of 7.6 on a scale from 0 to 10, while students in the bottom quarter of the index reported a level of 6.9.

But there can be downsides to achievement motivation, when the goals originate from outside the student and are not internalised by the student. Very high external motivation can easily turn into a disabling form of perfectionism, especially when the goals are overambitious and the impetus to devote effort to a task stems from externally regulated feelings of obligation, guilt or shame. "Maladaptive perfectionists" fear that failure will invoke criticism or ridicule from teachers, parents and peers. They are also their own harshest critics, frequently berating themselves over any small thing that goes wrong (Dacanay, 2016). Because perfectionists fear being unable to complete a task perfectly, they often procrastinate. The dysfunctional thinking of perfectionism often leads to discouragement, self-doubt and mental exhaustion.

Figure III.5.5 ■ **Achievement motivation and anxiety, between countries**



Source: OECD, PISA 2015 Database, Tables III.2.1 and III.5.1.

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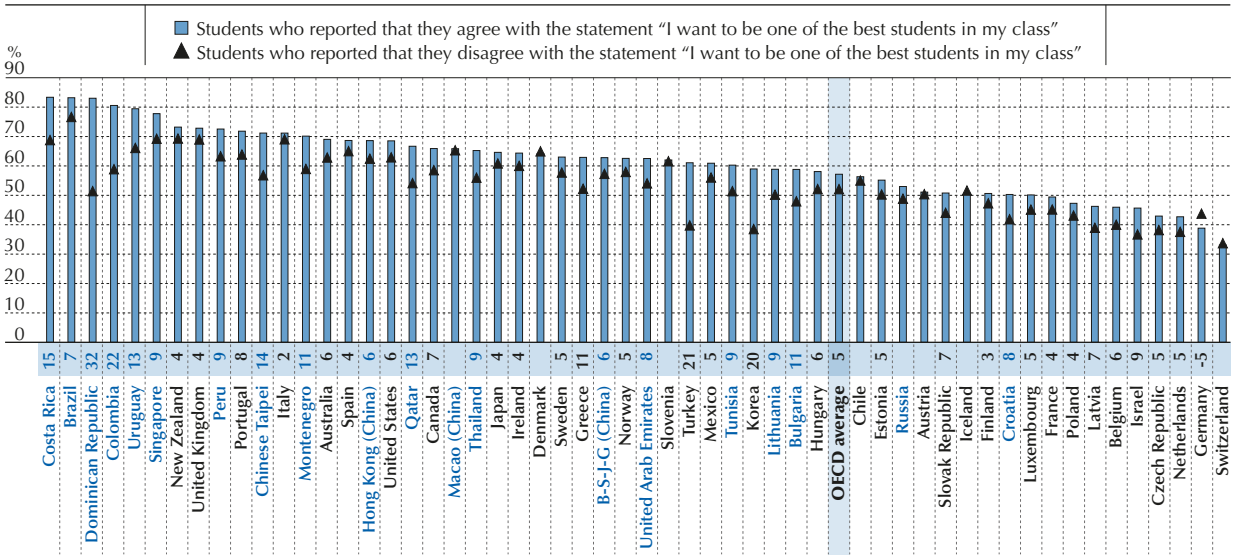
Figure III.5.5 shows that countries where students have high achievement motivation also tend to be those where many students feel anxious about a test, even if they are well prepared for the test. Students who want to be able to select among the best opportunities when they graduate, who want to be the best in their class, or who want top grades in all courses are more likely to suffer from anxiety (Figure III.5.6; Table III.5.8). On average across OECD countries, a student who sees himself or herself as an ambitious person is less likely to feel anxious about a test than a student who does not report being ambitious, possibly because ambition is the most intrinsic facet of achievement motivation among those measured in PISA. This relationship suggests that there are different manifestations of achievement motivation, and not all of them are positively related to students' well-being. If a certain amount of tension or concern is essential to motivation and high performance, too much pressure can be counterproductive for a child's cognitive development and psychological well-being.

Figure III.5.6 ■ **Achievement motivation and anxiety, within countries**

Percentage of students who reported that they "agree" or "disagree" with the statement "Even when I am well prepared for a test, I feel very anxious", by motivation to be the one of the best students in the class



Note: Statistically significant differences in the percentage of students who feel anxious between those who agreed that they want to be one of the best and those who disagreed are shown next to the country/economy name (see Annex A3).

Countries and economies are ranked in descending order of the percentage of students who reported feeling anxious even when they are well prepared for a test, among students who agreed that they want to be one of the best students.

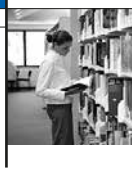
Source: OECD, PISA 2015 Database, Table III.5.9.

StatLink http://dx.doi.org/10.1787/888933471030

Both teachers and parents have to find ways to encourage motivation to learn and achieve without generating an excessive fear of failure. Teachers can, for example, provide students with tangible rewards that are related to the act of learning, such as the opportunity to share the results of their work with others, or to explain why what they learned was important to them (Covington and Müeller, 2001). Motivating students, particularly academically unmotivated students, requires preparation, sensitivity and attention to the needs, feelings and attitudes of each individual child.

What these results mean for policy

- Education systems that cultivate, foster and communicate the belief that all students can achieve at high levels can increase students' intrinsic drive to succeed and reduce gender or socio-economic disparities in achievement motivation.
- Disadvantaged students, in particular, would benefit from programmes that specifically target students most at risk of losing motivation, and also from teachers' efforts to strengthen intrinsic motivations to learn.
- Students who make efforts at school to please others or meet goals set by others may experience greater schoolwork-related anxiety. It is important that parents and educators help students develop intrinsic motivation to achieve, rather than expose them to exaggerated expectations and pressures. Schools and families can also educate students about the potential dangers of perfectionism.



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