



Sense of belonging at school

This chapter examines differences between countries and economies in students' sense of belonging at school, and how the sense of belonging is associated with student and school characteristics, and reading performance. It also examines whether students feel a greater sense of belonging in co-operative or competitive schools, and how sense of belonging is related to expectations of further education and grade repetition.

Sense of belonging at school

Sense of belonging is the “need to form and maintain at least a minimum number of interpersonal relationships” based on trust, acceptance, love and support (Baumeister and Leary, 1995^[1]; Maslow, 1943^[2]). Individuals with a sense of belonging feel accepted, liked and connected to others, and feel they belong to a community. When students are young, the family is the centre of their social and emotional world. However, at the age students sit the PISA test, i.e. around 15, they seek to maintain genuine and lasting interpersonal relationships farther afield, often amongst their school peers (Baumeister and Leary, 1995^[1]; Slaten et al., 2016^[3]). In this regard, a sense of belonging at school reflects how accepted, respected and supported students feel in their social context at school (Goodenow and Grady, 1993^[4]). Related concepts include school connectedness, school attachment, school engagement, school identification and school bonding (Slaten et al., 2016^[3]).

Previous studies have made great strides in understanding why some students show greater sense of belonging at school than others. A positive disciplinary climate at school (Ma, 2003^[5]; OECD, 2017^[6]), participating in extracurricular activities (Dotterer, McHale and Crouter, 2007^[7]), teacher and parent support (Allen et al., 2018^[8]; Crouch, Keys and McMahon, 2014^[9]; Shochet, Smyth and Homel, 2007^[10]), and perceived neighbourhood safety (Garcia-Reid, 2007^[11]) have all been positively associated with students’ sense of belonging at school. Moreover, socio-economically advantaged students reported greater connectedness at school than disadvantaged students in almost every education system that participated in PISA 2015 (OECD, 2017^[6]). Wang and Eccles (2012^[12]) also observed that students identify less with school as they progress through secondary education.

A wide array of academic and social outcomes have been associated with sense of belonging. For instance, students reporting a greater sense of belonging at school tend to display higher academic motivation, self-esteem and achievement (Goodenow and Grady, 1993^[4]; OECD, 2013^[13]; Sirin and Rogers-Sirin, 2004^[14]; Wang and Holcombe, 2010^[15]), though these relationships depend on the social desirability attached to academic achievement across social groups (Bishop et al., 2004^[16]; Fuller-Rowell and Doan, 2010^[17]). Students who feel they belong at school are also less likely to engage in risky and antisocial behaviours (Catalano et al., 2004^[18]), to play truant and drop out of school (Lee and Burkam, 2003^[19]; McWhirter, Garcia and Bines, 2018^[20]; Slaten et al., 2015^[21]), and to be unsatisfied with their lives (OECD, 2017^[6]).

What the data tell us

- Across OECD countries, the majority of students reported that they feel socially connected at school. For instance, three out of four students agreed or strongly agreed that they can make friends easily at school.
- Students in socio-economically disadvantaged, rural and public schools were more likely to report a weaker sense of belonging at school than students in advantaged, city and private schools, respectively.
- On average across OECD countries, students who reported a greater sense of belonging scored higher in the reading assessment, after accounting for socio-economic status.
- Students reported a greater sense of belonging when they also reported higher levels of co-operation amongst their peers, whereas students’ perception of competition was not associated with their sense of belonging at school.
- Students who reported a greater sense of belonging were also more likely to expect to complete a university degree, even after accounting for socio-economic status, gender, immigrant background and overall reading performance.

This chapter examines students’ sense of belonging at school. PISA asked students whether they agree (“strongly disagree”, “disagree”, “agree”, “strongly agree”) with the following statements about their school: “I feel like an outsider (or left out of things) at school”; “I make friends easily at school”; “I feel like I belong at school”; “I feel awkward and out of place in my school”; “Other students seem to like me”; and “I feel lonely at school”. These statements were combined to create the index of sense of belonging whose average is 0 and standard deviation is 1 across OECD countries. Since the same questions were asked in previous PISA cycles, education systems can monitor changes in the quality of students’ engagement with their school community. Positive values on this scale mean that the student has a stronger sense of belonging at school than the average student in OECD countries.

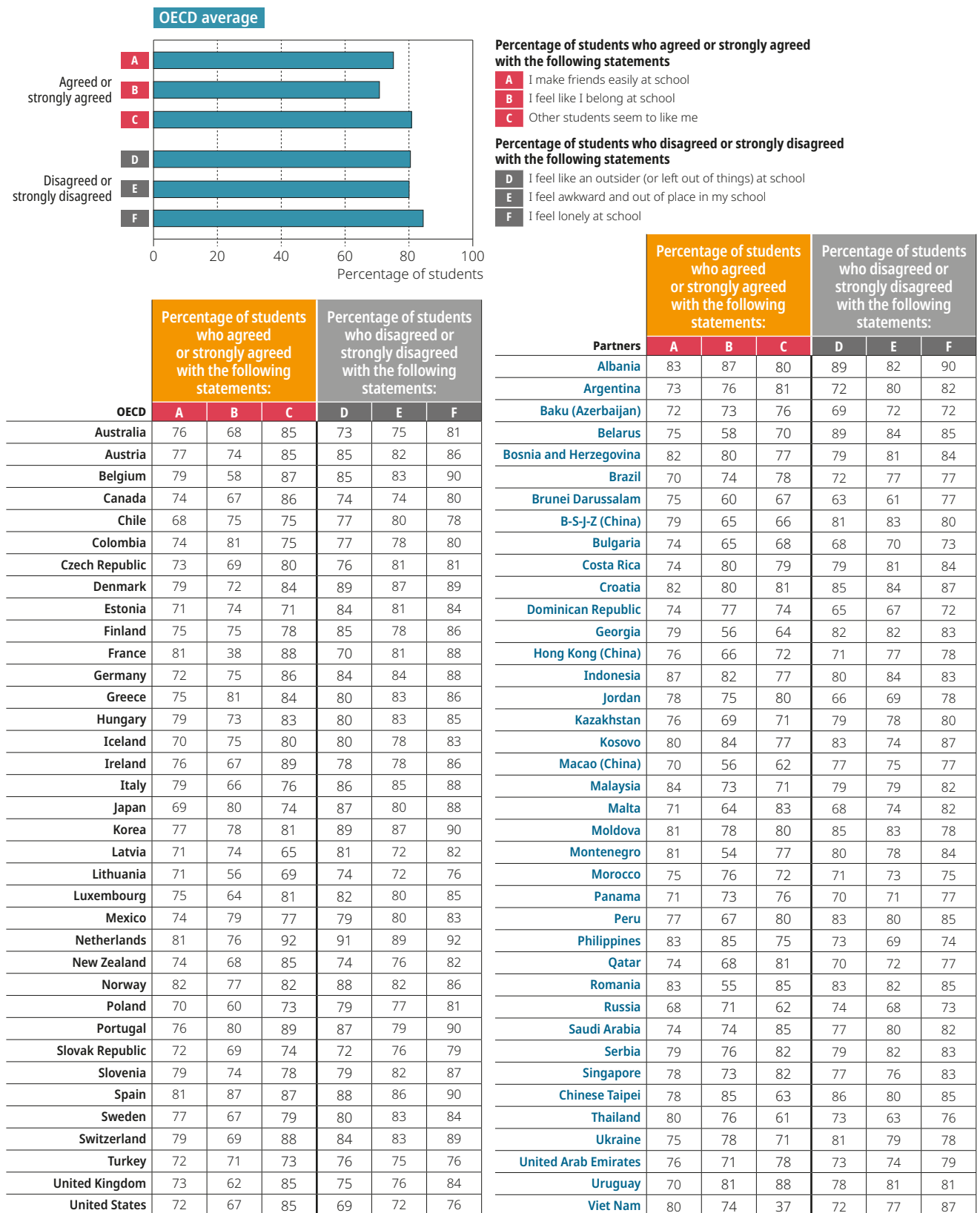
HOW STUDENTS’ SENSE OF BELONGING VARIES ACROSS COUNTRIES, SCHOOLS AND STUDENTS

Figure III.9.1 shows the percentage of students who reported their agreement or disagreement with statements related to sense of belonging. Most students across OECD countries reported that they feel socially connected at school. For instance:


- 84% of students disagreed or strongly disagreed that they feel lonely at school
- 80% of students disagreed or strongly disagreed that they feel like an outsider or feel left out of things
- 75% of students agreed or strongly agreed that they can make friends easily at school
- 71% of students agreed or strongly agreed that they feel they belong at school.

Figure III.9.1 Sense of belonging at school

Based on students' reports



Source: OECD, PISA 2018 Database, Table III.B1.9.1.

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However, a considerable number of students do not feel socially connected at school. For instance, on average across OECD countries, about one in four disagreed that they make friends easily at school; about one in five students feels like an outsider at school; and about one in six feels lonely at school. Moreover, in some countries and economies sizable minorities of 15-year-old students reported a weak attachment to their schools and feel lonely or isolated. For instance, at least one in four students in Baku (Azerbaijan), Bulgaria, the Dominican Republic, Morocco, the Philippines, and the Russian Federation agreed or strongly agreed that they feel lonely at school.

The proportion of the variation in the index of sense of belonging that lay between schools is smaller than for other indices examined in this report (Table III.B1.9.5). On average across OECD countries, only about 2% of the variation in the index lay between schools, but in 11 countries and economies this percentage amounts to at least 5%. With regard to differences across different types of schools, on average across OECD countries and in a clear majority of education systems, students in socio-economically advantaged schools reported a greater sense of belonging at school than students in disadvantaged schools did (Figure III.9.2). The gap in favour of advantaged schools was largest in Argentina, Bulgaria, Hungary, Luxembourg and Uruguay. Less remarkable were the differences between rural schools and city schools. Still, there were 19 education systems where students' sense of belonging was stronger in city schools, and only 4 where the sense of belonging was greater in rural schools. In terms of sense of belonging, students in rural schools in Argentina, Brazil, Bulgaria, the Dominican Republic, Hungary and Panama seemed to be at a particular disadvantage. In addition, on average across OECD countries, sense of belonging was stronger in private than in public schools. Across OECD countries, students' sense of belonging was stronger in schools with a low concentration of students with an immigrant background than in schools with a high concentration of immigrant students, but this difference was observed in only 14 countries and economies.

In virtually all education systems, socio-economically advantaged students reported a greater sense of belonging than disadvantaged students (Table III.B1.9.4). Moreover, in 30 countries and economies, sense of belonging was stronger amongst boys than amongst girls, while the opposite was observed in 23 countries and economies. Differences in favour of boys were particularly noticeable (over one-fifth of a standard deviation) in Canada, Denmark, Norway and Sweden, while in Albania, Jordan, Saudi Arabia and Turkey, girls reported a much stronger sense of belonging at school than boys (over one-fifth of a standard deviation). In about a third of the participating education systems, and especially in Brazil, Bulgaria, Georgia, Indonesia, Luxembourg, the Philippines and Spain, students with an immigrant background reported a weaker sense of belonging than students without an immigrant background.

TRENDS IN STUDENTS' SENSE OF BELONGING

PISA 2015 and PISA 2018 asked students the same question about their sense of belonging at school. On average across OECD countries, students' sense of belonging generally deteriorated between 2015 and 2018 (Table III.B1.9.2). The share of students who agreed or strongly agreed with the positive statements "I make friends easily at school" and "I feel like I belong at school" decreased by around 2 percentage points over the period. This deterioration was more marked in several school systems. For instance, in Georgia, Jordan, Kazakhstan, Kosovo, Malta and Viet Nam, the share of students who agreed that they make friends easily at school shrank by more than 10 percentage points. The percentage of students who disagreed or strongly disagreed that they feel like an outsider at school also decreased by about 2 percentage points between 2015 and 2018, on average across OECD countries. However, the percentage of students who disagreed or strongly disagreed with the negative statements "I feel awkward and out of place in my school" and "I feel lonely at school" remained relatively stable during the same period. In 27 countries, and particularly in Georgia, Kazakhstan and Viet Nam, the proportion of students who disagreed with the 3 negative statements shrank significantly (i.e. the sense of belonging deteriorated) between 2015 and 2018. This trend seems to be part of a gradual decline in students' sense of belonging at school over the past 15 years (OECD, 2017_[6]). However, in a few countries and economies, and especially in Colombia, Costa Rica, the Dominican Republic, Lithuania, Mexico and Turkey, students' sense of belonging at school generally improved between 2015 and 2018.

HOW STUDENTS' SENSE OF BELONGING IS RELATED TO READING PERFORMANCE

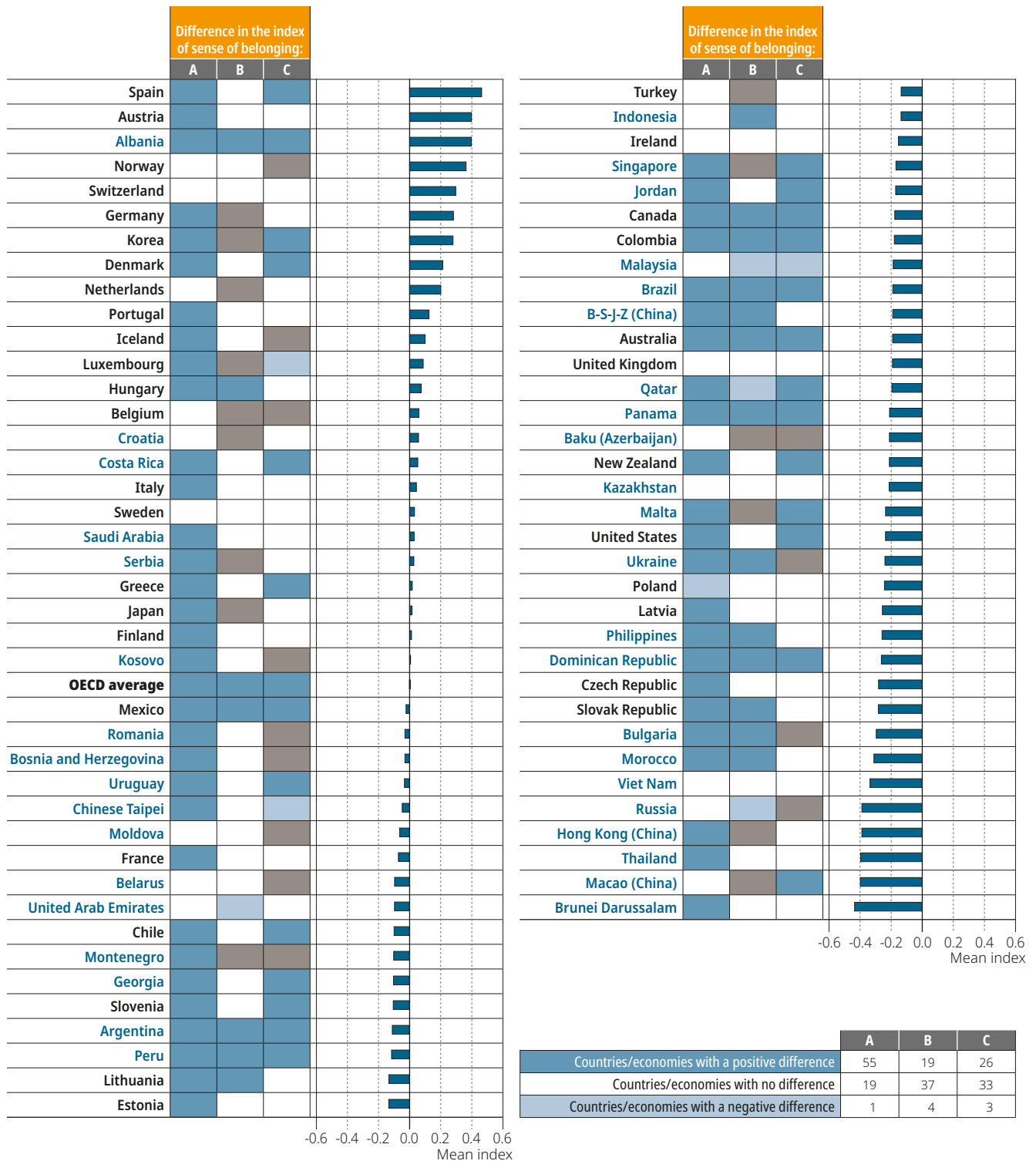
There are many reasons why policy makers, teachers and parents should care about students' sense of belonging at school. Probably the most important is that there is an association between a sense of belonging at school and academic achievement. Research examining this association generally posits a positive circular relationship: a sense of belonging at school leads to higher academic achievement, and high academic achievement leads to greater social acceptance and sense of belonging (Wentzel, 1998_[22]). However, the link between social bonding with peers at school and achievement is likely to differ significantly across countries and across groups of students. In some countries, academic achievement is considered socially desirable amongst teenagers; in others, social acceptance is not contingent on academic achievement. Amongst some groups of students, academic achievement might even be disparaged (Ogbu, 2003_[23]).

Figure III.9.2 Index of sense of belonging, by school characteristics

Based on students' reports

■ Positive difference
 ■ Negative difference
 ■ Difference is not significant
 ■ Missing values

A Advantaged - disadvantaged schools
B City - rural schools
C Private - public schools



Countries and economies are ranked in descending order of the index of sense of belonging at school.

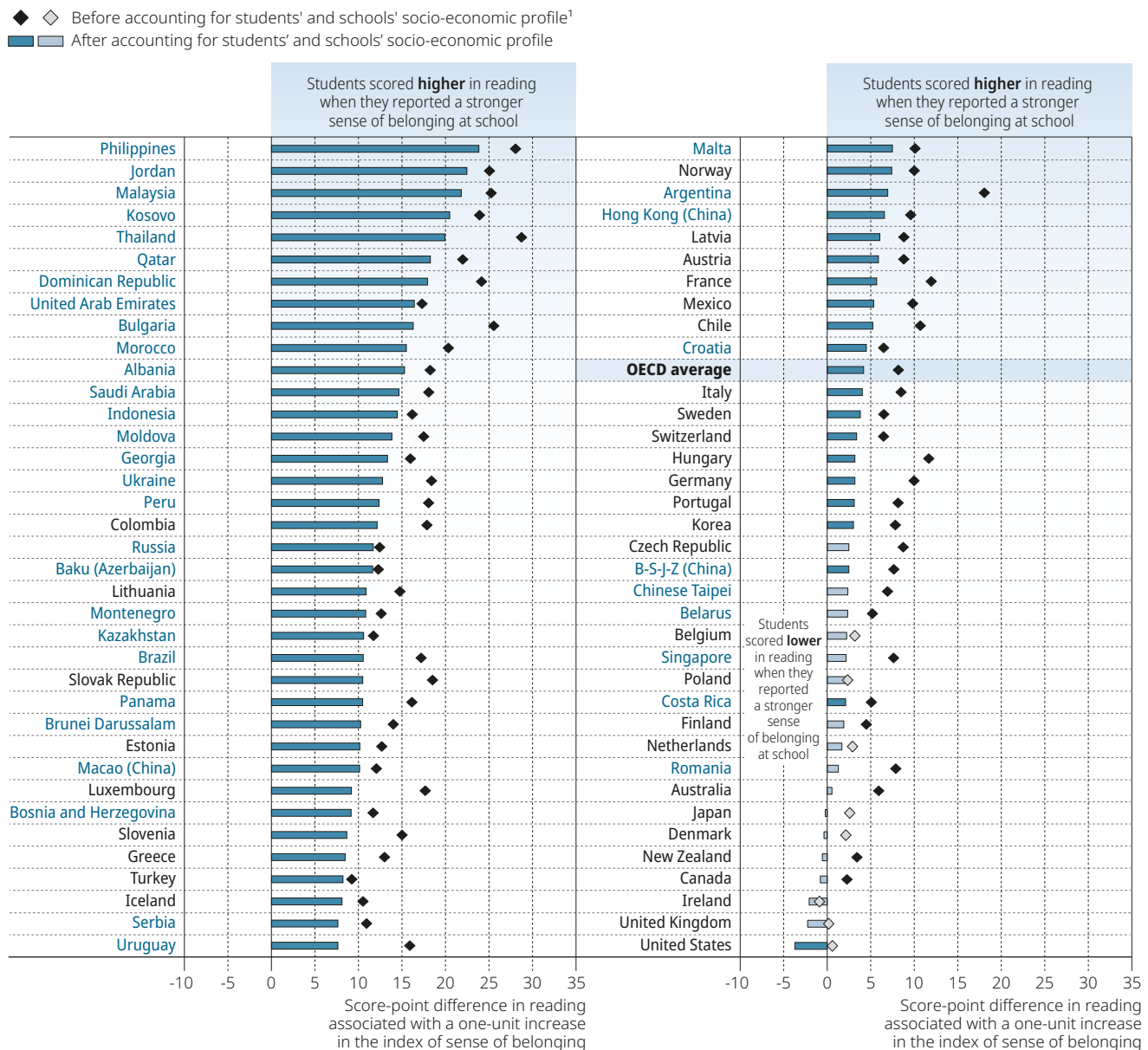
Source: OECD, PISA 2018 Database, Tables III.B1.9.1 and III.B1.9.5.

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Sense of belonging at school

In a majority of countries and economies, 15-year-old students who reported a stronger sense of belonging at school scored higher in reading, even after accounting for the socio-economic profile of students and schools (as measured by the PISA index of economic, social and cultural status) (Figure III.9.3). Only in the United States did students with a stronger sense of belonging score lower than did students with a weaker sense of belonging. On average across OECD countries, a one-unit increase in the index of sense of belonging at school (equivalent to one standard deviation across OECD countries) was associated with an increase of four score points in reading, after accounting for the socio-economic profile of students and schools. In Jordan, Kosovo, Malaysia and the Philippines, this increase was greater than 20 score points. Amongst the individual components used to create the index of sense of belonging at school, those most strongly associated with reading performance were "I feel like an outsider" and "I feel awkward and out of place in my school" (Table III.B1.9.6). Students who disagreed with these statements scored 21 points higher in reading, after accounting for students' and schools' socio-economic profile.

Figure III.9.3 **Sense of belonging and reading performance**



1. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

Note: Statistically significant values are shown in darker tones (see Annex A3).

Countries and economies are ranked in descending order of the score-point difference in reading associated with a one-unit increase in the index of sense of belonging at school, after accounting for students' and schools' socio-economic profile.

Source: OECD, PISA 2018 Database, Table III.B1.9.6.

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Students might not only perform better when they feel a stronger sense of connectedness to their school, they might also benefit when their peers feel the same way. When the sense of belonging at both the student and school levels were examined together in a regression analysis, both were positively associated with reading performance in a majority of school systems (Table III.B1.9.7). On average across OECD countries, a one-unit increase in the school-level index of sense of belonging at school (i.e. the school's average of students' sense of belonging) was associated with an increase of 25 score points in reading, after accounting for the student-level index and the socio-economic profile of students and schools.

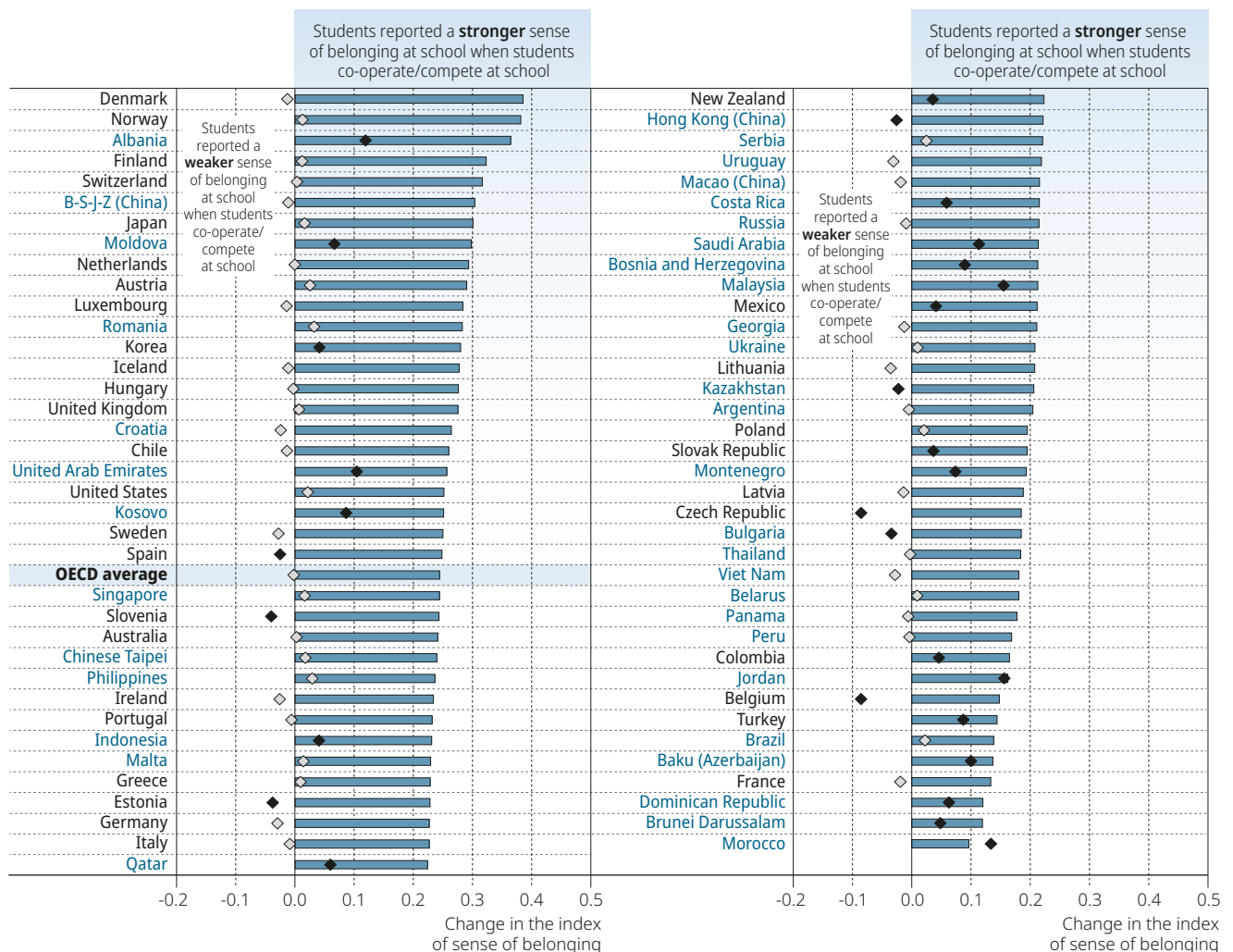
DO 15-YEAR-OLDS IN CO-OPERATIVE OR COMPETITIVE SCHOOLS REPORT A GREATER SENSE OF BELONGING?

Previous research indicates that students tend to report better relationships with peers and stronger attachments to school in co-operative academic environments than in competitive ones (Johnson et al., 1981^[24]; Roseth, Johnson and Johnson, 2008^[25]).

Figure III.9.4 Student co-operation and competition, and students' sense of belonging

Change in the index of sense of belonging at school associated with a one-unit increase in the index of:

◆◇ Student competition ■ Student co-operation



Notes: Statistically significant values are shown in darker tones. All values associated with the index of student co-operation are statistically significant (see Annex A3). Results based on linear regression analysis, after accounting for students' and schools' socio-economic profile. The socio-economic profile is measured by the PISA index of economic, social and cultural status (ESCS).

The indices of student co-operation and student competition are included in the same linear regression model.

Countries and economies are ranked in descending order of the change in the index of sense of belonging at school associated with a one-unit increase in the index of student co-operation.

Source: OECD, PISA 2018 Database, Table III.B1.9.8.

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However, co-operation comes with its challenges too, including “free-riding” (when some students take advantage of, and benefit from, their peers’ hard work) and the associated sense of unfairness amongst other team members. In addition, some degree of competition can improve students’ motivation and school attachment by adding some thrill and excitement to the daily school routine. In this respect, Schneider et al. (2005_[26]) show that only hyper-competitiveness – “a form of competition involving the need to prove one’s own superiority” – lead to conflict and fewer friendships. What does PISA tell us about the relationship between co-operation and competition at school, and students’ sense of belonging?

PISA asked 15-year-old students about the level of co-operation and competition amongst their fellow students. Two indices were created based on these questions: the index of student co-operation and the index of student competition (for more details about these indices, see Chapter 8). What emerges from the analysis of these indices and students’ sense of belonging at school is that, in every education system, students reported a stronger sense of connectedness to their school when they perceived their relationships with peers as being co-operative, after accounting for the socio-economic profile of students and schools (Figure III.9.4 and Table III.B1.9.8). In a majority of countries and economies students reported a similar sense of belonging at school regardless of their perceptions of the degree of competitiveness amongst their peers. Co-operation amongst students and their sense of belonging at school were most strongly, and positively, associated in Albania, Beijing, Shanghai, Jiangsu and Zhejiang (China), Denmark, Finland, Japan, Norway and Switzerland. Competition amongst students and their sense of belonging at school were most strongly, and positively, associated in Albania, Jordan, Malaysia, Morocco, Saudi Arabia and the United Arab Emirates.

The analysis of some of the individual items that make up the index of sense of belonging at school produce similar results (Table III.B1.9.8). In all but two countries, the Dominican Republic and Morocco, students were both more likely to agree that they feel they belong at school and to disagree that they feel like an outsider or lonely at school, when they reported higher values in the index of student co-operation. However, in about half of countries and economies, more competition amongst peers was associated with a greater probability of feeling like an outsider at school.

HOW STUDENTS’ SENSE OF BELONGING IS RELATED TO STUDENTS’ EXPECTATIONS OF COMPLETING TERTIARY EDUCATION

Students who develop positive relationships with peers and teachers, and a strong attachment to the school, are less likely to play truant and drop out of school (Lee and Burkam, 2003_[19]). Analyses of the National Education Longitudinal in the United States, for instance, show that amongst the four most-cited reasons for leaving school were disliking school and not getting along with teachers or peers (Catterall, 1998_[27]) – all of them intrinsically related to students’ sense of belonging at school. Students who feel awkward at school may also develop negative attitudes towards education, which could deter them from moving into higher education, even if they are academically capable. After all, why would proficient students who feel out-of-place at school decide to pursue higher education if they anticipate they will feel equally uneasy?

PISA asked students if they expect to complete a tertiary degree, which includes obtaining a bachelor’s, master’s or doctoral degree (ISCED 5A and 6) (see Chapter 6 in *PISA 2018 Results [Volume II]: Where All Students Can Succeed* [OECD, 2019_[28]] for more details). In every education system except France, the Netherlands, Norway, Switzerland and Ukraine, students who reported a greater sense of belonging at school were more likely to expect to complete higher education, before accounting for relevant student characteristics (Figure III.9.5). Even after accounting for students’ socio-economic status, gender, immigrant background and reading performance, in a majority of countries and economies students’ sense of belonging was positively associated with the expectation of completing higher education. The school systems where students’ sense of belonging at school was most positively related to their educational expectations were Belarus, Georgia, Jordan, Malaysia, Romania, Thailand and the United States, whereas the only country where this relationship was negative was Ukraine.

DO GRADE REPEATERS REPORT A WEAKER SENSE OF BELONGING?

While repeating a grade can give struggling students more time to “catch up” academically with their peers and may help calm rebellious behaviour (Gottfredson, Fink and Graham, 1994_[29]), reviews of previous research found negative effects of grade repetition on academic achievement (Jimerson, 2001_[30]) and school-related attitudes (Ikeda and García, 2014_[31]). In addition, Allen et al. (2009_[32]) find that any positive short-term effects of grade repetition appear to decline over time.

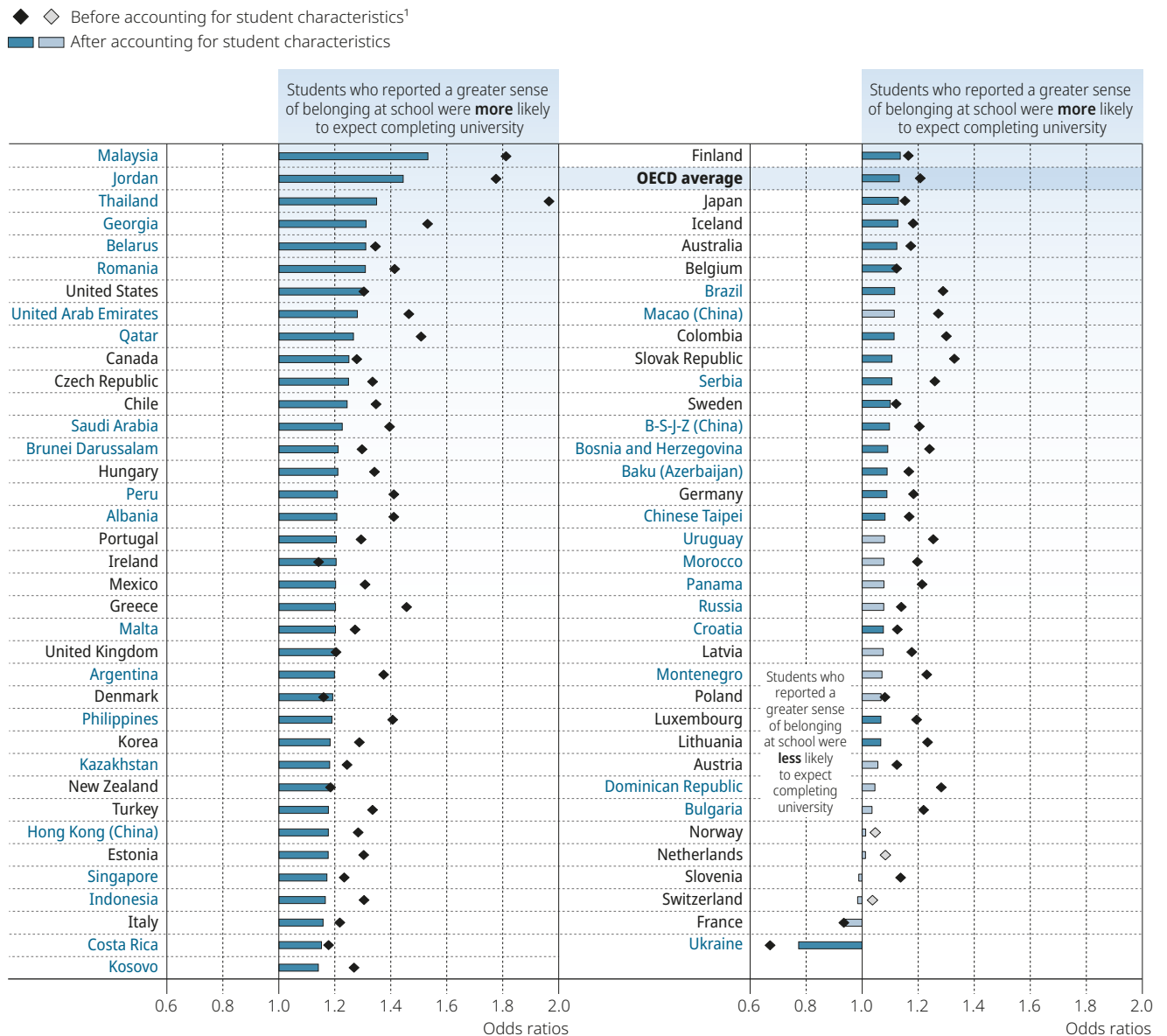
PISA asked students how many times (never, once, more than once) and at which education level (primary or secondary education) they had repeated a grade. Figure III.9.6 shows that in almost every education system, students who had repeated a grade reported a weaker sense of belonging at school. More important, even after accounting for relevant predictors of grade repetition, such as academic performance, socio-economic status, gender and immigrant background, grade repetition and students’ sense of belonging at school were negatively associated in a majority of countries and economies. The countries

and economies with the strongest negative associations, after accounting for relevant predictors, were Belarus, Georgia, Greece, Montenegro and Chinese Taipei (at least 0.3 of a standard deviation), while grade repetition and sense of belonging were not associated in 23 countries and economies.

While the negative relationship between grade repetition and sense of belonging should not be interpreted as causal, these results suggest that policy makers may consider non-academic, as well as academic, outcomes when debating the best policies on grade repetition.

Figure III.9.5 **Students' sense of belonging and educational expectations**

Increased likelihood of expecting to complete university per one-unit increase in the index of sense of belonging at school



1. Student characteristics include socio-economic status (measured by the PISA index of economic, social and cultural status), gender, immigrant background and reading performance.

Note: Statistically significant values are shown in darker tones (see Annex A3).

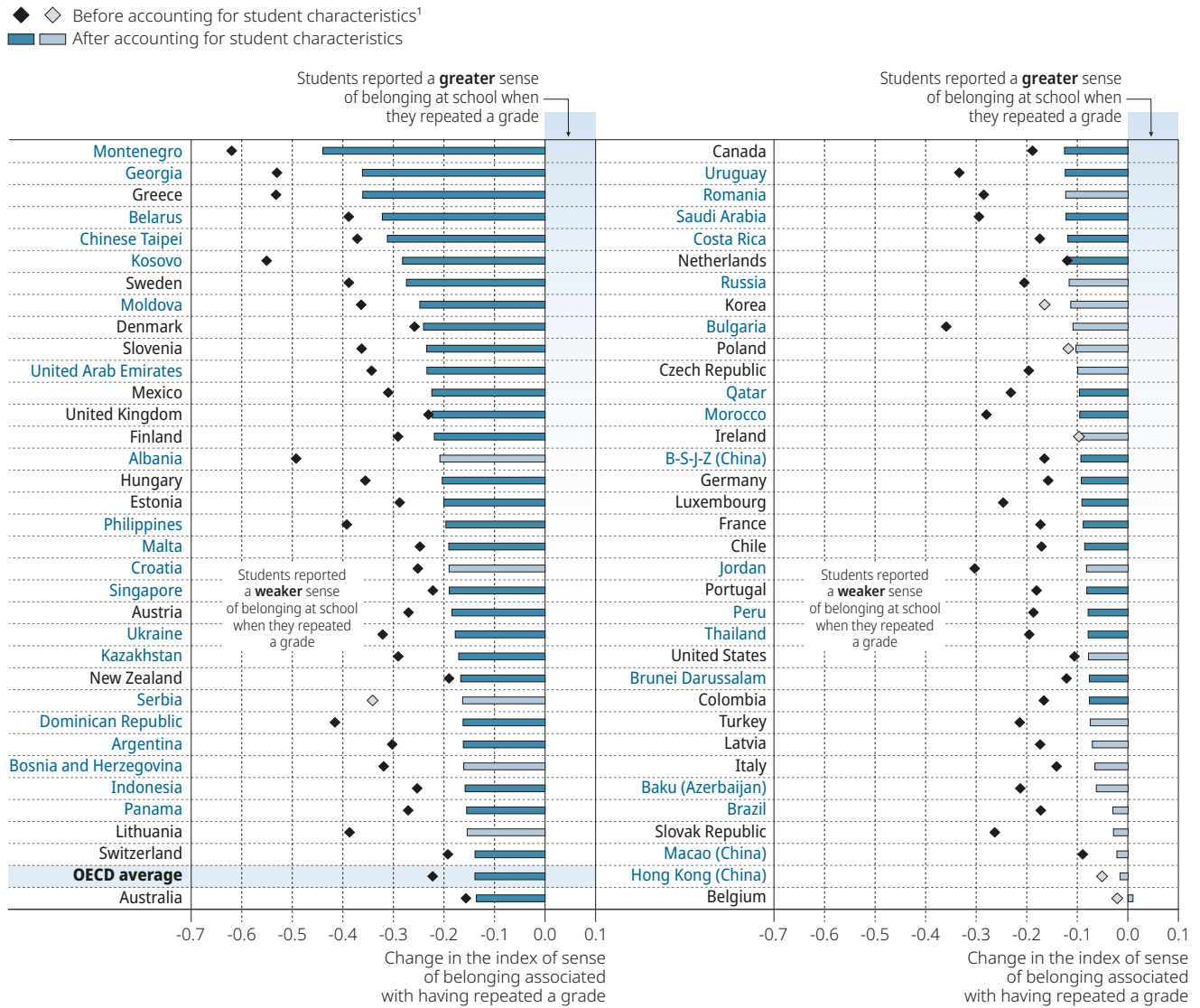
Countries and economies are ranked in descending order of the increased likelihood of expecting to complete university per one-unit increase in the index of sense of belonging.

Source: OECD, PISA 2018 Database, Table III.B1.9.9.

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Figure III.9.6 Grade repetition and students' sense of belonging



1. Student characteristics include socio-economic status (measured by the PISA index of economic, social and cultural status), gender, immigrant background and reading performance.

Note: Statistically significant values are shown in darker tones (see Annex A3).

Countries and economies are ranked in ascending order of the change in the index of sense of belonging at school associated with having repeated a grade.

Source: OECD, PISA 2018 Database, Table III.B1.9.10.

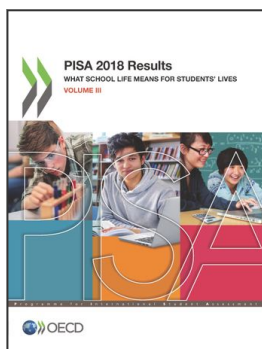
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From:
PISA 2018 Results (Volume III)
What School Life Means for Students' Lives

Access the complete publication at:
<https://doi.org/10.1787/acd78851-en>

Please cite this chapter as:

OECD (2020), "Sense of belonging at school", in *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/d69dc209-en>

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