STRENGTH through Diversity

COUNTRY NOTE

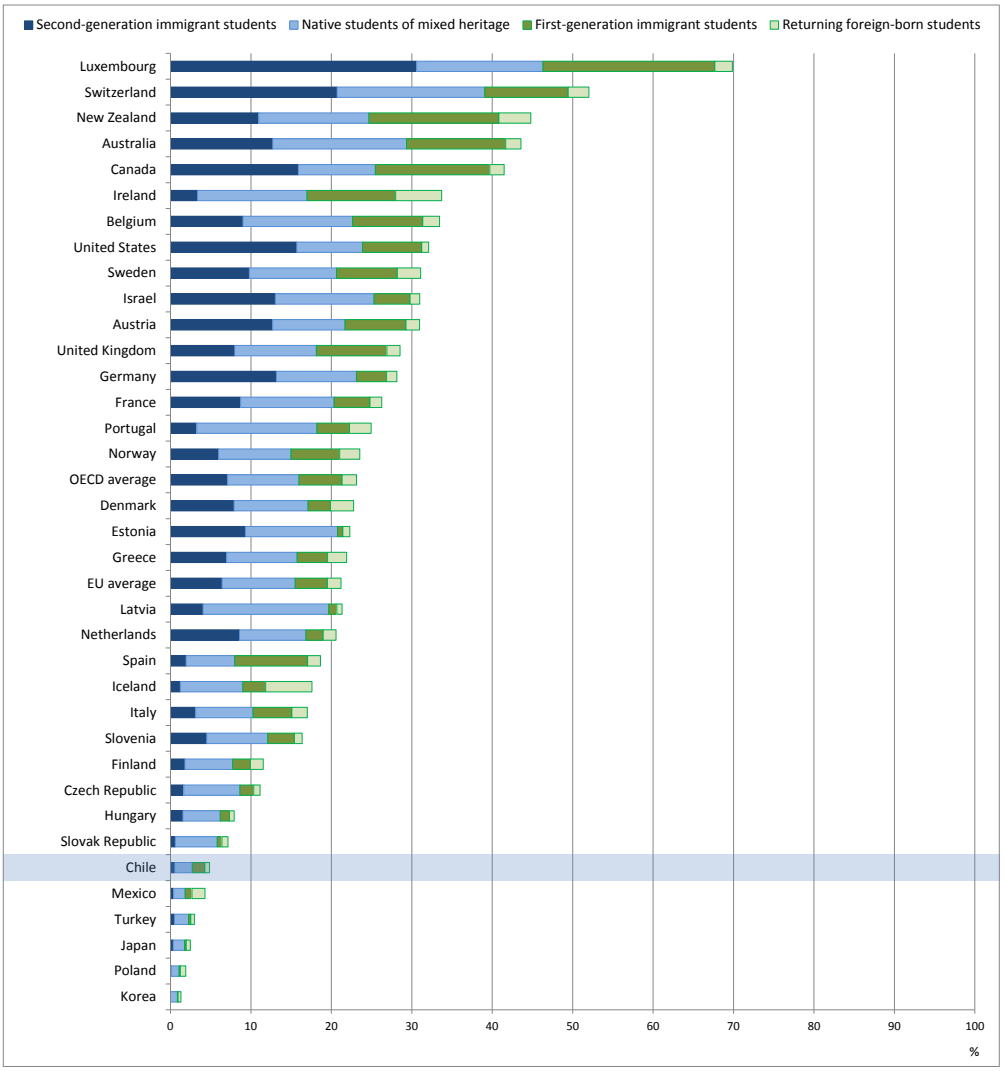
The resilience of students with an immigrant background: Factors that shape well-being

Chile

In PISA 2015, only one in 20 students in Chile had an immigrant background, a share that is considerably smaller than the OECD average level, where as many as one in four students was either foreign-born or had at least one foreign-born parent. Japan, Korea, Mexico, Poland and Turkey are the only OECD countries with fewer students with an immigrant background. However, because of the rapidly changing lamndscape of migration flows, these data underestimate the current number of students with an immigrant background in Chile. In particular, Chile experienced a relative large influx of immigrants from Haiti in the past few years.

In Chile, 45% of students with an immigrant background were native-born with one foreign-born and one native-born parent (native students of mixed heritage); 32% were foreign-born from foreign-born parents (first-generation immigrant students[1]); 12% were were foreign-born with at least one native-born parent (returning foreign-born student[2]); and 11% were native-born from two foreign-born parents (second-generation immigrant students[3]). More than half of first-generation immigrant students had arrived to Chile at or after the age of 12 (about one third on average across OECD countries).

Figure 1 Percentage of students with an immigrant background, by group



Source: *Figure 3.3*.

Data from PISA 2015 reveal that in Chile 48% of native-born students of native-born parents attained baseline levels of academic proficiency (at least proficiency level 2 in the three PISA core domains – math, reading and science). By contrast, only 32% of immigrant students (either first- or second-generation) did so, a statistically significant difference of 16 percentage points similar to the one recorded at the OECD average level (18 percentage points).

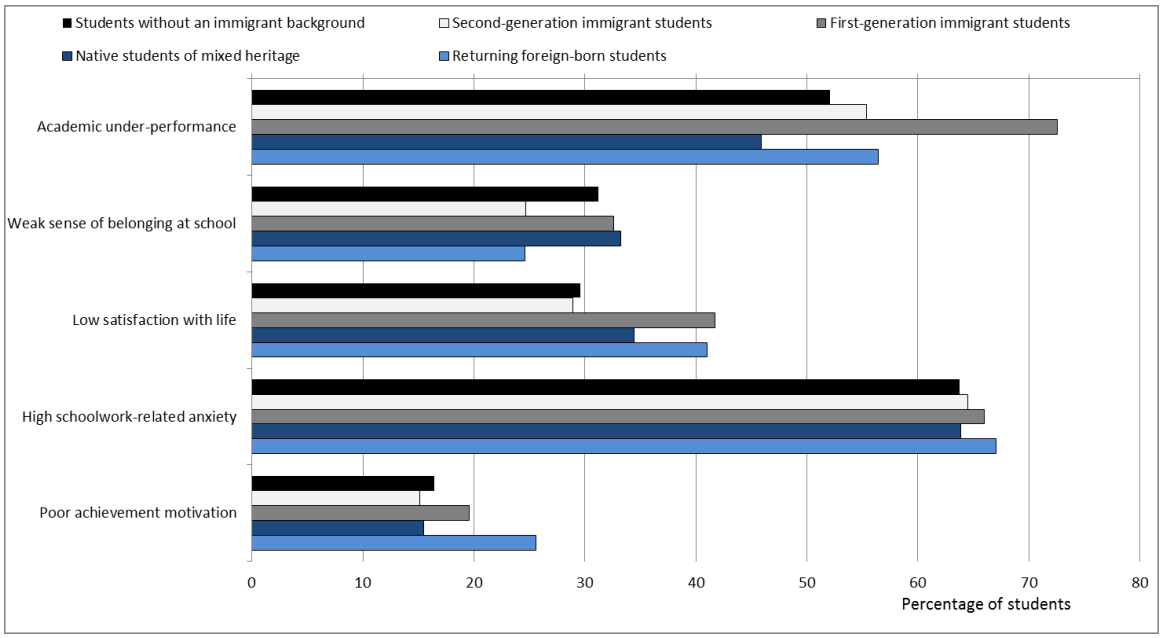
The concept of resilience is increasingly used to identify when, how and why people who have been exposed to negative experiences, such as displacement, display less vulnerability. Resilience expresses individuals' ability to cope with adverse circumstances. The report considers four dimensions of resilience: academic, social, emotional and motivational. Academic resilience refers to the capacity of students with an immigrant background of achieving baseline levels of academic performance (proficiency level 2) in the three key subjects tested in PISA: reading, science and mathematics. Social resilience refers to the capacity of students with an immigrant background of developing feelings of belonging to their school community. Emotional resilience refers to the capacity of students with an immigrant background of reaching high levels of satisfaction with life and of suffering from low levels of school-work related anxiety.

Motivational resilience refers to the capacity of students with an immigrant background of developing strong feelings of motivation to achieve. A detailed description of the PISA programme and the specific data used in ***The resilience of students with an immigrant background: Factors that shape well-being*** report can be found at the end of this note.

In most PISA countries and at the OECD average level, first-generation immigrant students are less likely to be academically resilient[4] compared to second-generation immigrant students. In Chile, 27% of first-generation immigrant and 45% of second-generation immigrant students attained baseline academic proficiency. However, the difference between the two groups is not statistically significant because of small sample sizes.

Unlike most OECD countries, in Chile, immigrant students with at least one native-born parent (returning foreign-born students and native students of mixed heritage) were as likely to attain baseline levels of academic proficiency as native students. By contrast, 54% of native students of mixed heritage attained such levels, compared to 48% of natives students. The difference between the two shares was not statistically significant due to small sample sizes.

Figure 2 Academic and well-being outcomes, by immigrant background



Source: Figure 1.1.

In PISA 2015, 69% of native students in Chile reported a sense of belonging at school[5], while as much as 75% of second-generation immigrant students and returning foreign-born students so reported. First-generation immigrant students and native students of mixed heritage reported similar levels as native students.

In Chile, foreign-born students expressed the lowest levels of life satisfaction among the groups considered. While 70% of native students reported being satisfied with life[6], only 58% of first-generation immigrant students did (a statistically significant difference of 12 percentage points, which is double the OECD average).

Among returning foreign-born students 59% reported being satisfied with life. Second-generation immigrant students were as likely as native students to report being satisfied with life (71% of them

reported so), while 66% of native students of mixed heritage reported being satisfied with life. Levels of schoolwork-related anxiety did not vary significantly across immigrant backgrounds.

On average across OECD countries, the percentage of immigrant students who showed motivation to achieve is 6 percentage points greater than the percentage of native students who did so. By contrast, in Chile, there are no statistically significant differences between natives students and immigrant students in the extent to which they reported high achievement motivation.The percentage of students reporting poor achievement motivation[7] was slightly greater among foreign-born students compared to other groups; however, differences were not statistically significant.

Factors that shape the well-being of students with an immigrant background

Individual factors

In Chile, students with an immigrant background were more likely to report working for pay than native students: while 23% of native students reported working for pay before or after the most recent school day, 32% of students with an immigrant background so reported. First-generation immigrant students were 14 percentage points more likely to report working for pay compared to native students (five percentage points on average across OECD countries). Such differences explain part of the academic disadvantage experienced by immigrant students. After accounting for whether students worked for pay, the immigrant-native gap in the percentage of students who attained baseline levels of academic proficiency dropped by three percentage points (1 percentage point on average across OECD countries).

Doing unpaid work in the household was also somewhat more common among students with an immigrant background compared to native students. Specifically, second-generation immigrant students were 15 percentage points more likely to report having worked in the household before or after the most recent school day (three percentage points on average across OECD countries).

On average across OECD countries that distributed the parental questionnaire, students with an immigrant background were six percentage points less likely than native students to have attended pre-primary education. By contrast, in Chile, they were equally likely. About 90% of all groups of students compared in this report participated in pre-primary education.

In PISA 2015, on average across OECD countries, about 2% of students without an immigrant background did not speak the language of PISA assessment at home. Conversely, about 28% of students with an immigrant background and 50% of immigrant students were non-native speakers. In Chile, more than nine out of ten students with an immigrant background spoke the language of PISA assessment at home. Linguistic barriers were not among the factors that explained the academic and well-being disadvantages experienced by students with an immigrant background in Chile. Because the latest influx of immigrant students in Chile included many children from Haiti who do not speak Spanish as their first language, the relevance of linguistic barriers in shaping the outcomes of students with an immigrant background is rapidly changing in Chile. Chile could learn from some of the countries with greater experience in delivering second language instruction to students and the report reviews several examples of such initiatives.

Socio-economic barriers

Across OECD countries, immigrant students are generally more socio-economically disadvantaged compared to native students. On average, their score on the PISA index of social, economic and cultural status (ESCS) is about one third of a standard deviation smaller. In Chile, the difference in socio-economic status between the two groups is similar to the OECD average one, but it is not statistically significant due to issues of sample size. This difference is entirely explained by the low socio-economic status of first-generation immigrant students, whose score on the ESCS index is almost one standard deviation below the average OECD student and almost half a standard deviation below the one of native students in Chile (although the difference is not statistically significant due to the small sample size in Chile). Conversely, in Chile, second-generation immigrant students had a similar socio-economic status as native students, while on average across OECD countries their ESCS score was more than one fourth of a standard deviation below the one of native students.

As was the case in most countries, in Chile, returning foreign-born students and native students of mixed heritage were socio-economically advantaged compared to native students. Their ESCS scores were, respectively 0.43 and 0.46 of a standard deviation greater than the one of native students (0.28 and 0.10 on average across OECD countries). On average in Chile, the parents of returning foreign-born students and native students of mixed heritage completed 1.3 years of schooling more than the parents of native students; they had a score on the occupational prestige scale[8] that was 9 points higher; and their score on the PISA index of household possessions was about one third of a standard deviation larger.

School policies and the school environment

A key factor that shapes the learning environment in schools is disciplinary climate. To characterise disciplinary climate a composite index was developed, based on students' responses on the frequency with which teachers have to wait a long time for students to settle, students cannot work well, students don't listen to what teachers say, students don't start working for a long time after the lesson begins; there is noise and disorder; and, at the start of class, more than five minutes are spent doing nothing. In Chile, disciplinary climate was relatively worse in the schools attended by the average immigrant studentsthan in the schools attended by the average native student. Although this common to most OECD countries, this difference (-0.13 points) is more than double the OECD average (-0.06 points) and is one of the greatest among OECD countries. By contrast, truancy was similar in the schools attended by the average immigrant and native students.

First-generation immigrant students in Chile were 11 percentage points more likely than native students to report being frequently bullied (the differences was almost four times larger than the OECD average of 3 percentage points). In Chile, bullied students were about seven percentage points less likely to attain baseline academic proficiency, 22 percentage points less likely to report a sense of belonging at school, 16 percentage points less likely to report being satisfied with life and 13 percentage points less likely to report low school-work related anxiety. Other groups of students with an immigrant background were as likely as native students to report being frequently bullied.

In Chile, 34% of second-generation immigrant students but as much as 57% of first-second generation immigrant students reported being frequently treated unfairly by their teachers, a difference of over 23 percentage points. In Chile, students who reported being unfairly treated by their teachers were about seven percentage points less likely to attain baseline academic proficiency, 10 percentage points less likely to report a sense of belonging at school, 16 percentage points less likely to report being satisfied with life and 6 percentage points less likely to report low school-work related anxiety.

In Chile, immigrant students were 10 percentage points more likely than native students to report receiving frequent feedback from their science teachers, after accounting for their science performance. Students that

reported receiving frequent feedback fron their science teacher were five percentage points more likely to report a sense of belonging at school, eight percentage points more likely to report being satisfied with life and five percentage points more likely to report high achievement motivation.

Unlike most OECD countries, there are no statistically significant differences in the percentage of native and immigrant students that reported having repeated at least one grade, after accounting for their academic performance and socio-economic status.
According to TALIS 2013, one in four Chilean teachers reported the need for additional professional development when teaching in multicultural settings. Only in Brazil, Italy and Mexico was this percentage greater.

The expectations for the future of students with an immigrant background

In PISA 2015, in most countries and economies, the percentage of students who expected to complete tertiary education was eight percentage points greater among immigrant than native students, after accounting for socio-economic background and academic proficiency. In Chile, there was no statistically significant difference in the share between the two groups of students. By contrast, second-generation immigrant students were 21 percentage points less likely than native students to expect to complete tertiary education, before and after accounting for their socio-economic status and academic performance. On average across OECD countries, the percentage of second-generation immigrant students who expected to complete tertiary education was 9 percentage point greater than the percentage of native students of similar socio-economic background and academic competence level that expected so.

On average across OECD countries, all groups of students with an immigrant background are more likely to hold ambitious career expectations (expect to become managers, professionals or associate professionals and technicians) compared to native students. In Chile, only first-generation immigrants were more likely than native students to hold ambitious career expectations (9 percentage points more likely), after accounting socio-economic status and academic performance.

Immigrant students who hold ambitious career expectations often lack the academic skills to fulfil them: many more students expect to work in occupations such as managerial and professional occupations that require solid foundation skills (such as those indicated by the baseline levels of proficiency in the PISA core academic subjects of reading, mathematics and science). In Chile, immigrant students are 17 percentage points less likely than native students to hold ambitious career expectations and simultaneously attain baseline levels of academic proficiency in the three key PISA subjects of reading, mathematics and science.

Notes

1. Foreign-born students with one foreign-born parent living in single-parent households are also considered first-generation immigrant students.

2. Foreign-born students with one native-born parent living in single-parent households are also considered returning foreign-born students.

3. Native-born students with one foreign-born parent living in single-parent households are also considered first-generation immigrant students

4. Students with an immigrant background who reach proficiency level 2 or above in the PISA reading, mathematics and science assessment are classified as being academically resilient.

5. Students who report a sense of belonging at school are students who reported that they "agree" or "strongly agree" with the statement "I feel like I belong at school" and "disagree" or "strongly disagree" with the statement "I feel like an outsider at school".

6. Students who report being satisfied with life are students who reported a life satisfaction of 7 or above on a scale from 1 to 10.

7. Students who report por motivation to achieve are students who "disagree" or "strongly disagree" with the statement "I want to be the best, whatever I do".

8. Occupational prestige is measured in PISA using the International Socio-Economic Index of occupational status (ISEI). Higher values on the scale indicate occupations with higher prestige.

The Programme for International Student Assessment

PISA is a triennial survey of 15-year-old students and was first implemented in 2000. PISA assesses the extent to which 15-year-old students, near the end of their compulsory education, have acquired key knowledge and skills that are essential for full participation in modern societies. The assessment focuses on the core school subjects of science, reading and mathematics. Students' proficiency in an innovative domain is also assessed (in 2015, this domain is collaborative problem solving). The assessment does not just ascertain whether students can reproduce knowledge; it also examines how well students can extrapolate from what they have learned and can apply that knowledge in unfamiliar settings, both in and outside of school. This approach reflects the fact that modern economies reward individuals not for what they know, but for what they can do with what they know.

The triennial nature of the study means that PISA can be used to monitor trends in students' acquisition of knowledge and skills across countries and in different demographic subgroups within each country. Forty-three countries and economies took part in the first assessment and by 2015 this number had grown to 72 countries and economies. Approximately 540 000 students completed the assessment in 2015, representing about 29 million 15-year-olds.

In addition to all OECD countries, the survey has been or is being conducted in:

- **East, South and Southeast Asia**: Beijing, Shanghai, Jiangsu and Guangdong (China), Hong Kong (China), Indonesia, Macao (China), Malaysia, Singapore, Chinese Taipei, Thailand and Viet Nam.

- **Central, Mediterranean and Eastern Europe, and Central Asia**: Albania, Bulgaria, Croatia, Georgia, Kazakhstan, Kosovo, Lebanon, Lithuania, the Former Yugoslav Republic of Macedonia, Malta, Moldova, Montenegro, Romania and the Russian Federation.

- **The Middle East**: Jordan, Qatar and the United Arab Emirates.

- **Central and South America**: Argentina, Brazil, Colombia, Costa Rica, Dominican Republic, Peru, Trinidad and Tobago, Uruguay.

- **Africa**: Algeria and Tunisia.

In each round of PISA, one of the core domains is tested in detail, taking up nearly half of the total testing time. The major domain in 2015 was science, as it was in 2006. Reading was the major domain in 2000 and 2009, and mathematics was the major domain in 2003 and 2012. With this alternating schedule of major domains, a thorough analysis of achievement in each of the three core areas is presented every nine years; an analysis of trends is offered every three years.

The *PISA 2015 Assessment and Analytical Framework* presents definitions and more detailed descriptions of the domains assessed in PISA 2015:

- **Science literacy** is defined as the ability to engage with science-related issues, and with the ideas of science, as a reflective citizen. A scientifically literate person is willing to engage in reasoned discourse about science and technology, which requires the competencies to explain phenomena scientifically, evaluate and design scientific enquiry, and interpret data and evidence scientifically.

- **Reading literacy** is defined as students' ability to understand, use, reflect on and engage with written texts in order to achieve one's goals, develop one's knowledge and potential, and participate in society.

- **Mathematical literacy** is defined as students' capacity to formulate, employ and interpret mathematics in a variety of contexts. It includes reasoning mathematically and using mathematical concepts, procedures, facts and tools to describe, explain and predict phenomena. It assists individuals in recognising the role that mathematics plays in the world and to make the well-founded judgements and decisions needed by constructive, engaged and reflective citizens.

The main PISA instruments are a two-hour assessment and a series of background questionnaires. Until 2012 the PISA assessment was delivered through paper-and-pencil booklets. For the first time, PISA 2015 delivered the assessment of all subjects via computer. Paper-based assessments were provided for countries that chose not to test their students by computer, but the paper-based assessment was limited to questions that could measure trends in science, reading and mathematics performance.

To gather contextual information, PISA 2015 asked students and the principal of their school to respond to questionnaires. The student questionnaire took about 35 minutes to complete; the questionnaire for principals took about 45 minutes to complete. The *PISA 2015 Assessment and Analytical Framework* (OECD, 2016a) presents the questionnaire framework in detail. The questionnaires from all assessments since PISA's inception are available on the PISA website: www.pisa.oecd.org.

Participating students also answered a background questionnaire, which was designed to take 35 minutes to complete. The questionnaire sought information about the students themselves, their homes, and their school and learning experiences. School principals completed a questionnaire that covered the school system and the learning environment. For additional information, some countries/economies decided to distribute a questionnaire to teachers. In some countries/economies, optional questionnaires were distributed to parents, who were asked to provide information on their perceptions of and involvement in their child's school, their support for learning in the home, and their child's career expectations, particularly in science. Data from the parental questionnaire were used in this report. Countries could choose two other optional questionnaires for students: one asked students about their familiarity with and use of information and communication technologies (ICT); and the second sought information about students' education to date, including any interruptions in their schooling, and whether and how they are preparing for a future career. Data from the educational careers questionnaire were used in this report.

The contextual information collected through the student, school and optional questionnaires are complimented by system-level data. Indicators describing the general structure of the education systems, such as expenditure on education, stratification, assessments and examinations, appraisals of teachers and school leaders, instruction time, teachers' salaries, actual teaching time and teacher training are routinely developed and applied by the OECD (e.g. in the annual OECD publication, *Education at a Glance*).

Differences between countries in the nature and extent of pre-primary education and care, in the age at entry into formal schooling, in the structure of the education system, and in the prevalence of grade repetition mean that school grade levels are often not good indicators of where students are in their cognitive development. To better compare student performance internationally, PISA targets students of a specific age. PISA students are aged between 15 years 3 months and 16 years 2 months at the time of the assessment, and have completed at least 6 years of formal schooling. They can be enrolled in any type of institution, participate in full-time or part-time education, in academic or vocational programmes, and attend public or private schools or foreign schools within the country. Using this age across countries and over time allows PISA to compare consistently the knowledge and skills of individuals born in the same

year who are still in school at age 15, despite the diversity of their education histories in and outside of school.

The population of PISA-participating students is defined by strict technical standards, as are the students who are excluded from participating. The overall exclusion rate within a country was required to be below 5% to ensure that, under reasonable assumptions, any distortions in national mean scores would remain within plus or minus 5 score points, i.e. typically within the order of magnitude of 2 standard errors of sampling. Exclusion could take place either through the schools that participated or the students who participated within schools.

There are several reasons why a school or a student could be excluded from PISA. Schools might be excluded because they are situated in remote regions and are inaccessible, because they are very small, or because of organisational or operational factors that precluded participation. Students might be excluded because of intellectual disability or limited proficiency in the language of the assessment.

The fact that the PISA target population covers 15-year-olds who are enrolled in school, have reasonable language proficiency has implications for results presented in this report, since many recently arrived immigrants were excluded from the PISA target population.

Contacts:

Andreas Schleicher: Andreas.Schleicher@OECD.org

Francesca Borgonovi: Francesca.Borgonovi@OECD.org

Alessandro Ferrara: Alessandro.Ferrara@OECD.org

For more information:

http://www.oecd.org/education/school/strength-through-diversity.htm

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