

WHERE IMMIGRANT STUDENTS SUCCEED A COMPARATIVE REVIEW OF PERFORMANCE AND ENGAGEMENT IN PISA 2003

EXECUTIVE SUMMARY

Based on the assumption that the successful integration of immigrant students into the education system presents a central concern to many countries worldwide, this report analyses evidence from PISA 2003 on outcomes of schooling including how well immigrant students perform in key school subjects at the age of 15, as well as how they assess themselves as learners and what their general attitudes are towards school. Two groups of immigrant students are analysed: *first-generation students* who were born outside the country of assessment and whose parents were also born in a different country; and *second-generation students* who themselves were born in the country of assessment but whose parents were born in a different country, *i.e.* students who have followed all their schooling in the country of assessment. The report compares immigrant students to *native* students who were born in the country of assessment and who had at least one parent born in that country. The analyses include seventeen countries with significant immigrant student populations: the OECD countries Australia, Austria, Belgium, Canada, Denmark, France, Germany, Luxembourg, the Netherlands, New Zealand, Norway, Sweden, Switzerland and the United States as well as the partner countries Hong Kong-China, Macao-China and the Russian Federation. For the majority of these countries, as well as for England, Finland and Spain, information is presented on policies and programmes to help immigrant students attain proficiency in the language of instruction.

The report examines how immigrant students performed mainly in mathematics and reading, but also in science and problem-solving skills in the PISA 2003 assessment, both in comparison to native students in their adopted country and relative to other students across all countries covered in the report (the ‘case countries’). In addition, the report explores to what extent immigrant students reported that they have other learning prerequisites, such as motivation to learn mathematics, positive attitudes towards school and strong belief in their own abilities in mathematics (self-concept). Throughout, the report attempts to identify factors that might contribute to between-country differences in immigrant student outcomes and as such could offer policy makers potential intervention points to improve the situation of these students. To this end, the report contextualises the findings by examining countries’ immigration histories and populations, general immigration policies and specific policies to help students learn the language of instruction. Although it is not possible to estimate the effects of these factors on immigrant students’ school success using the PISA data, the analyses presented in the report provide a description of countries with varying differences in performance (and other attributes) between immigrant and native student populations.

PISA results suggest that high levels of immigration do not necessarily impair integration.

There is not a significant association between the size of the immigrant student populations in the case countries and the size of the performance differences between immigrant and native students. This finding contradicts the assumption that high levels of immigration will generally impair integration.

Immigrant students are motivated learners and have positive attitudes towards school. Such strong learning dispositions can be developed by schools to help these students succeed in the education system.

The findings indicate that immigrant students report similar or even higher levels of positive learning dispositions compared to their native peers. First-generation and second-generation students often report higher levels of interest and motivation in mathematics and more positive attitudes towards schooling. In none of the countries do immigrant students report lower levels of these learning prerequisites. The consistency of this finding is striking given that there are substantial differences between countries in terms of immigration histories, immigrant populations, immigration and integration policies and immigrant student performance in PISA 2003. It suggests that immigrant students generally have strong learning dispositions, which schools can build upon to help them succeed in the education system.

Despite these strong learning dispositions immigrant students often perform at levels significantly lower than their native peers. However, performance levels vary across countries.

While immigrant students generally exhibit strong learning prerequisites, the size of the performance differences between native students and immigrant students varies widely in international comparison. The differences are most pronounced in Austria, Belgium, Denmark, France, Germany, the Netherlands and Switzerland. In contrast, immigrant and native students perform at similar levels in three of the traditional settlement countries, Australia, Canada, New Zealand, as well as in Macao-China.

In Canada, Luxembourg, Sweden, Switzerland and Hong Kong-China, second-generation students perform significantly better than first-generation students. The gap between immigrant and native students in these countries appears to decrease across immigrant generations. This pattern may, in part, reflect effects of integration policies and practice that help to mitigate achievement differences over time and generations, although it may also be due to differences in the composition of the first- and second-generation student populations. Definitive conclusions cannot be drawn from PISA as data were collected at a single point in time. In order to study changes in educational outcomes across generations longitudinal studies would be required.

In the majority of countries at least 25% of immigrant students could face considerable challenges in their future professional and personal lives as they do not demonstrate basic mathematics skills in the PISA 2003 assessment.

PISA 2003 classifies students into six proficiency levels according to the level of mathematical skills they demonstrate. Level 2 is considered to represent a baseline level of mathematics proficiency on the PISA scale at which students begin to demonstrate the kind of skills that enable them to actively use mathematics; for example they are able to use basic algorithms, formulae and procedures, to make literal interpretations and to apply direct reasoning. Students who are classified below Level 2 are expected to face considerable challenges in terms of their labour market and earnings prospects, as well as their capacity to participate fully in society.

The findings indicate that only small percentages of native students fail to reach Level 2, whereas the situation is very different for immigrant students. More than 40% of first-generation students in Belgium, France, Norway and Sweden and more than 25% of first-generation students in Austria, Denmark, Germany, Luxembourg, the Netherlands, Switzerland, the United States and the Russian Federation perform below Level 2.

Second-generation students in most countries show higher levels of proficiency compared to first-generation students, and a smaller percentage of second-generation students fail to reach Level 2. Nevertheless, in over half of the OECD case countries, more than 25% of second-generation students have

not acquired the skills to be considered able to actively use mathematics according to the PISA definition. In Germany, more than 40% of second-generation students perform below Level 2. In Austria, Belgium, Denmark, Norway, the United States and the Russian Federation at least 30% of second-generation students score below Level 2.

Background characteristics of immigrant student populations and school characteristics only partially explain differences in mathematics performance.

In most European countries immigrant students come from lower level socio-economic backgrounds and their parents often are less educated than native students' parents. This is also the case in the United States and Hong-Kong China. In contrast, the background characteristics of immigrant and native students are similar in Australia, Canada and New Zealand, the Russian Federation and Macao-China.

At the country level, there is a relationship between the relative mathematics performance of immigrant students and their relative educational and socio-economic background. However, performance differences remain between immigrant and native students in many countries after accounting for these background characteristics. For example, there are still significant performance differences between native and second-generation students in Austria, Belgium, Denmark, France, Germany, Luxembourg, the Netherlands, New Zealand, Norway and Switzerland. This suggests that the relative performance levels of immigrant students cannot solely be attributed to the composition of immigrant populations in terms of their educational and socio-economic background.

In several countries, many immigrant students attend schools with relatively high proportions of immigrant students. However, there is not a significant association between the degree of clustering within a country and the size of the performance gap between immigrant and native students. Therefore, the distribution of immigrant students across schools does not seem to account for international variation in performance gaps between immigrant and native students. Within countries, however, high proportions of immigrant students in schools may be related to performance levels, although the literature suggests that the evidence on this is mixed.

In most of the case countries immigrant students often attend schools with relatively disadvantaged student populations in terms of economic, social and cultural background. There is a more varied picture with respect to school resources and school climate. In three of the settlement countries, Australia, Canada and New Zealand, immigrant students and native students attend schools with similar resources and climates. In Belgium, immigrant students are likely to attend schools with less favourable characteristics. In other countries, the largest and most consistent differences occur for student factors related to the school climate and disciplinary climate. Immigrant students attend schools with less favourable conditions for at least one of these factors in Austria, Belgium, Germany, Luxembourg, the Netherlands, Sweden and Macao-China.

Similarly, performance differences in mathematics are not fully explained by the fact that some immigrant students do not speak the language of instruction at home. However, in several countries this relationship is quite strong and may warrant stronger language support in schools.

Countries also differ with respect to the proportion of immigrant students whose native language differs from the language of instruction. Accounting for the language spoken at home tends to decrease the performance differences between immigrant students and native students. In several countries, however, achievement differences remain significant. This includes both first- and second-generation students in Austria, Belgium, Denmark, France, the Netherlands and Switzerland; first-generation students in Luxembourg, Norway, Sweden, Hong Kong-China and the Russian Federation; and second-generation

students in Germany and New Zealand. This indicates that the language spoken at home does not fully account for the variations in immigrant students' relative performance levels.

Nevertheless, immigrant students who do not speak the language of instruction at home tend to be lower performing in mathematics in several countries. Even after accounting for parents' educational and occupational status, the performance gap associated with the language spoken at home remains significant in Belgium, Canada, Germany, the United States, Hong Kong-China, Macao-China and the Russian Federation. Countries with a strong relationship between the language students speak at home and their performance in mathematics may want to consider strengthening language support measures in schools.

Policies to help immigrant students attain proficiency in the language of instruction have common characteristics but vary in terms of explicit curricula and focus.

An examination of language proficiency policies in Australia, Austria, Belgium, Canada, Denmark, Germany, Luxembourg, the Netherlands, Norway, Sweden, Switzerland, Hong Kong-China and Macao-China, as well as in England, Finland and Spain, shows that countries have some key characteristics in common. Very few countries provide systematic language support based on an explicit curriculum in pre-primary education (ISCED 0). The countries that have an explicit curriculum in place include the Canadian province of British Columbia and the Netherlands.

In primary (ISCED 1) and lower secondary (ISCED 2) education, the most common approach is *immersion with systematic language support*, that is, immigrant students attend regular classes to learn all required academic programmes, but also receive targeted instruction to develop their skills in the language of instruction. In addition, several countries offer *immersion programmes with a preparatory phase in the language of instruction* for newly immigrated students, that is, immigrant students attend programmes to develop their language skills before they make the transition to regular classes. This approach occurs more frequently in lower secondary education (ISCED 2) than in primary education (ISCED 1).

Bilingual language support programmes given in both students' native language and the language of instruction are relatively uncommon. In England, Finland and Norway immersion with systematic language support may include some bilingual components. *Transitional bilingual programmes* with initial instruction in students' native language and a gradual shift toward instruction in their second language, however, do not play a substantial role in the programmes of any of the countries presented in this report.

Similarly, very few countries generally offer supplementary classes in their schools to improve students' native languages. In Sweden, students have a legal right to native language tuition, and schools typically provide such classes if at least five students with the same native language live in the municipality. Schools in the Swiss Canton of Geneva also offer native language classes for the most common minority languages. In eleven other countries or sub-national entities, the provision of native language tuition depends on the municipality or the individual school while in nine others native language instruction is left to families or community groups to arrange.

Despite these similarities in general approaches to supporting immigrant students in learning the language of instruction, the specific measures countries or sub-national entities implement vary considerably across a range of characteristics, such as the existence of explicit curricula and standards, the focus of the support (*e.g.* general curriculum vs. language development) and the organisation of the support (*e.g.* within mainstream instruction vs. in separate classes or language support as a specific school subject).

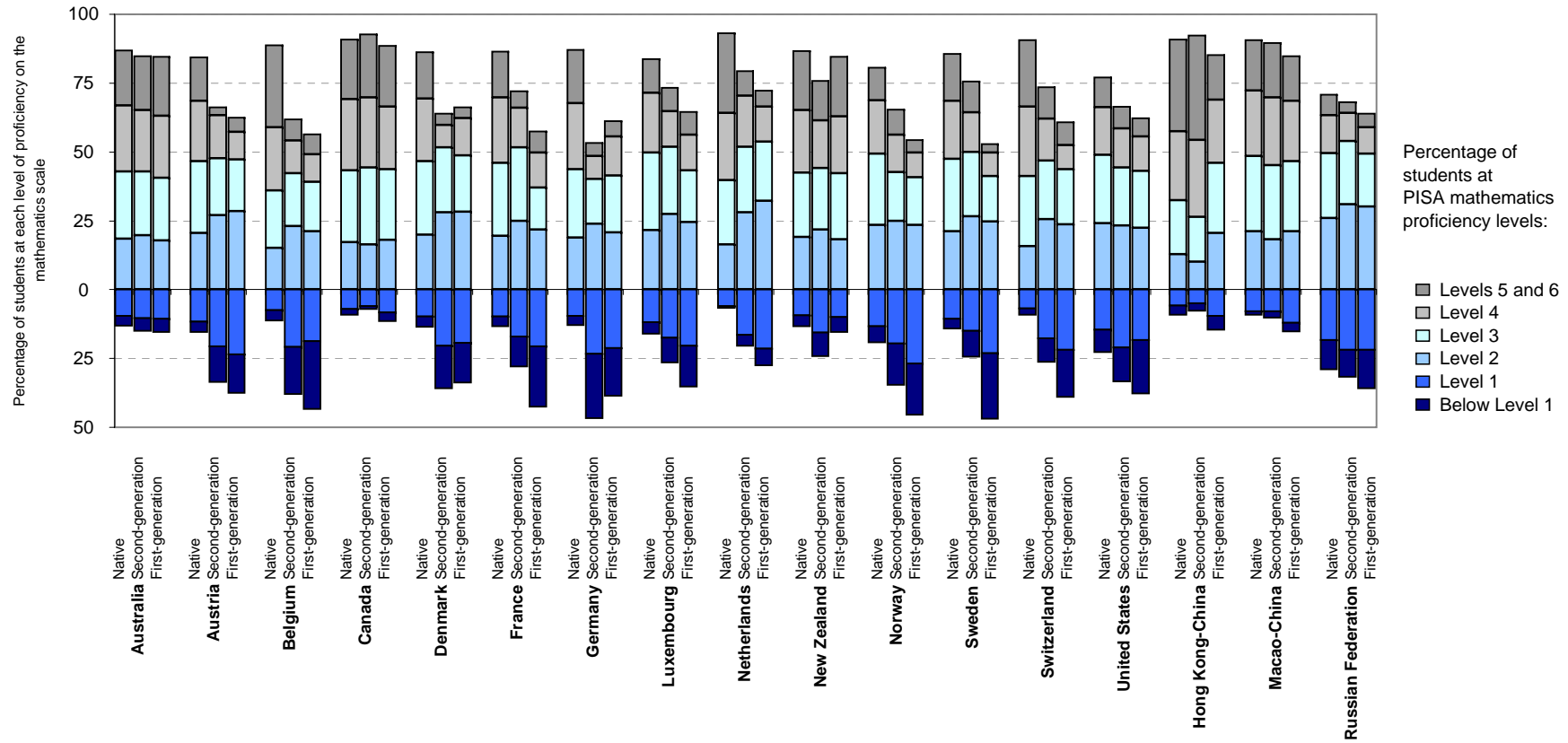
Several countries or sub-national entities have explicit curricula or curriculum framework documents in place for second language support. These include Australia – New South Wales and Victoria and Denmark for both immersion with systematic language support and immersion with a preparatory phase;

Canada – Ontario, some German *Länder*, Norway, Sweden and Macao-China for immersion with systematic language support; and Canada – British Columbia and Luxembourg for immersion with a preparatory phase. The curricula vary considerably, however, in terms of content, level of specificity and scope.

Countries where there are either relatively small performance differences between immigrant and native students or the performance gaps for second-generation students are significantly reduced compared to those observed for first-generation students, tend to have well-established language support programmes with relatively clearly defined goals and standards.

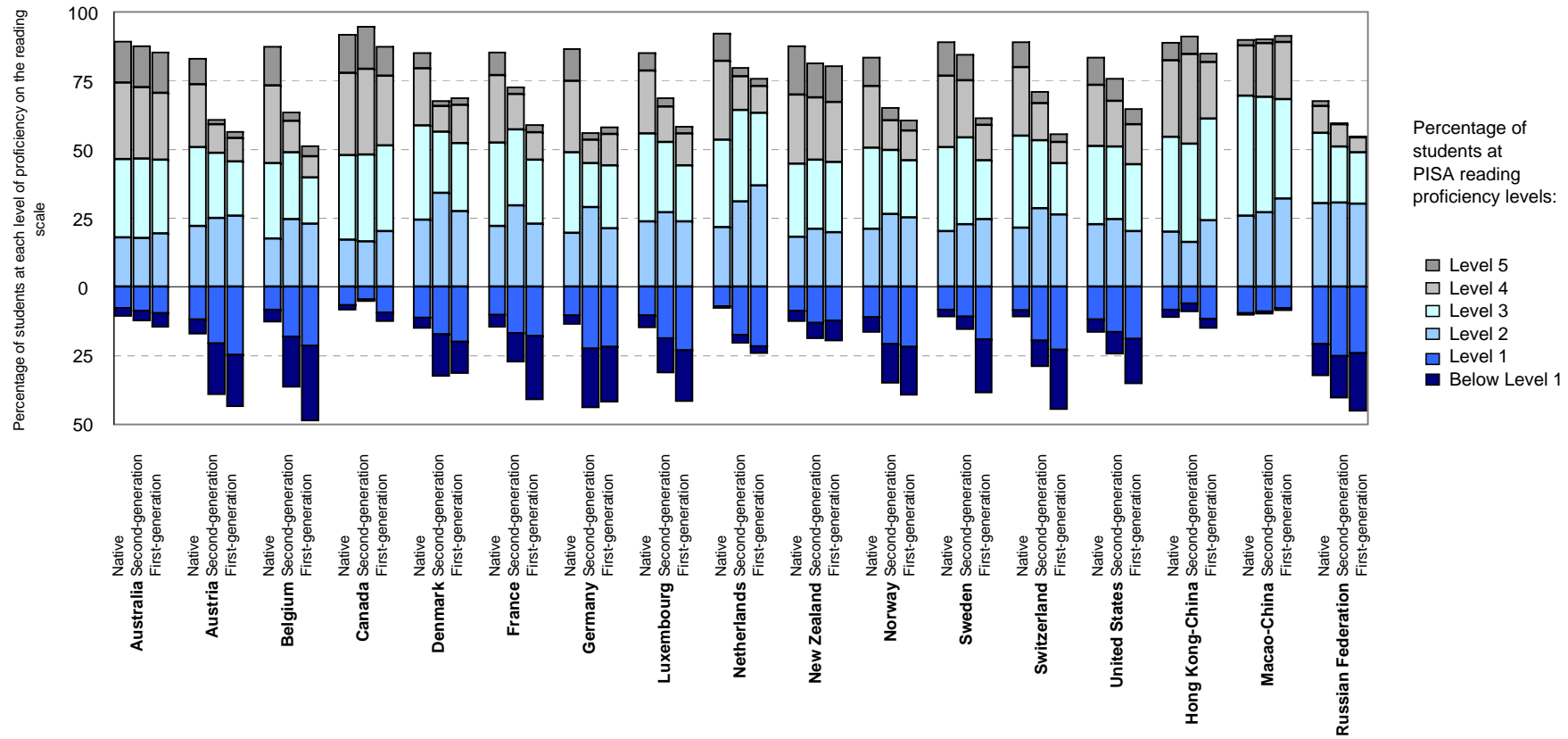
It would, of course, be of considerable interest to determine the extent to which the different language support programmes contribute to relative achievement levels of immigrant students. This, however, is not possible on the basis of the available information. Nevertheless, it appears that in some countries with relatively small achievement gaps between immigrant and native students, or smaller gaps for second-generation students compared to first-generation students, long-standing language support programmes exist with relatively clearly defined goals and standards. These countries include Australia, Canada and Sweden. In a few countries where immigrant students perform at significantly lower levels, language support tends to be less systematic. Yet, several of these countries have recently introduced programmes that aim to support the learning of immigrant students. These developments may help to reduce the achievement gap between immigrant students and their native peers.

Figure 2.4a
Percentage of students at each level of proficiency on the mathematics scale by immigrant status



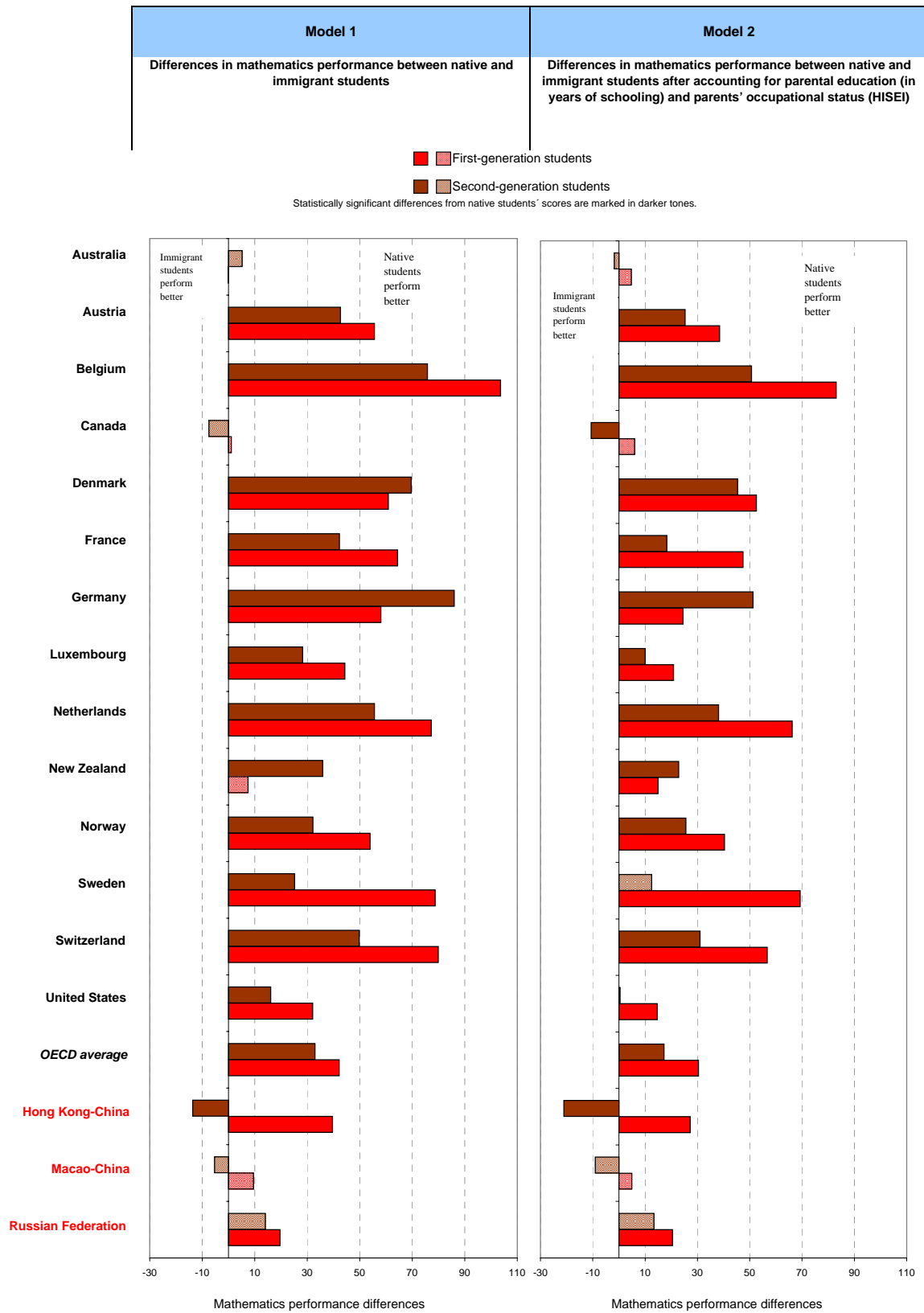
Source: OECD PISA 2003 database, Tables 2.4a, 2.4b and 2.4c.

Figure 2.4b
Percentage of students at each level of proficiency on the reading scale by immigrant status



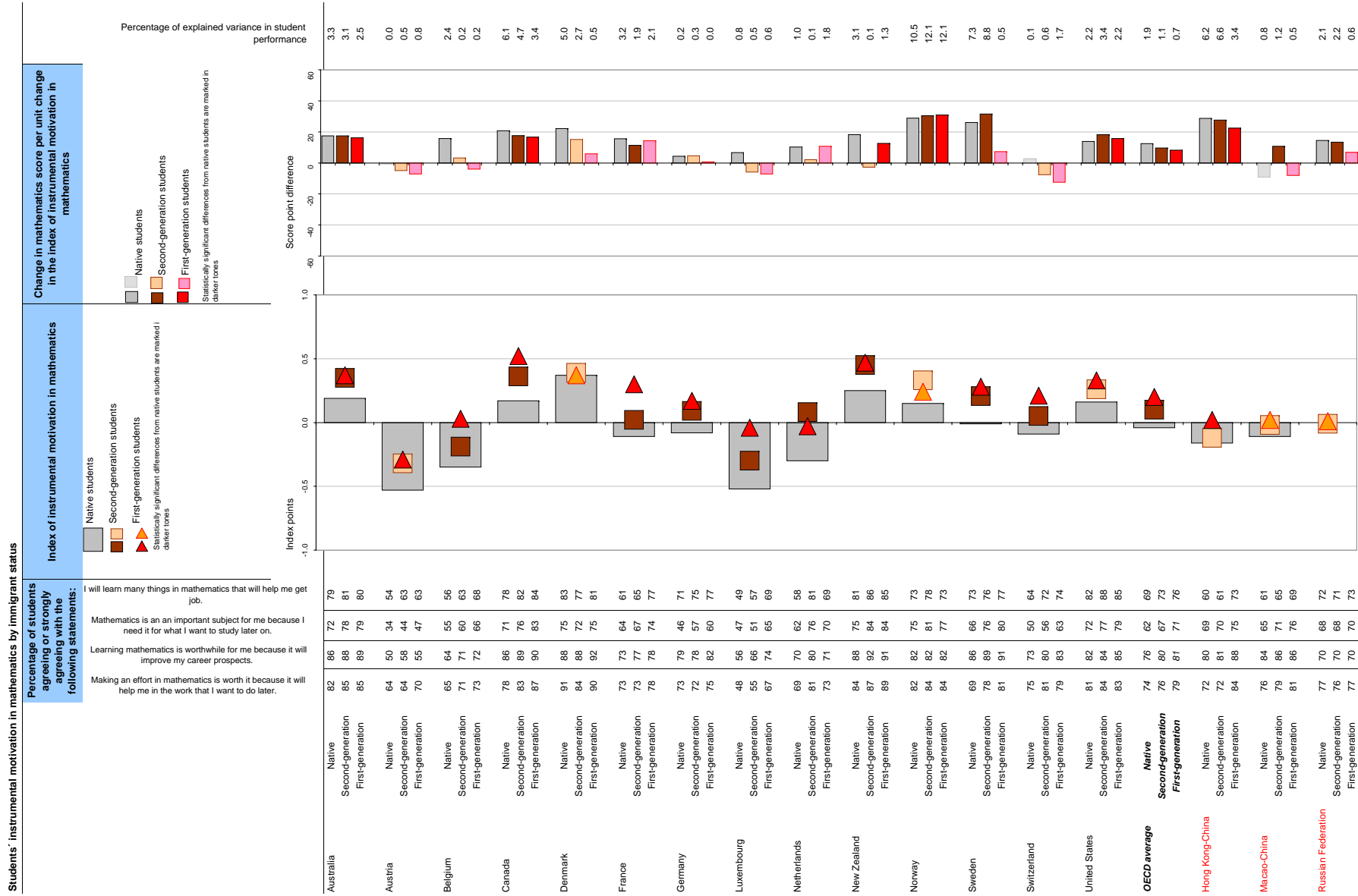
Source: OECD PISA 2003 database, Tables 2.4d, 2.4e and 2.4f.

Figure 3.5
 Differences in mathematics performance between native and immigrant students before and after accounting for parental education and parents' occupational status (HISEI)



Source: OECD PISA 2003 database, Table 3.5.

Figure 4.3a



Sources: OECD PISA 2003 database, Table 4.2