



Skills Proficiency of Immigrants in Canada:

Findings from the Programme for the International Assessment of Adult Competencies (PIAAC)



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The opinions expressed and arguments employed herein do not necessarily reflect the official views of CMEC, ESDC, or the other provincial/territorial or federal departments and agencies involved in PIAAC.

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Executive Summary

- The Programme for the International Assessment of Adult Competencies (PIAAC) conducted under the auspices of the Organisation for Economic Co-operation and Development (OECD) provides internationally comparable measures of three skills that are essential to processing information: literacy, numeracy, and problem solving in technology-rich environments (referred to in this report as PS-TRE).
- The OECD's analysis of PIAAC data shows that across 28 OECD countries participating in PIAAC, the foreign-born populations show lower proficiency scores in the three skill domains compared to the native-born populations. However, the overall performance of the foreign-born population in Canada is well above the foreign-born average in OECD countries (OECD, 2016).¹
- Using information from PIAAC, this report presents a comprehensive analysis of the proficiency in literacy, numeracy, and PS-TRE of immigrants who landed in Canada between 2002 and 2012 (i.e., recent immigrants) and immigrants who landed before 2002 (i.e., established immigrants).
- PIAAC was administered in Canada in English or French. Respondents' performance in the tests of the three skills is influenced by their proficiency in the test language. Low test scores for some respondents with a non-official language as their mother tongue may, to some extent, reflect their low proficiency in the test language rather than low proficiency in literacy, numeracy, and PS-TRE per se.
- When literacy, numeracy, and PS-TRE are measured in either English or French, on average, recent and established immigrants both show lower proficiency scores than the Canadian-born in all three skills. However, recent immigrants and established immigrants have similar average proficiency scores in the three skills.²
- Sizable proportions of recent and established immigrants (23 per cent and 27 per cent, respectively, versus 14 per cent for the Canadian-born) did not participate in the PS-TRE test for one of three reasons: no computer experience, failing the screening Information and Communications Technology (ICT) core test, or opting out of the computer-based assessment. The percentage of non-participation is highest among immigrants of the refugee class (38 per cent and 36 per cent, respectively, for recent and established immigrants).
- While the overall gender differences in literacy and PS-TRE are insignificant among established immigrants and the Canadian-born, men perform slightly better than women among recent immigrants. In numeracy, men perform better than women; the gender difference is highest for recent immigrants, followed by established immigrants and then the Canadian-born. Gender gaps are much larger among older age groups than among younger groups.
- Immigrants and the Canadian-born with higher educational levels perform better than those with lower educational levels in the three skill domains. For example, the average numeracy proficiency score of immigrants with a first professional degree, master's degree, or Ph.D. is about 18 or 57 points higher

¹ In other PIAAC participating countries, no distinction is made between temporary residents and landed immigrants. As a result, proficiencies of the total foreign-born populations are compared across countries in the OECD PIAAC publication. In Canada, additional questions were added in the survey to allow such a distinction.

² PIAAC is a cross-sectional survey. When we compare results of recent and established immigrants, we are not comparing skills of the same cohort of immigrants over time in Canada, but rather those of immigrants who landed in Canada in different periods. Observed differences (or lack thereof) between the two groups may be attributable to various factors.

than that of immigrants with a bachelor's degree or a high-school diploma, respectively. At any given educational level, the Canadian-born perform better than immigrants. For some immigrants, high educational credentials do not translate into higher proficiencies in literacy, numeracy, and PS-TRE when assessed in either English or French.

- Country/region of education and official-language proficiency are important factors accounting for differences in proficiency between the Canadian-born and immigrants, as well as among immigrants.
- For immigrants, a good ability to speak an official language (self-reported) or having English or French as a mother tongue considerably reduces, but does not eliminate, their proficiency gaps compared to the Canadian-born.
- Among immigrants, net of the effect of other sociodemographic characteristics, those who obtained their highest education in Canada, or in “other Western countries” (the United States, Western and Northern Europe, Australia, or New Zealand) score the highest in literacy and numeracy assessments. By contrast, immigrants who obtained their highest education from North Africa, Southern Asia, or Southeast Asia show the lowest scores.
- In general, the earlier in life that immigrants land in Canada, the higher their proficiency levels. Immigrants who land at young ages show skill proficiencies similar to those of the Canadian-born.
- On average, immigrants reporting that they were admitted through the points system score just shy of the Canadian-born population and score much higher than immigrants reporting that they were admitted through family reunification and refugee programs. However, net of the effect of other sociodemographic characteristics, differences between immigrants admitted through the three different immigration streams shrink considerably.

Note to Reader

What is PIAAC?

An initiative of the Organisation for Economic Co-operation and Development (OECD), the Programme for the International Assessment of Adult Competencies (PIAAC) is a household survey of adults aged 16 to 65. Its aim is to assess key cognitive and workplace skills needed for successful participation in 21st-century society and the global economy.

PIAAC directly assesses cognitive skills in the areas of literacy, numeracy, and problem solving in technology-rich environments (PS-TRE). PIAAC's extensive background questionnaire also provides information about a number of other skills and personal traits.

In Canada, PIAAC was conducted by Statistics Canada and made possible by the joint effort of the Ministers of Education of the provinces and territories, through the Council of Ministers of Education, Canada (CMEC), and the Government of Canada, led by Employment and Social Development Canada (ESDC). For definitions and background information about PIAAC in Canada, please refer to the pan-Canadian report titled *Skills in Canada: First Results from the Programme for the International Assessment of Adult Competencies (PIAAC)*, (Statistics Canada, 2013) or visit www.piaac.ca.

Foundational skills: Literacy, numeracy, and problem solving in technology-rich environments (PS-TRE)

To measure skills in an international context, Canada joined PIAAC.³ The program, which builds on previous international assessments, provides internationally comparable measures of three skills that are essential to processing information: literacy, numeracy, and PS-TRE. Given the centrality of written communication and fundamental mathematics in virtually all areas of life, as well as the rapid integration of information and communications technology (ICT), individuals must be able to understand, process, and respond to textual and numerical information in both print and digital formats if they are to participate fully in society.

Literacy, numeracy, and PS-TRE are considered key to that ability. Literacy and numeracy, developed in any language, provide a foundation for the development of other, higher-order cognitive skills. Together with PS-TRE, they are prerequisites for gaining access to, and an understanding of, specific domains of knowledge. They are also necessary in a broad range of contexts, from education, to work, to everyday life.

³ The OECD refers to PIAAC as the "Survey of Adult Skills."

Main elements of PIAAC in Canada

The PIAAC survey is made up of three main parts: a background questionnaire, a direct assessment of skills, and a module on the use of skills.

Background questionnaire

The PIAAC background questionnaire puts the results of the skills assessment into context, classifying survey participants according to a range of factors that influence the development and maintenance of skills. In particular, the questionnaire facilitates the analysis of skills distribution across sociodemographic and socioeconomic variables. It also permits the study of outcomes that could be associated with skills. The questionnaire is divided into the following sections:

- Demographic characteristics (e.g., Indigenous identity,⁴ age, gender, immigrant status);
- Educational attainment and training (e.g., level of education, where and when attained, field of study);
- Employment status and income (e.g., employed or not, type of work, earnings); and
- Social and linguistic background (e.g., self-reported health status, language spoken at home).

Direct assessment of skills

The direct-assessment component measures the three foundational information-processing skills described earlier. Assessment participants are tested in the official language of their own choice (English or French), and thus the results are influenced by their proficiency in that language. Each skill is measured along a continuum and within a context of how it is used. To help interpret the results, the continuum has been divided into different levels of proficiency. These do not represent strict demarcations between abilities but instead describe a set of skills that individuals possess to a greater or lesser degree. This means that individuals scoring at lower levels are not precluded from completing tasks at a higher level — they are simply less likely to complete them than individuals scoring at the higher level. Descriptions of the different levels and the abilities that they comprise are available in Appendix I.

PIAAC recognizes that concepts such as literacy, numeracy, and PS-TRE are too complex and varied to be captured by a single measure. For example, there are multiple forms of literacy, rather than a single one. The assessment's aim, therefore, is not to redefine or simplify such concepts; rather, it is to evaluate a specific, measurable dimension of them. The skills assessed by PIAAC are defined in terms of three parameters: content, cognitive strategies, and context. The content and cognitive strategies are defined by a specific framework that describes what is being measured and guides the interpretation of results (OECD, 2012). The context defines the different situations in which each of these skills is used, including professional, educational, personal, and societal.

⁴ PIAAC 2012 used the term “Aboriginal” to indicate respondents who self-identified as First Nations, Métis, or Inuit. As a result of changes in terminology since then, these respondents are referred to collectively as Indigenous peoples in this report.

Literacy

For the purposes of PIAAC, literacy is defined as “understanding, evaluating, using and engaging with written texts to participate in society, to achieve one’s goals, and to develop one’s knowledge and potential” (OECD, 2012, p. 19).

Respondents are measured for their ability to engage with written texts (print-based and digital) and thereby participate in society, achieve goals, and develop their knowledge and potential. This requires accessing, identifying, and processing information from a variety of texts that relate to a range of settings (see Appendix I for more information).

PIAAC also includes an assessment of reading components designed to provide information about adults with very low levels of proficiency in reading. It measures skills in print vocabulary (matching words with the picture of an object), sentence processing (deciding whether a sentence makes logical sense), and passage comprehension (selecting words that make the most sense in the given context). Results from the assessment of reading components are not presented in the thematic report series. Once OECD publishes reading-component results, the findings can then be replicated at the Canadian and provincial/territorial levels.

Numeracy

PIAAC defines numeracy as “the ability to access, use, interpret and communicate mathematical information and ideas, in order to engage in and manage the mathematical demands of a range of situations in adult life” (OECD, 2012, p. 33).

Respondents are measured for their ability to engage with mathematical information and manage the mathematical demands of a range of situations in everyday life. This requires understanding mathematical content and ideas (e.g., quantities, numbers, dimensions, relationships), and the representation of that content (e.g., objects, pictures, diagrams, graphs).

The PIAAC definition is designed to evaluate how mathematical concepts are applied in the real world — not whether someone can solve a set of equations in isolation (see Appendix I for more information).

PS-TRE

Respondents are measured for their ability to use “digital technology, communication tools, and networks to acquire and evaluate information, communicate with others, and perform practical tasks” (OECD, 2012, p. 45).

This requires understanding technology (e.g., hardware, software applications, commands, and functions) and solving problems with it. Measurement is divided into two different but related parameters: (1) familiarity with computers and how to use them; and (2) the ability to solve problems commonly encountered in a technology-rich world (see Appendix I for more information).

Module on the use of skills

The module on the use of skills collects self-reported information on how a range of skills are used at work and in everyday life, including the frequency and intensity of use. It includes information about the use of: cognitive skills (such as engagement in reading, numeracy, and ICT); non-cognitive skills (such as the capacity to work collaboratively or as a member of a team); organizational skills (such as communicating, planning, and influencing); and skills in the workplace (such as autonomy over key aspects of work and what kind of skills are employed at work).

Interpreting the data in the report

As with all comparative studies, PIAAC was designed and implemented in a way that would ensure the validity, reliability, comparability, and interpretability of results. It identified and quantified possible errors and issues that could interfere with or bias interpretation, and wherever such errors and issues might be present, they were highlighted for the reader in notes to figures and tables. There is a reference under every figure shown in this report to a corresponding table in Appendix II that includes extra information that could prove useful to the reader. Efforts were made to provide valid international and cross-jurisdictional comparisons throughout the report. In some cases, however, such comparisons were omitted, either because of methodological challenges or because they provided limited analytical value, given the objectives and scope of this report.

The data presented in this report are estimated from representative samples of adults in Canada, as well as from the OECD countries that participated in PIAAC between 2008 and 2016 (Round 1 and 2) whose combined average score is referred to as the “OECD average.” Consequently, there is a degree of sampling error that must be taken into account in analyzing the results. Sampling error decreases as the size of the sample increases so that the likelihood of any error is larger at the provincial/territorial level than at the level of Canada as a whole. This is complicated further by “measurement error”: the variation that may be created because respondents do not all answer the same questions. (They answer only a selected number and their results are then extrapolated onto the questionnaire in its entirety.) The aggregate degree of uncertainty that the sampling and measurement errors introduce is expressed by a statistic called the standard error.

When comparing average scores among provinces, territories, or population subgroups, the degree of error in each score must be considered to determine whether differences in scores are real or only apparent. Standard errors are used as the basis for making this determination. If the ranges within which the scores could fall when the standard error is taken into account do not overlap, then the score differences are statistically significant. The differences highlighted in the text are statistically significant unless otherwise stated. This does not necessarily mean that the differences have an impact in practice but simply that a difference can be observed.

The results from PIAAC do not permit readers to infer a causative relationship between variables (e.g., level of education or age) and a corresponding score. While such a relationship may in fact exist, the statistical analysis offers only a description of that relationship. More detailed research into the underlying factors would be needed to understand why particular patterns are observed.

Rounding

In the text of this report, all numbers other than standard errors are generally rounded to the nearest whole number. Proportions and average scores are presented as whole numbers. The numbers shown in the Figures have been rounded to the nearest number at one decimal place. There may, however, be inconsistencies in the tables and text when referring to score-point differences. All score-point differences mentioned in the text are based on un-rounded data. Therefore, if readers calculate score-point differences using the numbers in the tables, they may obtain results that differ slightly from those in the text.

Placing results in the proper context

Comparisons between different countries, as well as jurisdictions within Canada, should be tempered by the recognition that the populations surveyed began their schooling at any time between the early 1950s and the early 2000s, a half-century that has been marked by enormous change. Consequently, the results are affected by a number of factors that vary from place to place, such as:

- the evolution of education and training systems;
- changes in education policies;
- technological advances;
- the development of regional and national economies;
- patterns of immigration; and
- changes in social norms and expectations.

Introduction

Immigrants constitute a significant part of the Canadian population. In 2011, they represented just over 20 per cent of the total population, one of the highest proportions in the OECD (OECD, 2015). Immigrants in Canada come from different countries and diverse ethnocultural backgrounds. They have various educational experiences, linguistic profiles, and skill sets. Previous censuses, the 2011 National Household Survey, and other surveys conducted in Canada provide information for understanding the sociodemographic and educational profiles of the immigrant population. PIAAC collected data on the key information-processing competencies — literacy, numeracy, and problem solving in technology-rich environments (PS-TRE) — among the immigrant population aged 16 to 65 to provide further insight into who has these skills, what level they have, and how they compare to the Canadian-born population.

OECD's analysis of the PIAAC data across 28 OECD participating countries shows that Canada's overall performance in PIAAC is above the OECD average in literacy, numeracy, and PS-TRE. Across OECD participating countries, the foreign-born populations show lower proficiency scores in the three skill domains compared to the native-born populations. However, the overall performance of the foreign-born population in Canada is well above the foreign-born average in OECD countries (OECD, 2016).⁵

This report analyzes proficiency in literacy, numeracy, and PS-TRE of recent and established immigrants in Canada compared to the Canadian-born by various sociodemographic characteristics and examines the relationships between proficiency in each of the three skill domains and some key sociodemographic and immigration-related characteristics. First, average proficiency scores and distributions of proficiency levels in literacy, numeracy, and PS-TRE of recent and established immigrants and the Canadian-born aged 16–65 are compared at the national level and for Quebec, Ontario, British Columbia, and the Prairies region where sample sizes are sufficient to allow reliable estimation.⁶ Second, the skills profile of immigrants by key relevant sociodemographic and immigration-related characteristics—age, gender, educational attainment, country of education, mother tongue, and official-language proficiency—are presented and compared with their Canadian-born counterparts. Finally, multivariate analysis is employed to identify key factors accounting for the skill gaps between the Canadian-born and immigrants, and among immigrants with different characteristics.

PIAAC and the sampling of Canada's immigrant population

The total Canadian PIAAC sample comprises about 27,000 respondents aged 16 to 65. Immigrant, Indigenous, official-language minority population groups, and youth aged 16 to 24 are oversampled.

⁵ In other OECD countries, no distinction is made in the survey between the foreign-born population of temporary residents and the foreign-born who are, or have ever been, landed immigrants/permanent residents. So proficiencies of the total foreign-born population are compared across countries in the OECD publication. In Canada, additional questions were added in the survey to differentiate temporary residents and immigrants/permanent residents in Canada (referred to as immigrants in this report).

⁶ Recent immigrants were oversampled (i.e. their proportion in the sample is higher than their proportion in the population) in order to obtain statistically reliable results in Quebec, Ontario, British Columbia, and Alberta. The oversampled population of recent immigrants in Alberta on its own was not large enough to generate statistically reliable results. As a result, it is included in the aggregated category of immigrants residing in the Prairies, which comprise Alberta, Saskatchewan, and Manitoba. The sample for this broader category is large enough to generate reliable estimates for the analysis.

For the purpose of oversampling, immigrants are defined as persons who are, or have ever been, landed immigrants/permanent residents in Canada. Immigrants who landed in Canada between 2002 and 2012 were oversampled in Quebec, Ontario, British Columbia, and Alberta. In this report, immigrants who landed in Canada as permanent residents between 2002 and 2012, that is, with 10 years or less since landing (years since landing or YSL), are referred to as *recent immigrants*, while immigrants who landed in Canada before 2002, or with more than 10 YSL are referred to as *established immigrants*.

Oversampling resulted in a total number of 4,413 immigrants in the total sample. After excluding observations with missing or faulty information on the year of landing in Canada, we see that 4,372 observations remain and are included in this study. Table I.1 provides information on sample sizes of the Canadian-born and immigrants by landing period and by province, region and territories. The sample sizes allow for reliable estimations for recent immigrants and established immigrants at the national level and for Quebec, Ontario, British Columbia, and the Prairies region at an aggregate level as well as broken down into some broad categories.

Table I.1 PIAAC in Canada sample by province, region and territory, and by immigration status and year since landing, 2012

	Atlantic region	Quebec	Ontario	Prairies	British Columbia	Territories	Grand Total
Total immigrants	184	931	1,586	595	933	184	4,413
Recent immigrants (0–10 YSL)	73	506	916	361	711	59	2,626
Established immigrants (>10 YSL)	110	411	658	228	216	123	1,746
Canadian-born	5,389	4,832	3,527	4,391	1,661	2,300	22,100
Temporary residents	66	106	113	108	99	31	523

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Notes: 1. For some immigrants, the year in which they landed in Canada is unknown. As a result, the total number of immigrants is not equal to the sum of recent and established immigrants.
2. See definitions in Appendix I.

PIAAC measures of skills and official-language proficiency

PIAAC's direct assessment of skills is designed to provide internationally comparable measures of key cognitive skills in literacy, numeracy, and PS-TRE.

For literacy and numeracy, assessments were available in both a computer-based and a paper-based version. The PS-TRE assessment was available in a computer-based test only. Respondents who had no experience with computers, or who failed the core test in Information and Communications Technology (ICT), or who opted out of the computer-based assessment in favour of the paper-based version for literacy and numeracy tests, were not assessed for PS-TRE (OECD, 2013a).

PIAAC was administered in Canada's two official languages. Literacy, numeracy, and PS-TRE were assessed in English or French, as chosen by the respondents. Most immigrants, especially recent immigrants, have a mother tongue other than English or French. For these immigrants, the test results are influenced by their proficiency in the test language and hence are not a pure measure of proficiency in literacy, numeracy, and PS-TRE. Low test scores for respondents with a non-official language as their mother tongue may reflect

their low proficiency in the official language rather than low proficiency in literacy, numeracy, and PS-TRE per se — if they were measured in respondents' mother tongues.

It is important to measure immigrants' proficiency in the three skills in English or French since full integration into the Canadian labour market and social life requires applying these skills in the languages that are used predominantly in the workplace in Canada and in broader Canadian society. However, it is also important to make a distinction between the PIAAC measures of skills and “pure” measures of literacy, numeracy, and PS-TRE. Making this distinction has implications for interpreting the PIAAC results, particularly when comparing skill proficiencies between immigrants and the Canadian-born and between immigrants with an official language as their mother tongue and those with a non-official language as their mother tongue. If low PIAAC scores are observed for some immigrant groups, we always need to ask whether these immigrants have low scores as a result of their low proficiency level in the testing language or because of their low cognitive skills in these three domains.

Distinguishing between the PIAAC measures and “pure” measures of skills in the three domains is also important for developing skill-upgrading programs. For example, for immigrants with low official-language proficiency, but with good literacy, numeracy, and PS-TRE skills in their mother tongue, the policy should emphasize official-language training. For immigrants with lower skills in literacy, numeracy, and PS-TRE in their mother tongue (immigrants with low educational attainment likely fall into this category), upgrading their foundational skills in these domains is also needed.

To discern the effect of official-language proficiency on the PIAAC test scores in the three skill domains, we would need an objective measure of respondents' proficiency in those languages. However, PIAAC does not provide such an objective measure to allow us to accurately gauge this effect. Nevertheless, PIAAC does collect self-reported information on immigrants' ability to speak an official language, which is used as a proxy for their official-language proficiency to estimate its effect on the proficiency scores that PIAAC tests.

Immigrant and Canadian-born populations in Canada, 2012

This report compares the skill profiles of recent immigrant, established immigrant, and Canadian-born populations aged 16 to 65. However, it is important to note that these population groups differ considerably in their compositions in terms of some key sociodemographic characteristics that tend to be highly associated with skill proficiencies.

As Table I.2 shows, the age structures of the two immigrant groups and the Canadian-born differ considerably. The percentage distribution of the five age groups of Canadian-born adults is quite even: each group accounts roughly for 20 per cent. By contrast, recent immigrants are much younger than the Canadian-born while established immigrants are older.

On average, immigrants, especially recent immigrants, are more educated than the Canadian-born. They are much more likely to have obtained university degrees. The percentage of Canadian-born adults with only a high-school diploma or lower education exceeds that of established and recent immigrants. The proportion of adults with some postsecondary education below a bachelor's degree is highest for the Canadian-born and lowest for recent immigrants.

The shift in immigrant source countries since the 1970s from European source countries to countries in Asia (including the Middle East), Africa, and South America resulted in a significant change in the composition of immigrant mother tongues. The percentage of immigrants with mother tongues other than English or French is higher for recent immigrants (74 per cent) than for established immigrants (66 per cent) and, not surprisingly, much higher than for the Canadian-born population (4 per cent). The immigration admission class composition also differs between recent and established immigrants. Compared to established immigrants, the percentage admitted under the points system is higher and the percentage admitted under the family class is lower for recent immigrants.

As these sociodemographic characteristics tend to be correlated with skill proficiencies in literacy, numeracy, and PS-TRE, we should be mindful of differences in these characteristics across the three population groups when comparing their proficiency scores.

Table I.2 Percentage distributions of sociodemographic characteristics of population aged 16 to 65, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

Immigration status	All immigrants		Recent immigrants (0–10 YSL)		Established immigrants (>10 YSL)		Canadian-born	
	%	SE	%	SE	%	SE	%	SE
Demographic characteristics								
Age groups								
16 to 24	10.2	(0.6)	17.2	(0.9)	6.8	(0.8)	19.1	(0.2)
25 to 34	18.9	(0.9)	30.4	(1.4)	13.4	(1.1)	19.9	(0.3)
35 to 44	24.8	(0.8)	32.2	(1.3)	21.5	(1.0)	18.1	(0.3)
45 to 54	23.9	(0.9)	15.8	(0.9)	27.6	(1.2)	22.5	(0.3)
55 to 65	22.3	(0.8)	4.4	(0.5)	30.7	(1.2)	20.4	(0.3)
Educational attainment								
Less than high-school diploma	11.4	(0.6)	11.1	(1.0)	11.6	(0.8)	16.0	(0.2)
High-school diploma	21.2	(0.9)	19.2	(1.0)	22.3	(1.2)	25.8	(0.3)
Postsecondary education – below bachelor’s degree	28.3	(0.9)	20.1	(1.1)	31.6	(1.3)	37.0	(0.3)
Postsecondary education – bachelor’s degree	24.7	(0.9)	31.7	(1.3)	21.6	(1.2)	15.6	(0.3)
Postsecondary education – first professional degree, master’s degree, or Ph.D.	14.4	(0.7)	17.9	(1.0)	12.8	(1.0)	5.6	(0.3)
Mother tongue								
English or bilingual	27.5	(1.0)	20.8	(1.0)	30.3	(1.4)	70.6	(0.3)
French	3.9	(0.3)	4.9	(0.5)	3.3	(0.4)	25.3	(0.2)
Other	68.6	(1.0)	74.3	(1.1)	66.4	(1.4)	4.0	(0.3)
Immigration class								
Refugee	8.9	(0.6)	8.4	(0.7)	8.9	(0.8)	-	-
Family reunification	40.0	(1.2)	32.4	(1.5)	43.8	(1.6)	-	-
Points system	37.5	(1.2)	49.9	(1.5)	32.1	(1.6)	-	-
Other	12.0	(0.7)	8.9	(0.8)	13.2	(1.0)	-	-

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Notes: 1. Information on immigration class is self-reported.

2. The attainment of a first professional degree refers to the fields of medicine, veterinary medicine, dentistry, optometry, law, and divinity.

3. The distribution of immigrant population by immigration class does not add up to 100% because missing values are not reported.

4. See definitions in Appendix I.

SE Standard error



CHAPTER 1

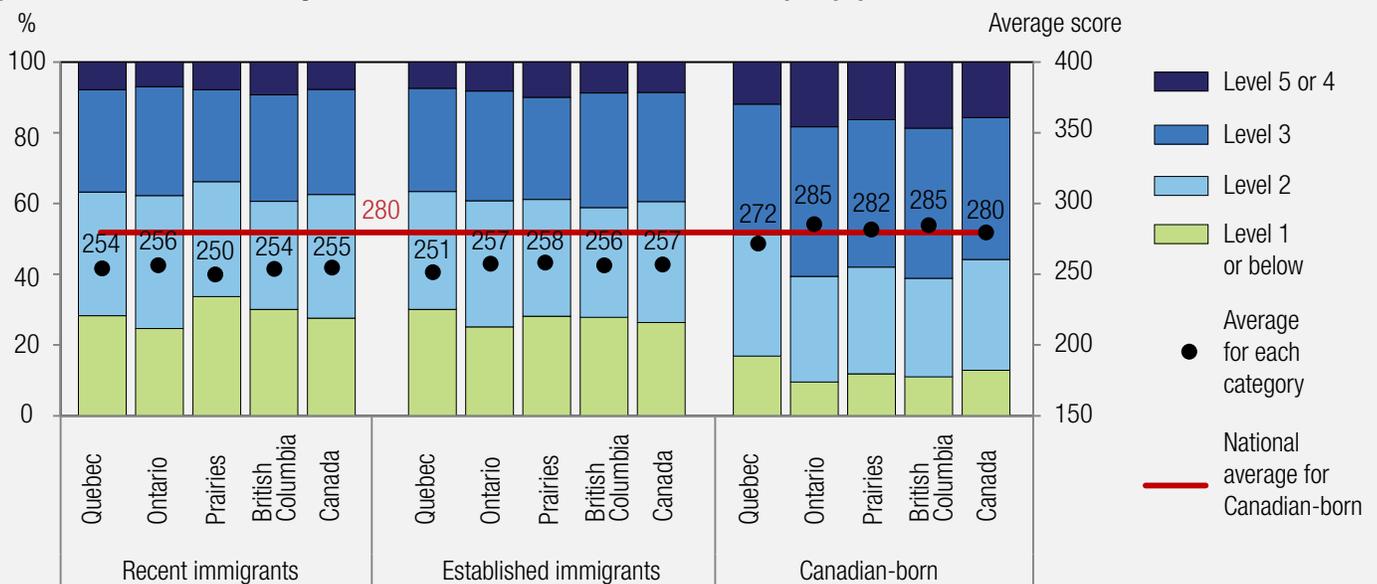
OVERVIEW OF SKILLS PROFICIENCY OF IMMIGRANTS



This chapter provides an overview of proficiency in literacy, numeracy, and problem solving in technology-rich environments (PS-TRE) of recent and established immigrants compared to the Canadian-born. Mean proficiency scores and proficiency-level distributions of the three groups are compared at the national level as well as for Quebec, Ontario, British Columbia, and the Prairies for the population aged 16 to 65.

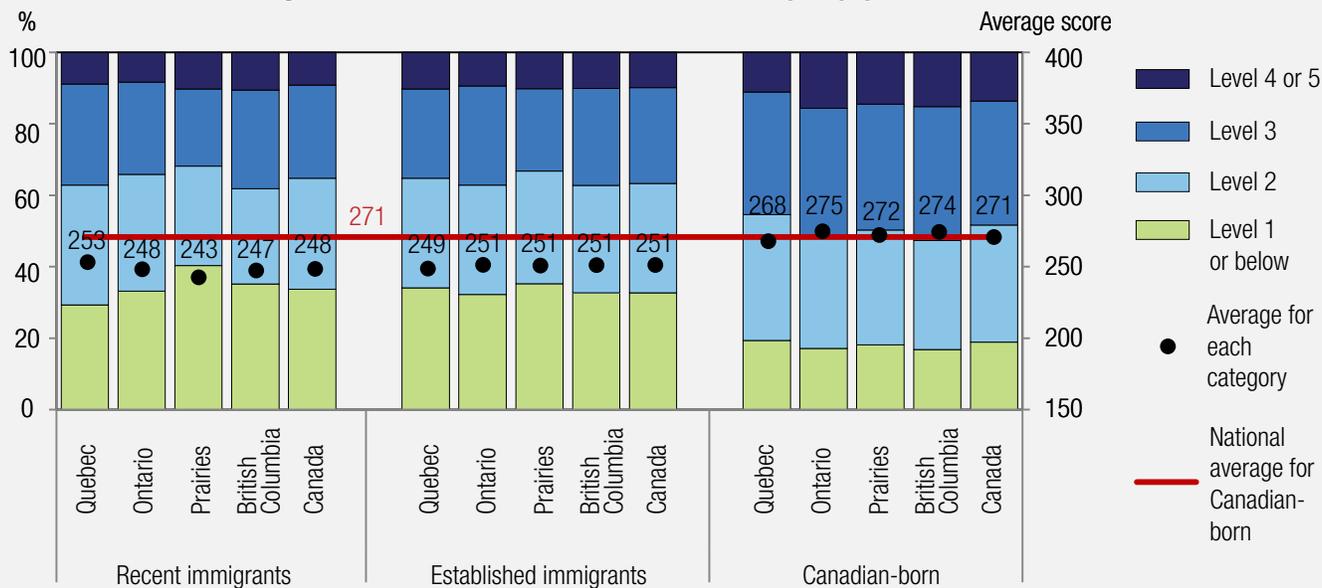
When literacy, numeracy, and PS-TRE are tested in either English or French, on average, immigrants show lower proficiency scores than the Canadian-born in all three skill domains. Recent immigrants and established immigrants have similar proficiencies in the three skill domains (Figures 1.1–1.4 and Tables 1.1–1.4 in Appendix II).

Figure 1.1 Literacy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by recent and established immigrants and Canadian-born, Canada and oversampled populations, 2012



Source: Table 1.1

Figure 1.2 Numeracy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, recent and established immigrants and Canadian-born, Canada and oversampled populations, 2012



Source: Table 1.2

Literacy and numeracy

In Canada as a whole and in all the four provinces/regions of interest, while recent and established immigrants show similar average scores in literacy and numeracy, they score below the Canadian-born by at least 20 points. Among immigrants, differences across the four provinces/regions of interest in average literacy and numeracy scores are relatively small. On average, the score for recent immigrants in the Prairies is modestly below that of recent immigrants in Canada as a whole in both literacy and numeracy; established immigrants in Quebec score modestly below established immigrants in Canada.

There are large proportions of immigrant and Canadian-born adults who score at low proficiency levels on the literacy and numeracy scales; the percentages are higher for immigrants than for the Canadian-born. As mentioned before, low test scores of some immigrants may, to some extent, reflect their low proficiency in the test language rather than low proficiency in literacy and numeracy per se.

More than one-quarter of recent and established immigrants are proficient at only Level 1 or below in literacy, almost double the corresponding percentage for the Canadian-born. Breaking the proficiency level down further, 19 per cent of recent immigrants and 18 per cent of established immigrants score at Level 1. These immigrants are likely to have skills to undertake tasks of limited complexity, such as locating single pieces of information in short texts in the absence of other distracting information, in an English or French-language environment. About 9 per cent of recent immigrants and 8 per cent of established immigrants score below Level 1 in literacy and are unlikely to have sufficient literacy skills or official-language proficiency to perform these tasks (OECD, 2013a; Statistics Canada, 2013).

In numeracy, about one-third of recent and established immigrants score at Level 1 or below, 14–15 percentage points higher than the corresponding percentage for

the Canadian-born. Specifically, about 22 per cent of recent and established immigrants score at Level 1, which means that they are likely to be able to perform simple mathematical operations involving a single step, such as counting or sorting when operating in an English or French-language environment. About 12 per cent of recent immigrants and 11 per cent of established immigrants score below Level 1 and are unlikely to have skills to perform such tasks (OECD, 2013a; Statistics Canada, 2013).

Among the four provinces/regions of interest under comparison, recent immigrants residing in the Prairies show the highest percentage at Level 1 or below in both literacy (34 per cent) and numeracy (40 per cent); those residing in Ontario have the lowest percentages at Level 1 or below in literacy (25 per cent); and those residing in Quebec have the lowest percentage at Level 1 or below in numeracy (29 per cent). The differences among established immigrants are smaller and not statistically significant.

At the high end of the spectrum of proficiency levels, the percentages of recent and established immigrants performing at Level 4 or 5 are lower than those of the Canadian-born. These patterns prevail at the national level and for all four provinces/regions of interest.

Level 4 or 5 literacy refers to the ability to undertake tasks that involve integrating information across multiple dense texts and reasoning by inference in English or French. Relatively few Canadian-born and even fewer immigrants achieve this proficiency level. At the national level, the proportions of recent immigrants and established immigrants who score at Level 4 or 5 in literacy are about half that of the Canadian-born adults (8 per cent and 9 per cent, respectively, versus 16 per cent).

Level 4 or 5 in numeracy proficiency means the ability to understand complex mathematical information and to work with mathematical arguments and models. At the national level, slightly less than 10 per cent of recent immigrants and established immigrants achieve this level when performing in an English or French-language environment. The percentage for the Canadian-born is slightly higher, at 14 per cent.

PS-TRE

As in the case for literacy and numeracy, PS-TRE proficiency is assessed in English or French, as chosen by the respondent. But unlike the literacy and numeracy assessment where respondents can choose to do

the tests using a computer-based assessment (CBA) (which is the default option), or to take the paper-based assessment (PBA), PS-TRE assessment is CBA only. Respondents may drop out from the PS-TRE test for any of three reasons:

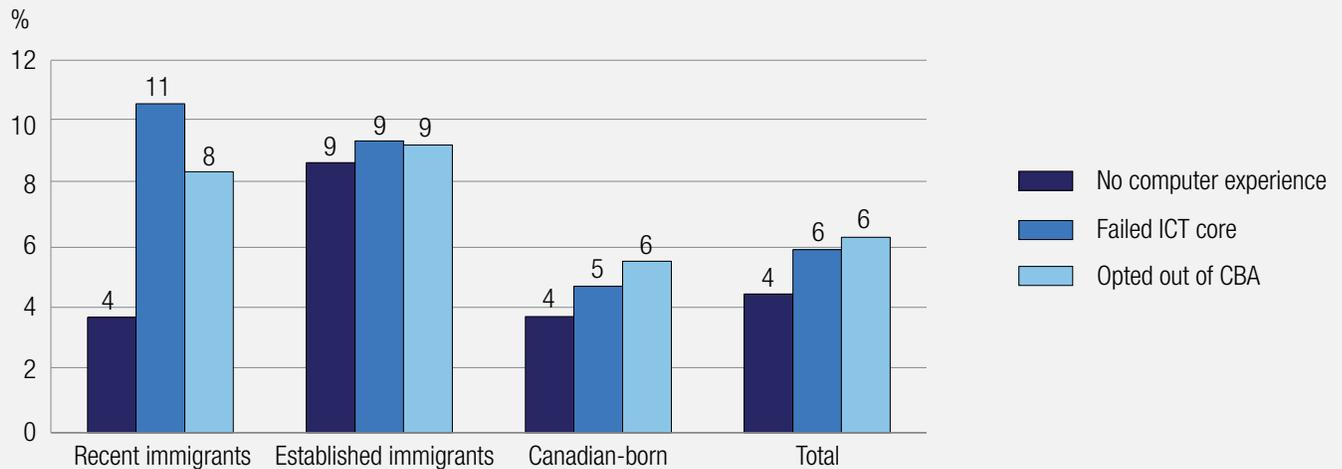
- no computer experience,
- failing the Information and Communications Technology (ICT) core test, or
- opting out of the CBA for unknown reasons.

In PS-TRE, immigrants, especially established immigrants, show lower proficiency than the Canadian-born, as reflected in a higher rate of non-participation in the PS-TRE test and a lower average score among those who did the test.

As Figure 1.3 shows, a rather large proportion (17 per cent) of the adult population (aged 16–65) in Canada did not take the PS-TRE test for one of the three reasons mentioned above. The rate of non-participation in the PS-TRE test is higher for recent immigrants (23 per cent) and even higher for established immigrants (27 per cent) compared to the Canadian-born (14 per cent). The higher rate of non-participation in PS-TRE of established immigrants is likely partly due to the much older age structure of this group compared to the other two groups. Indeed, 31 per cent of the established immigrants were between 55 and 65 years old in comparison to 4 per cent for recent immigrants and 20 per cent for the Canadian-born.

Among the Canadian-born, the percentages not participating in the PS-TRE assessment for the three reasons, are similar, between 4 and 6 per cent. Relative to the Canadian-born, a higher per cent of recent and established immigrants failed the ICT core test (11 and 9 per cent, respectively, versus 5 per cent), and a higher per cent opted out of the computer-based assessment (8 per cent and 9 per cent, respectively, versus 6 per cent). Some immigrants may fail the ICT core test due to low proficiency in the test language. For recent immigrants, the percentage opting out of the CBA due to no computer experience is rather low (4 per cent), the same as that of the Canadian-born (4 per cent). The percentage of established immigrants who opted out of the CBA because of no computer experience is more than double the percentage of the Canadian-born and recent immigrants (9 per cent versus 4 per cent) (Figure 1.3).

Figure 1.3 Proportion of population aged 16 to 65 who did not participate in the PS-TRE assessment, by reason, recent and established immigrants and Canadian-born, Canada, 2012

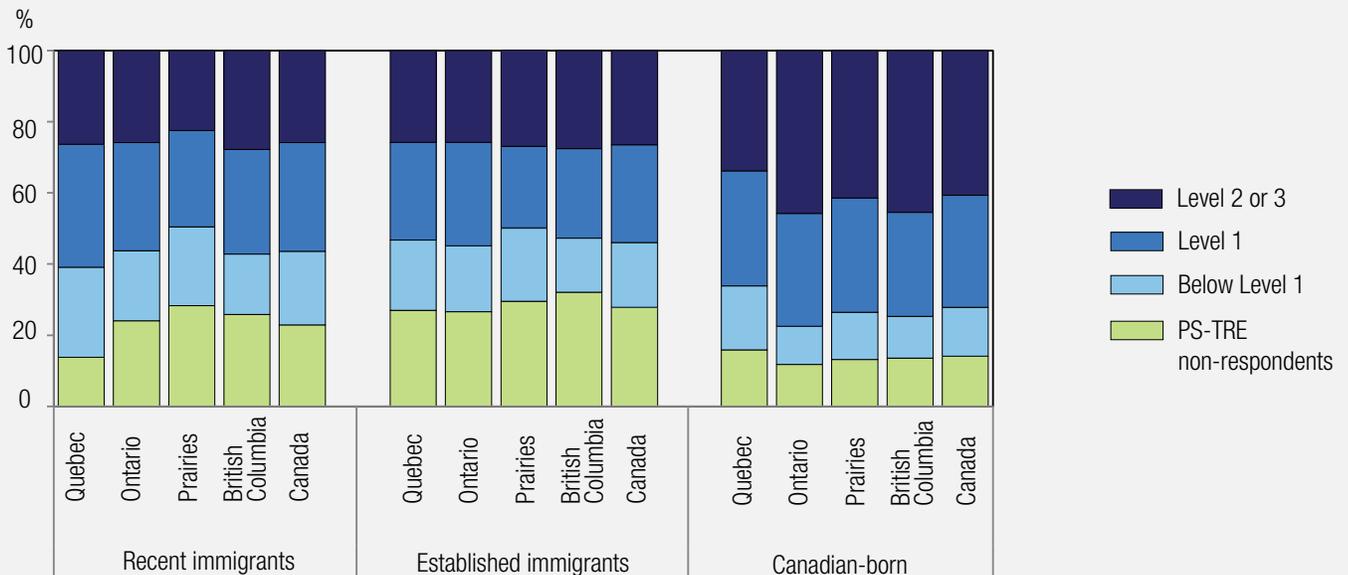


Source: Table 1.3

Differences in PS-TRE non-participation rates across the four provinces/regions of interest are observed among recent immigrants, with the lowest rate registered in

Quebec (14 per cent) and the highest in the Prairies (28 per cent). No major differences are observed among established immigrants (Figure 1.4)

Figure 1.4 PS-TRE – Percentage distributions of proficiency levels of population aged 16 to 65, recent and established immigrants and Canadian-born, Canada and oversampled populations, 2012



Source: Table 1.4

As shown in Figure 1.4, at the national level, 31 per cent of recent immigrants and 28 per cent of established immigrants score at proficiency Level 1 in PS-TRE. This first percentage is close to that of the Canadian-born (32 per cent). In an English- or French-language environment, these immigrants can solve problems that have an explicitly stated goal, and that involve a relatively small number of steps to be completed in a familiar environment (OECD, 2013a; Statistics Canada, 2013).

A sizable proportion of recent immigrants (21 per cent) and established immigrants (18 per cent) score at the lowest proficiency levels (below Level 1). The proportion is higher than that of the Canadian-born (14 per cent). Immigrants scoring at this lowest PS-TRE level do not have skills to perform the tasks described here in an English or French-language environment.

At the high end of the PS-TRE proficiency level, 26 per cent of recent immigrants and established immigrants score at Level 2 or 3, compared with 41 per cent of the Canadian-born. Respondents who perform at this level can solve more complex problems in an English or French-language environment and, typically, can use both generic and specific technology applications (Statistics Canada, 2013).

The finding that established immigrants do not perform better than recent immigrants in the assessments of the three skills may be counterintuitive, but it is consistent with the findings of a similar survey conducted in 2003 (the *International Adult Literacy and Skills Survey*) (Statistics Canada, 2005). Based on these findings, we should not conclude that the duration of residence in Canada does not affect immigrant proficiencies in the three skill domains. PIAAC is a cross-sectional survey; when we compare results of recent and established immigrants we are not comparing skills of the same cohort of immigrants over time in Canada, but those of immigrants who landed in Canada at different times. As Table I.2 in the introduction shows, recent and established immigrants differ considerably by various sociodemographic characteristics, such as age and educational attainment, which are highly correlated with skill proficiencies. Some of the observed differences (or lack thereof) may be attributable to the differences in these characteristics, which will be discussed in Chapter 2.



CHAPTER 2

SKILLS PROFICIENCY BY SOCIODEMOGRAPHIC AND IMMIGRATION-RELATED CHARACTERISTICS

This chapter compares mean proficiency scores and proficiency level distributions of recent and established immigrants and the Canadian-born in literacy, numeracy, and problem solving in technology-rich environments (PS-TRE) according to various sociodemographic and immigration-related characteristics, including age, gender, educational attainment, mother tongue, the self-reported ability to speak an official language, country of highest education, age at landing in Canada, and immigration category.

Examining skill proficiencies according to these characteristics can help us to identify groups with low proficiencies in these key information-processing skills and hence to develop better targeted training strategies. The results of such analysis also provide useful baseline information for developing various programs and service products aimed at immigrants, including choices concerning service-delivery modes by various levels of government, non-governmental organizations, or the private sector.

Age

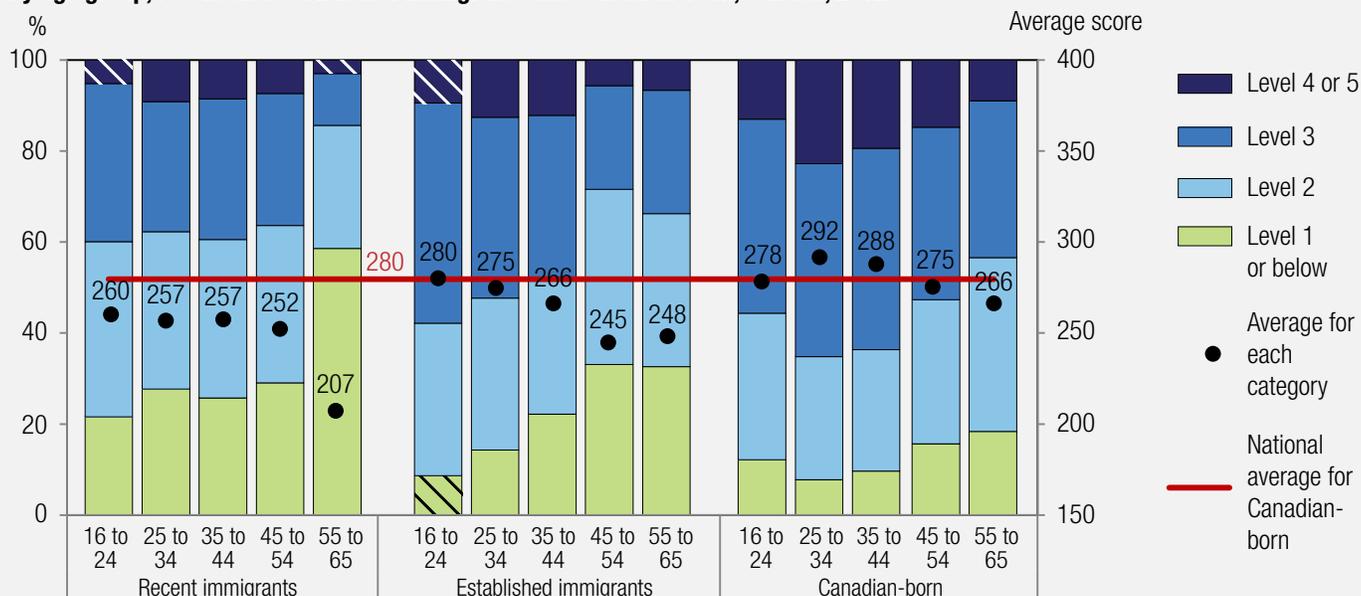
Figures 2.1a–2.1c show variations in the average scores and percentage distributions of proficiency levels in literacy, numeracy, and PS-TRE, by age group, for recent and established immigrants and the Canadian-born aged

16 to 65. In all three populations, skill proficiency varies by age; however, the relationship is not linear. The most obvious pattern that is common to them is that the two oldest groups (45–54 and 55–65) perform below younger groups in all three skills. This is especially true for the oldest group (55–65).

In literacy and numeracy, the average scores are highest for the youngest group (16–24) for both recent and established immigrants; for the Canadian-born, the 25–34 age group shows the highest average scores. Of note is the high performance of the youngest age group of established immigrants (16–24). These are the immigrants who came to Canada when they were young (under 14) and who have at least some years of education in Canada. They show proficiency levels similar to those of their Canadian-born counterparts in all three skills.

In general, the rate of non-participation in the PS-TRE assessment rises with age, and the proportion scoring at Level 2 or 3 decreases with age for all three population groups. The highest rate of non-participation in the PS-TRE assessment is found in the oldest recent-immigrant and established-immigrant age groups (55–65). Nearly two-thirds of recent immigrants (64 per cent) and about two-fifths of established immigrants (42 per cent) in this age range did not participate in the PS-TRE assessment.

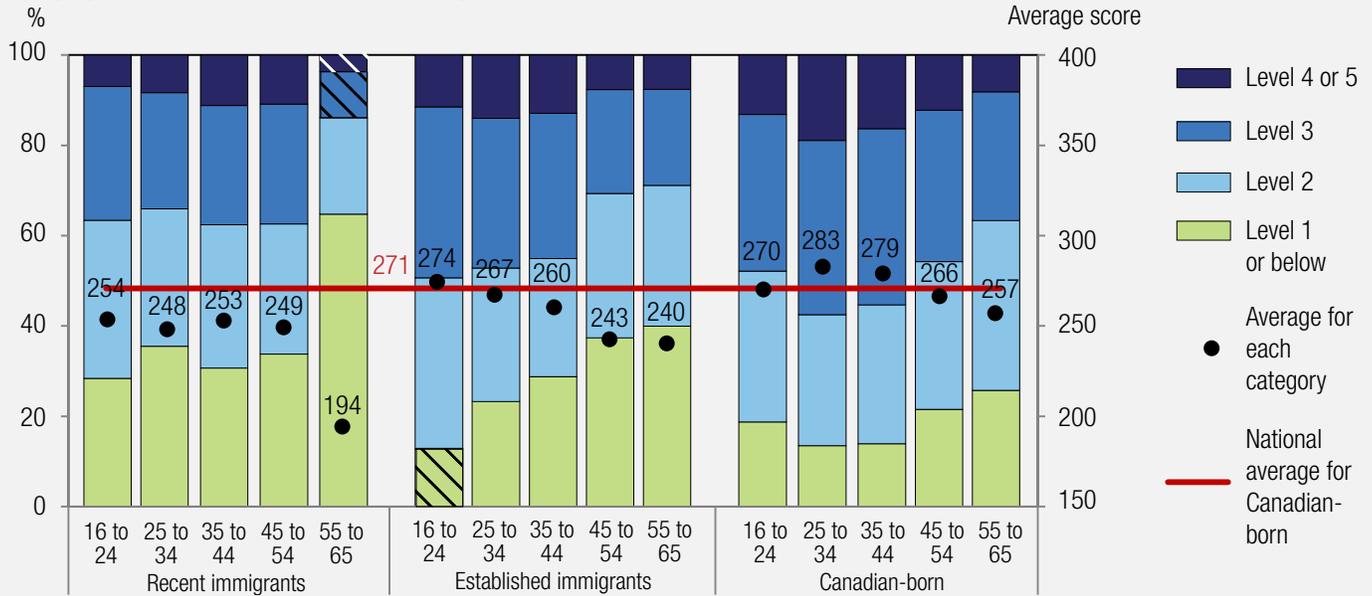
Figure 2.1a Literacy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by age group, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.1a

Notes: 1. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%).
2. See Table 1.1 for national average for Canadian-born.

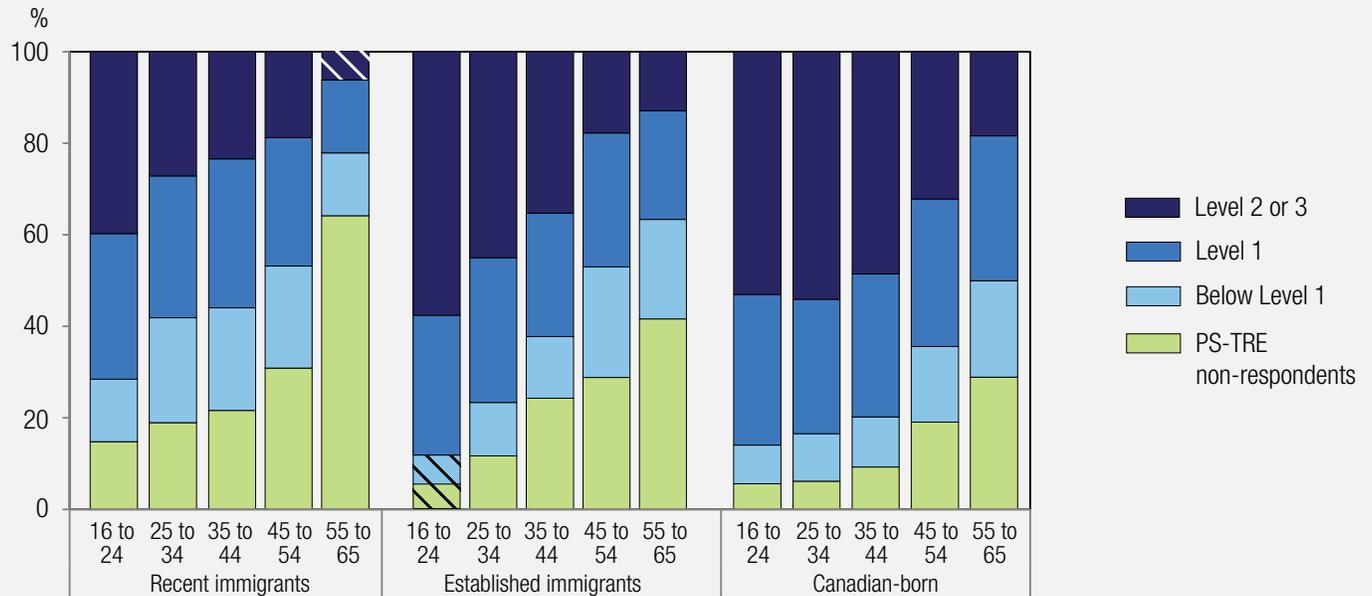
Figure 2.1b Numeracy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by age group, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.1b

Notes: 1. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%).
2. See Table 1.2 for national average for Canadian-born.

Figure 2.1c PS-TRE – Percentage distributions of proficiency levels of population aged 16 to 65, by age group, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.1c

Note: Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%).

Information from the General Social Surveys shows that rates of Internet use are lower among older people, especially among those older than 55 (Veenhof and Timusk, 2009). The fact that older people have lower proficiency scores in PS-TRE, for example, may be a result of the effect of aging or it may be a cohort-specific effect — that people born earlier had less or no exposure to computers and the Internet at school, work, and in their everyday lives, especially when they were young. It is likely that low proficiency scores among older age groups are a result of both effects. It should be noted that the pattern of lower proficiency scores among older people is derived from cross-sectional survey data and reflects differences among people of different age groups at the time of the survey. For this reason, we cannot distinguish one effect from another.

Except for the youngest age group of established immigrants (16–24) who show similar proficiencies to their Canadian-born counterparts, within each age group, those born in Canada, on average, score higher than recent and established immigrants in all three skills.

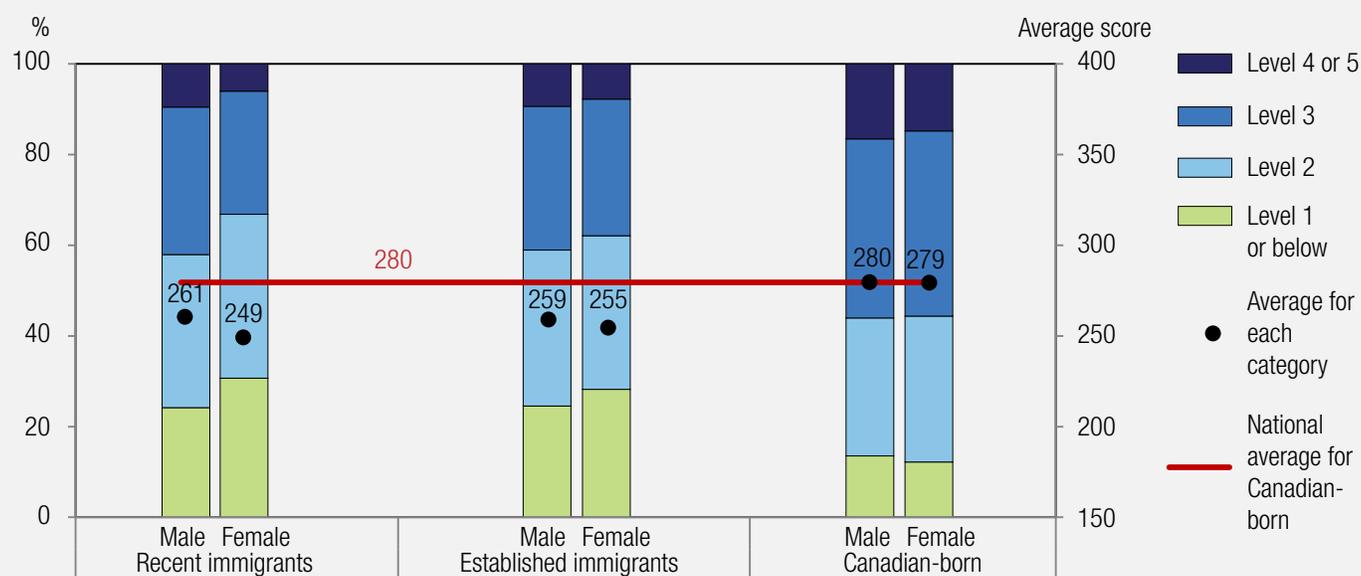
Gender

For both established immigrants and the Canadian-born, gender differences in literacy and PS-TRE are relatively small. For recent immigrants, however, gender gaps

in favour of men are observed in literacy and PS-TRE results. The average literacy score for men is 11 points higher than for women. For example, the percentage of recent immigrants scoring at Level 1 or below in literacy is higher among women (31 per cent) than men (24 per cent). In PS-TRE, the percentage scoring at Level 2 or 3 for recent immigrant women is 7 percentage points lower than for their male counterparts. The percentage of people who did not participate in the PS-TRE assessment is also a few points higher for women than for men among recent immigrants.

Gender differences are more prominent in numeracy. On average, men perform better than women for the Canadian population as a whole, including both immigrant groups, but the difference is larger for immigrants, especially for recent immigrants. Women lag behind men in the average numeracy score by 25 points for recent immigrants, 18 points for established immigrants, and 12 points for the Canadian-born. The percentage scoring at proficiency Level 1 or below is also considerably higher for women than for men for both recent (41 per cent versus 26 per cent) and established immigrants (37 per cent versus 28 per cent), and for the Canadian-born (21 per cent versus 17 per cent). Moreover, a higher proportion of men score at Level 4 or 5 in all three population groups.

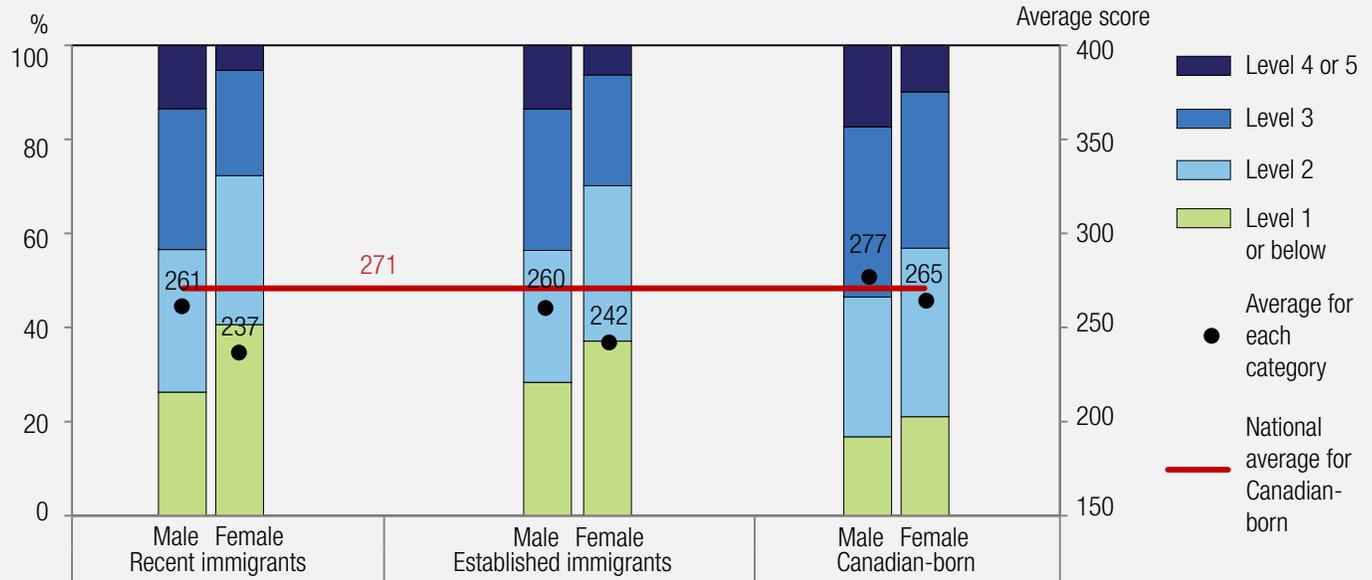
Figure 2.2a Literacy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by gender, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.2a

Note: See Table 1.1 for national average for Canadian-born.

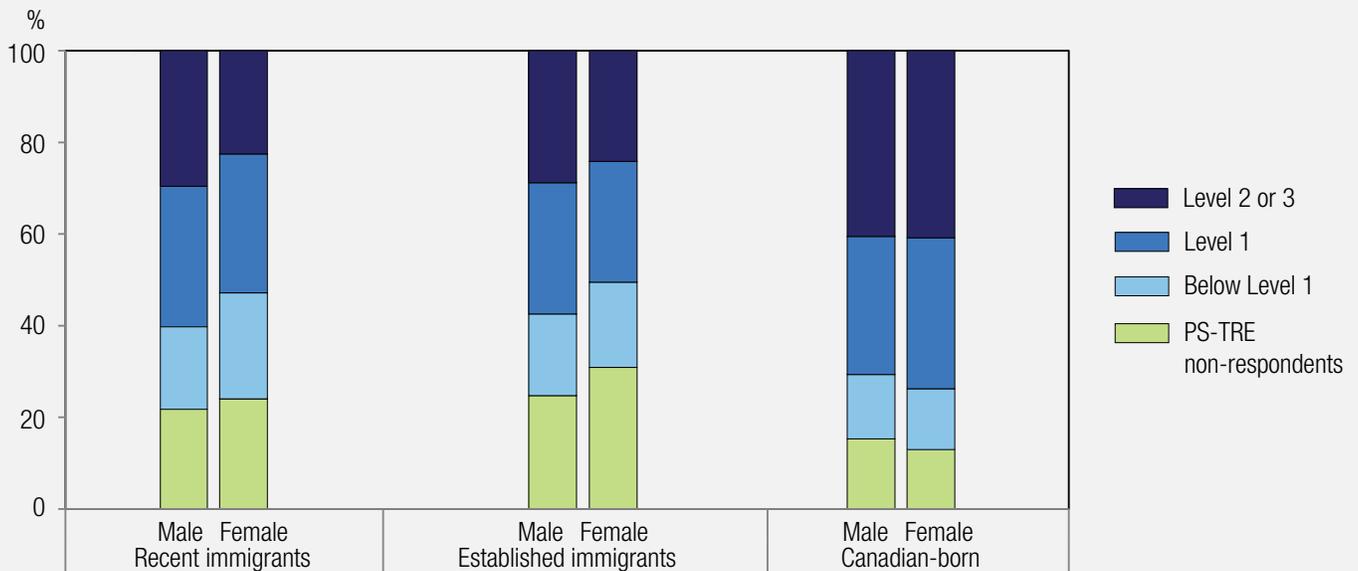
Figure 2.2b Numeracy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by gender, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.2b

Note: See Table 1.2 for national average for Canadian-born.

Figure 2.2c PS-TRE – Percentage distributions of proficiency levels of population aged 16 to 65, by gender, recent and established immigrants and Canadian-born, Canada, 2012

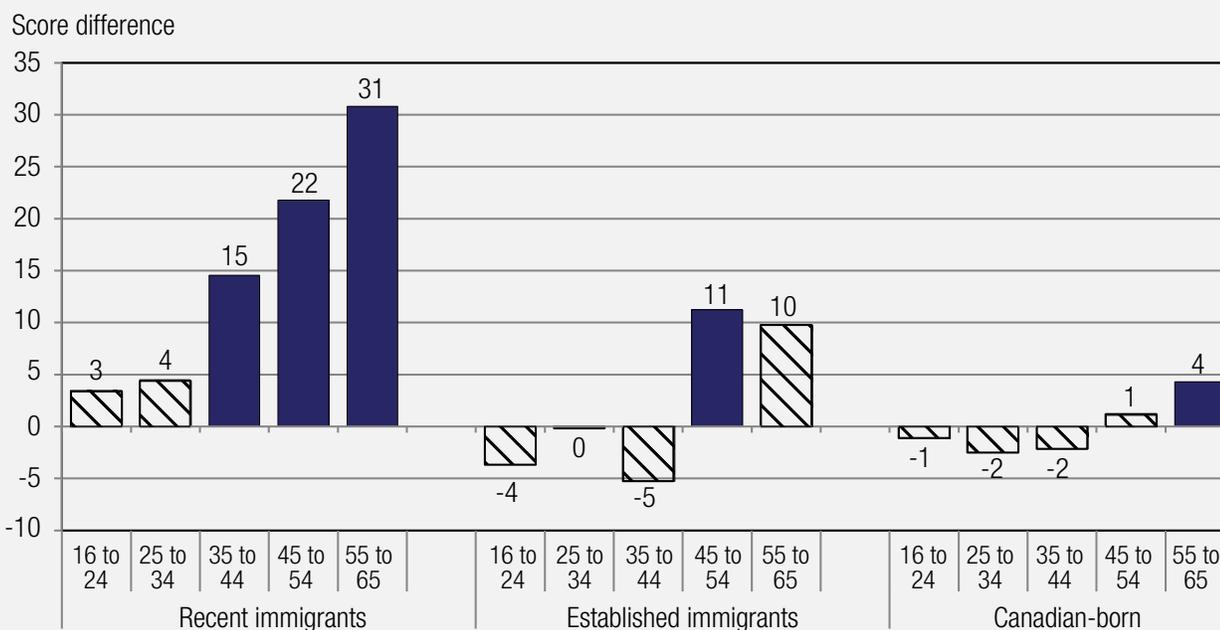


Source: Table 2.2c

Further analysis of the data by gender and by age group shows that the gender gap in numeracy tends to be larger for older age groups than for younger age groups, especially for recent immigrants (Figure 2.2e). Among recent immigrants, women lag behind men in the average numeracy score by 36 and 53 points for the two oldest age groups (45–54 and 55–65), while the differences in scores among men and women in the two youngest age groups (16–24 and 25–34) are only 12 and 17 points, respectively. For established immigrants, the three younger age groups show little gender difference in the average proficiency scores, but for the two oldest

age groups, differences of 23 (45–54) and of 28 (55–65) points are observed between men and women on the numeracy scale. For the Canadian-born, the gender gap also increases from 10 to 16 points from the youngest to the oldest group. In literacy, when all age groups are combined, gender differences in the average proficiency scores are small. However, when breaking down the analysis further by age group, larger gender gaps in the average proficiency scores in favour of men are observed among older age groups, especially among older recent immigrants (Figure 2.2d).

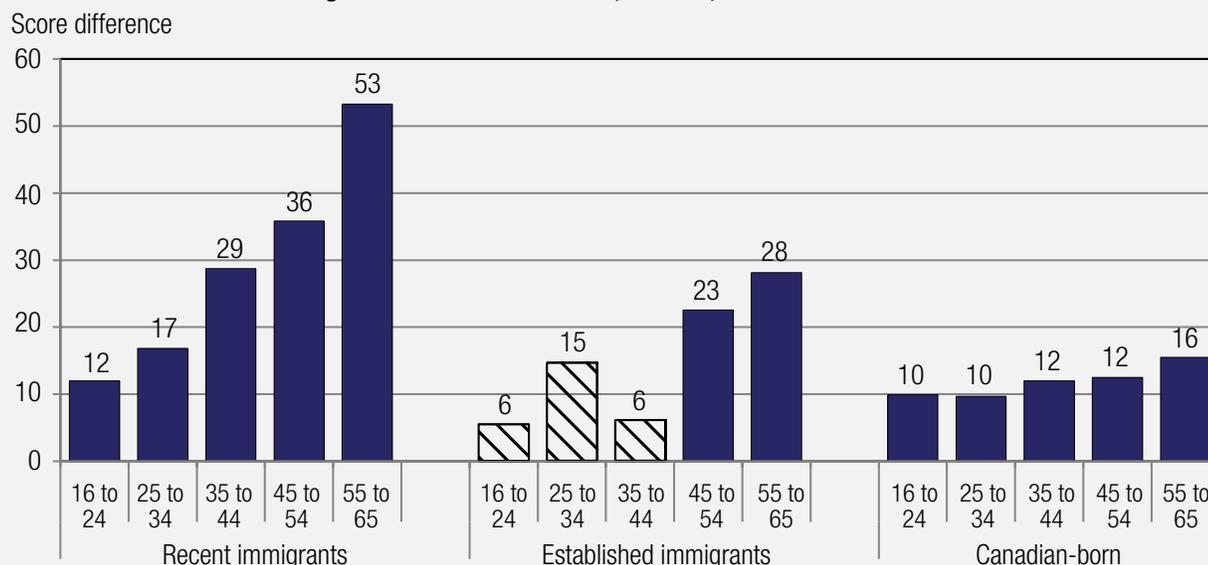
Figure 2.2d Literacy – Differences in average proficiency scores between men and women aged 16 to 65, by age group, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.2d

Note: Striped bars indicate that the differences between means are not statistically significant.

Figure 2.2e Numeracy – Differences in average proficiency scores between men and women aged 16 to 65, by age group, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.2e

Note: Striped bars indicate that the differences between means are not statistically significant.

Educational attainment

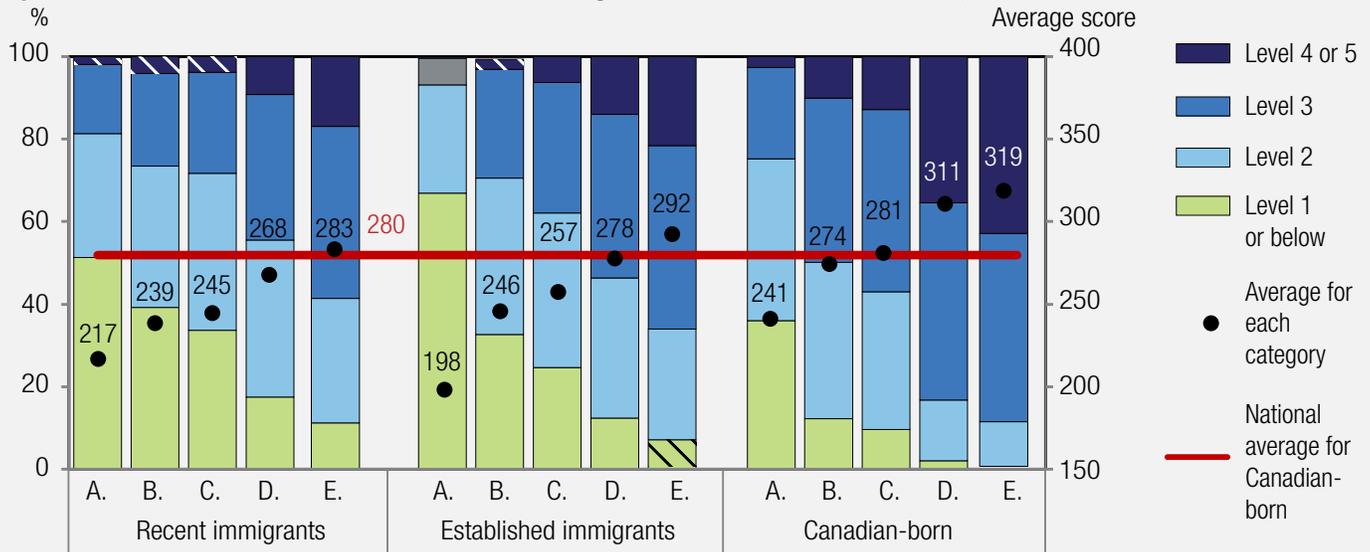
In the analysis of skill proficiency by educational attainment, we group educational attainment levels into five categories: less than high-school diploma; high-school diploma; postsecondary education (PSE) – below bachelor’s degree; PSE – bachelor’s degree; and PSE – first professional degree,⁷ master’s degree, or Ph.D.

Proficiencies in literacy, numeracy, and PS-TRE show strong positive relationships with educational attainment for recent and established immigrants and the Canadian-born. Higher educational attainment is accompanied by higher average proficiency scores, a higher percentage proficient at Level 3 or above, and a lower percentage scoring at Level 1 or below (Figures 2.3a–2.3c). These relationships are not surprising since education is perhaps the most important mechanism through which people learn and develop these cognitive skills (OECD, 2012).

The gap in average proficiency scores in literacy between those with the lowest educational attainment (less than high-school diploma) and those with the highest educational attainment (first professional degree, master’s degree, or Ph.D.) is quite large: 77 points for the Canadian-born, 94 points for established immigrants, and 66 points for recent immigrants. Further, except for the increment from high-school diploma to PSE – below bachelor’s degree, for which the literacy proficiency gain is modest, each other increment in educational level is associated with a large increase in the average literacy proficiency score. The pattern for numeracy is similar to that for literacy.

⁷ The categories that constitute a first professional degree can be found in the definitions in Appendix I.

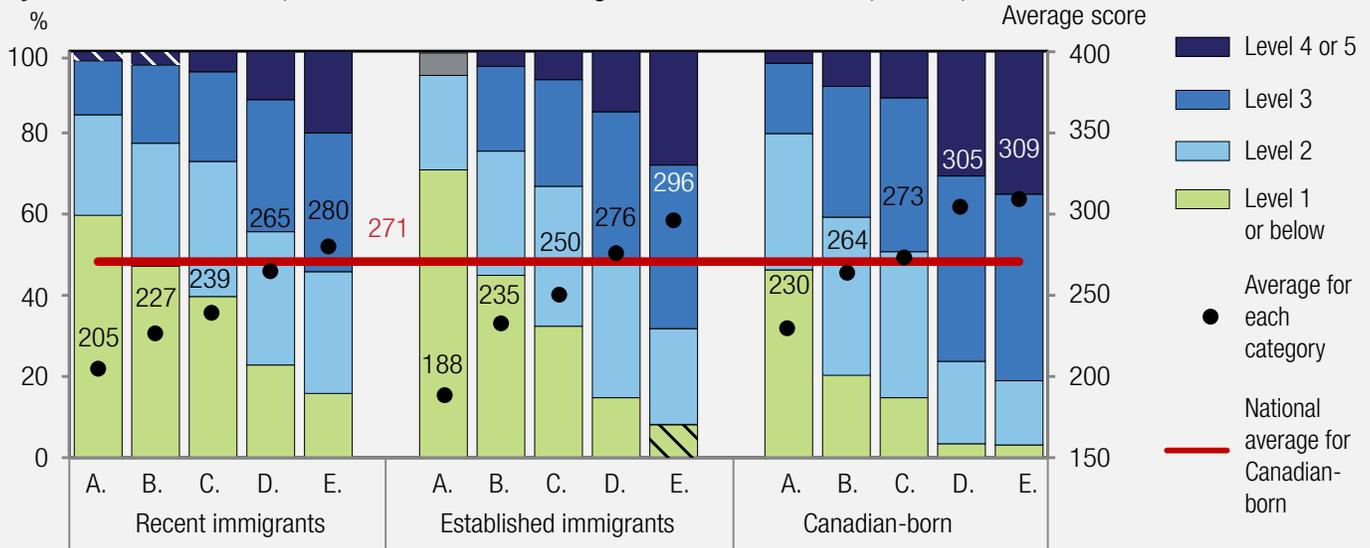
Figure 2.3a Literacy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by educational attainment, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.3a

Notes: 1. A. Less than high-school diploma, B. High-school diploma, C. PSE – below bachelor's degree, D. PSE – bachelor's degree, E. PSE – first professional degree, master's degree, or Ph.D.
 2. See Table 1.1 for national average for Canadian-born.
 3. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%); grey bars indicate that the estimates have been suppressed to meet confidentiality requirements.

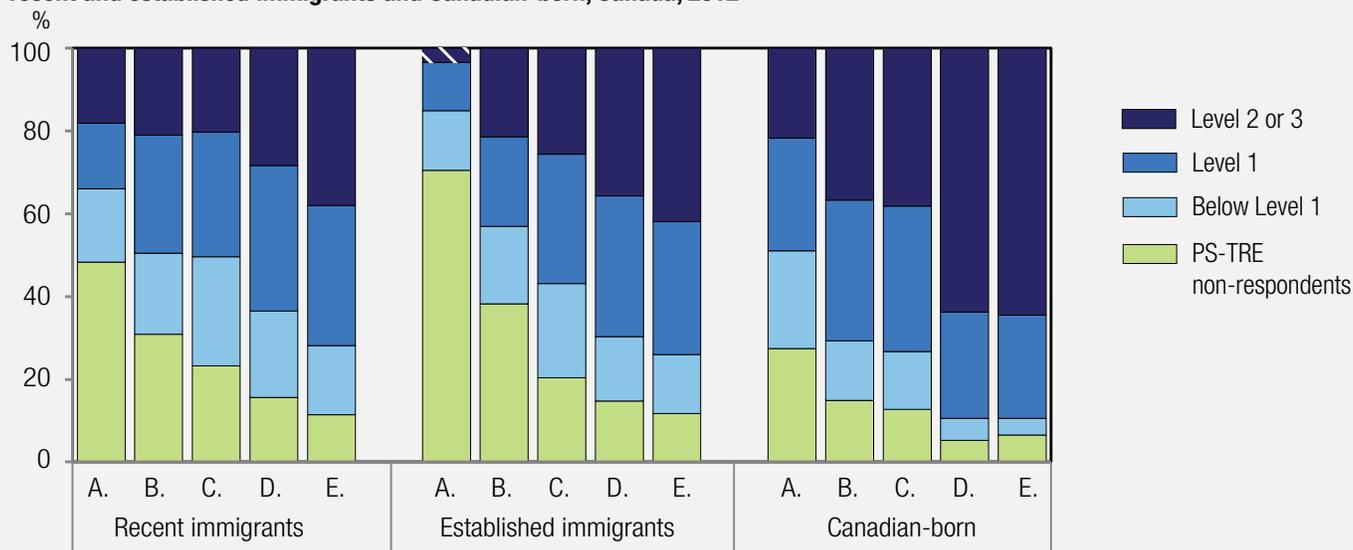
Figure 2.3b Numeracy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by educational attainment, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.3b

Notes: 1. A. Less than high-school diploma, B. High-school diploma, C. PSE – below bachelor's degree, D. PSE – bachelor's degree, E. PSE – first professional degree, master's degree, or Ph.D.
 2. See Table 1.2 for national average for Canadian-born.
 3. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%); grey bars indicate that the estimates have been suppressed to meet confidentiality requirements.

Figure 2.3c PS-TRE – Percentage distributions of proficiency levels of population aged 16 to 65, by educational attainment, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.3c

Notes: 1. A. Less than high-school diploma, B. High-school diploma, C. PSE – below bachelor’s degree, D. PSE – bachelor’s degree, E. PSE – first professional degree, master’s degree, or Ph.D.
2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%).

While few immigrants or Canadian-born people with a high-school diploma or less score at the highest literacy or numeracy levels (Level 4 or 5), a notable percentage of adults in this educational attainment category score at Level 3 in these two skills. The pattern for PS-TRE deviates from what is observed for literacy and numeracy.

About one-fifth of recent immigrants and the Canadian-born without a high-school diploma score at the highest level (Level 2 or 3) in PS-TRE. More than one-fifth of recent and established immigrants and more than one-third of the Canadian-born with only a high-school diploma are proficient at the highest level (Level 2 or 3). It appears that a notable proportion of immigrants and the Canadian-born with low levels of education are able to use a computer or the Internet to solve relatively complex practical problems in their everyday life or at work. When we compare skill levels between these groups, we should keep in mind that many of those without a high-school diploma may still be in the process of completing high school and could therefore experience a significant increase in proficiency in a matter of just a few years.

At the high end of the educational spectrum (bachelor’s degree or higher), we observe that few Canadian-born adults with a university education score at the lowest skill proficiency level in any of the three skill domains. Among university-educated immigrants, the percentages scoring at Level 1 or below in literacy and numeracy are 15 per cent and 20 per cent, respectively, for recent immigrants, and 10 per cent and 12 per cent, respectively, for established immigrants. These proportions are much higher than those for the Canadian-born population, whose corresponding percentages are 2 per cent in literacy and 3 per cent in numeracy. In PS-TRE, the percentage scoring below Level 1 is 19 per cent and 15 per cent, respectively, for recent and established immigrants.

Also among the university educated, slightly less than one-third of established immigrants (31 per cent) and slightly more than one third of recent immigrants (35 per cent) score at Level 2 in literacy, compared to 14 per cent of the Canadian-born population. In numeracy, 30 per cent of established immigrants and 32 per cent of recent immigrants score at Level 2, compared to 19 per cent of the Canadian-born. In PS-TRE, the percentage scoring at Level 1 is 35 per cent and 33 per cent,

respectively, for recent and established immigrants. Lower official-language proficiency may explain at least in part the low score of some university educated immigrants.

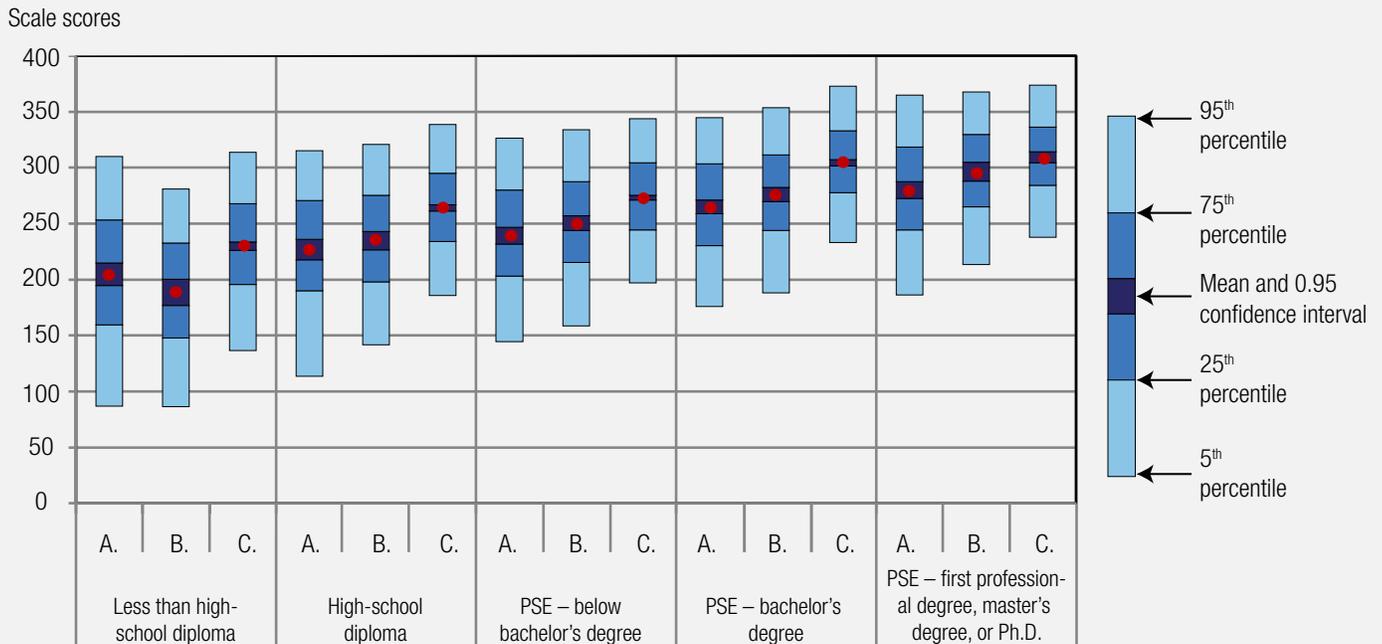
Figures 2.3d and 2.3e show the extent of the spread in the literacy and numeracy proficiency scores by educational level and by immigrant status. A longer bar indicates greater variation in skill proficiency within each educational level; a shorter bar indicates smaller variation. There are rather large variations in proficiency scores among people at the same educational level – the variation is larger for immigrants, especially for recent immigrants, than for the Canadian-born.

Although, on average, educational attainment is positively associated with skill proficiency, it is also true that a high educational attainment level does

not guarantee high proficiency for everyone and low educational attainment does not necessarily mean low proficiency at an individual level. Indeed, as Figures 2.3d and 2.3e show, the proficiency scores of the highest quartile among recent immigrants with high-school education are above those of the lowest quartile with the first professional degree, master’s degree, or Ph.D.

At each of the five selected educational levels, immigrants have lower average proficiency scores than the Canadian-born in all three skill domains. It is important to keep in mind that the skills in all three domains are assessed in either English or French. The high percentage of immigrants with university education who perform at a low proficiency level may to some extent reflect their low official-language proficiency instead of low proficiency in literacy, numeracy, or PS-TRE per se.

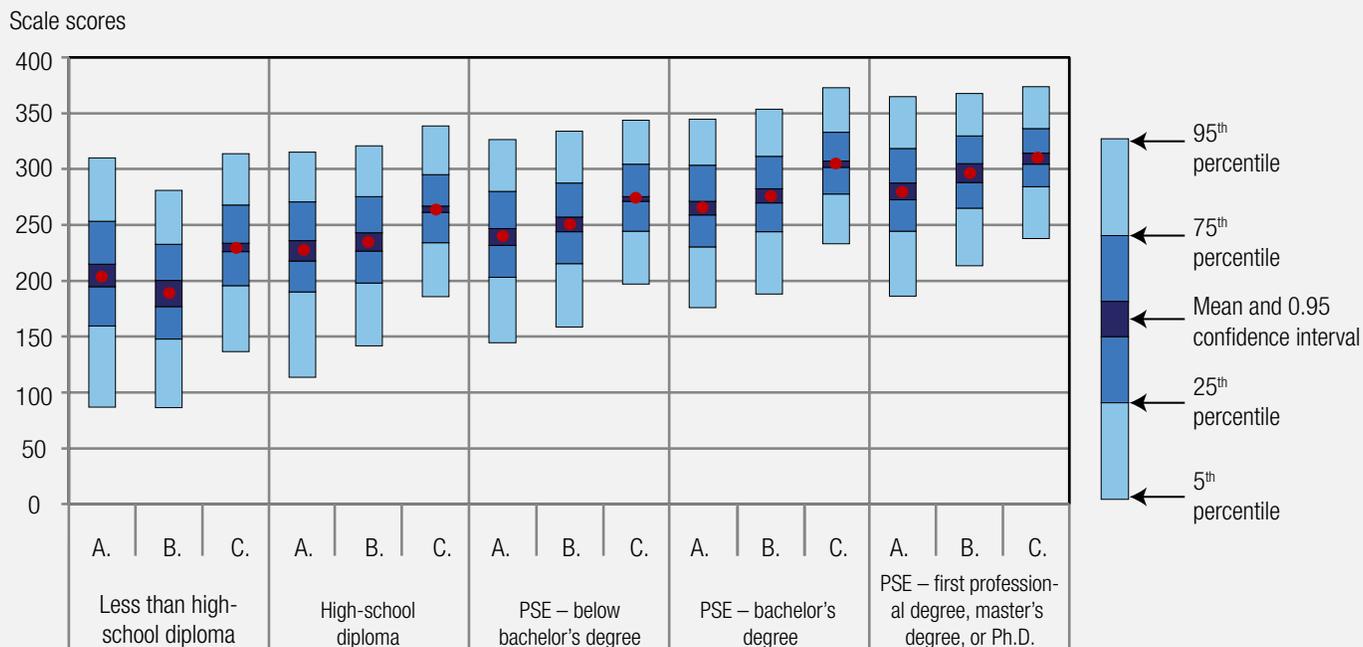
Figure 2.3d Literacy – Average scores with 0.95 confidence interval and scores at the 5th, 25th, 75th, and 95th percentiles of population aged 16 to 65, by educational attainment, recent and established immigrants and Canadian-born, Canada, 2012



Note: A. Recent immigrants, B. Established immigrants, C. Canadian-born

Source: Table 2.3d

Figure 2.3e Numeracy – Average scores with 0.95 confidence interval and scores at the 5th, 25th, 75th, and 95th percentiles of population aged 16 to 65, by educational attainment, recent and established immigrants and Canadian-born, Canada, 2012



Note: A. Recent immigrants, B. Established immigrants, C. Canadian-born

Source: Table 2.3e

Mother tongue and the ability to speak an official language

PIAAC does not directly measure respondents' official-language proficiency. It is therefore not possible to accurately measure the effect of official-language proficiency on immigrants' performance in the literacy, numeracy, and PS-TRE assessments. However, PIAAC does collect information on mother tongue from all respondents, as well as on their self-assessed ability to speak an official language (among immigrants). This information allows for analyses of the skill proficiency in literacy, numeracy, and PS-TRE of immigrants and the Canadian-born by mother tongue and self-assessed ability to speak an official language among immigrants.

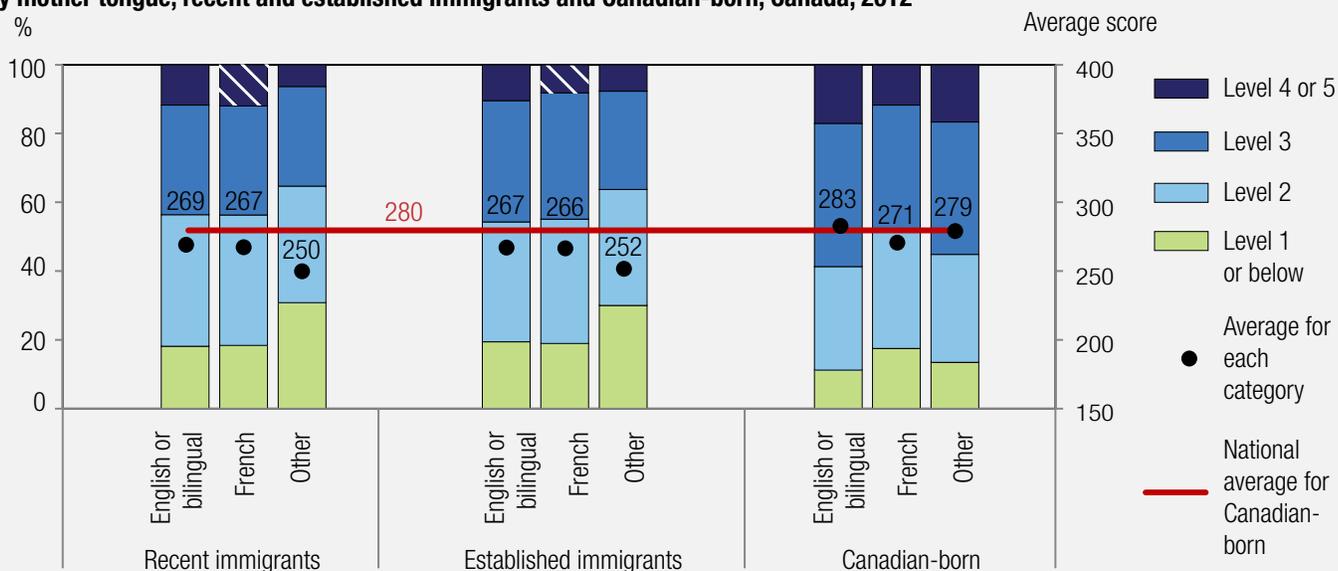
Mother tongue

“Mother tongue” refers to the first and second language learned at home in childhood and still understood by the individual at the time of the survey. When measured in either English or French, proficiency scores in literacy, numeracy, and PS-TRE of immigrants with a non-official language as their mother tongue are considerably lower than those of the Canadian-born regardless of the mother tongue of the Canadian-born respondents. Immigrants whose mother tongue is English, or both

English and French (bilingual), also show lower average proficiency scores than the Canadian-born with English or both English and French (bilingual) as mother tongues, but the gaps are much smaller. Among people with English or both English and French (bilingual) as mother tongues, the observed differences between immigrants and the Canadian-born cannot be attributed to the difference in official-language proficiency, so other factors appear to be at play.

Among people whose mother tongue is French, little proficiency difference in the three skills is observed between immigrants and the Canadian-born. The small difference observed between French-mother-tongue immigrants and French-mother-tongue Canadian-born groups contrasts with the large difference between immigrants and the Canadian-born population with English or both English and French (bilingual) as mother tongues. The smaller gap between French-mother-tongue immigrants and their Canadian-born counterparts is not because French-mother-tongue immigrants have higher proficiency scores than immigrants with English or both English and French (bilingual) as mother tongues, but a result of lower proficiency scores for the French-mother-tongue Canadian-born population (compared with the Canadian-born group with English or both English and French [bilingual] as mother tongues).

Figure 2.4a Literacy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by mother tongue, recent and established immigrants and Canadian-born, Canada, 2012

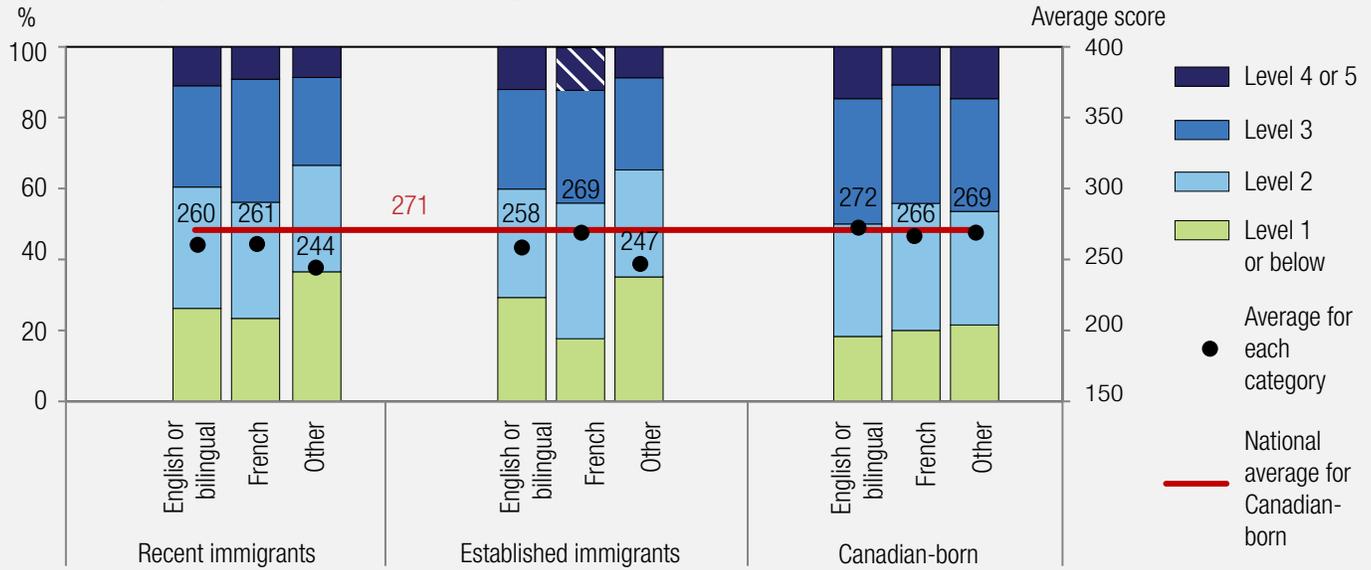


Source: Table 2.4a

Notes: 1. See Table 1.1 for national average for Canadian-born.

2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%).

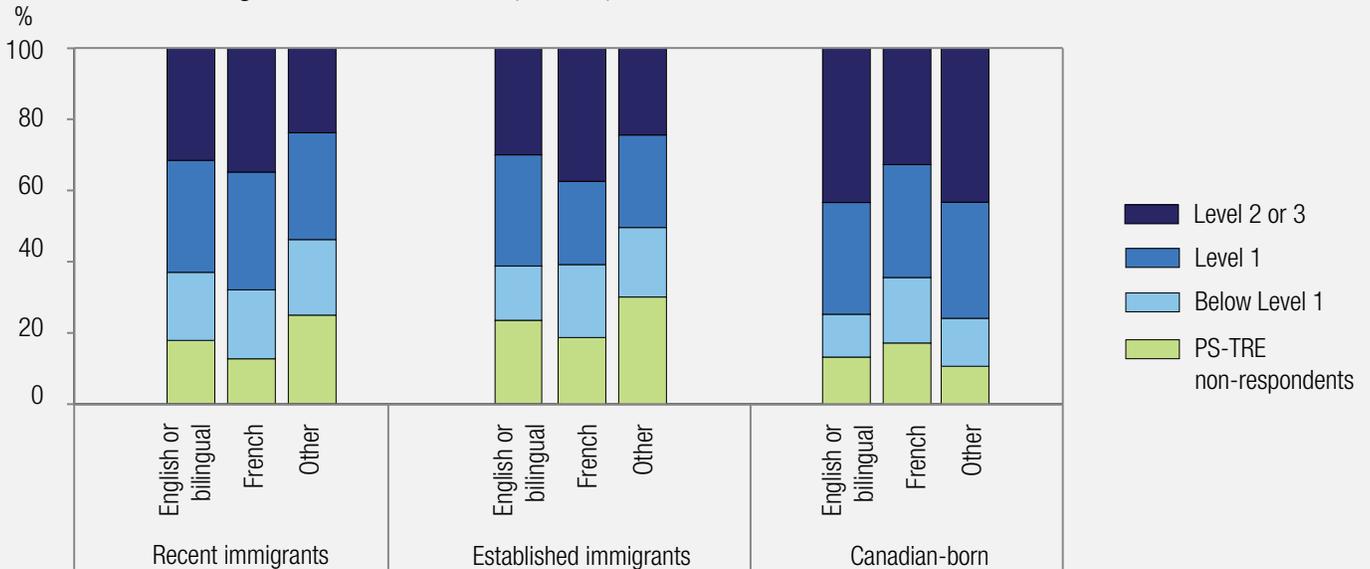
Figure 2.4b Numeracy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by mother tongue, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.4b

Notes: 1. See Table 1.2 for national average for Canadian-born.
 2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%).

Figure 2.4c PS-TRE – Percentage distributions of proficiency levels of population aged 16 to 65, by mother tongue, recent and established immigrants and Canadian-born, Canada, 2012

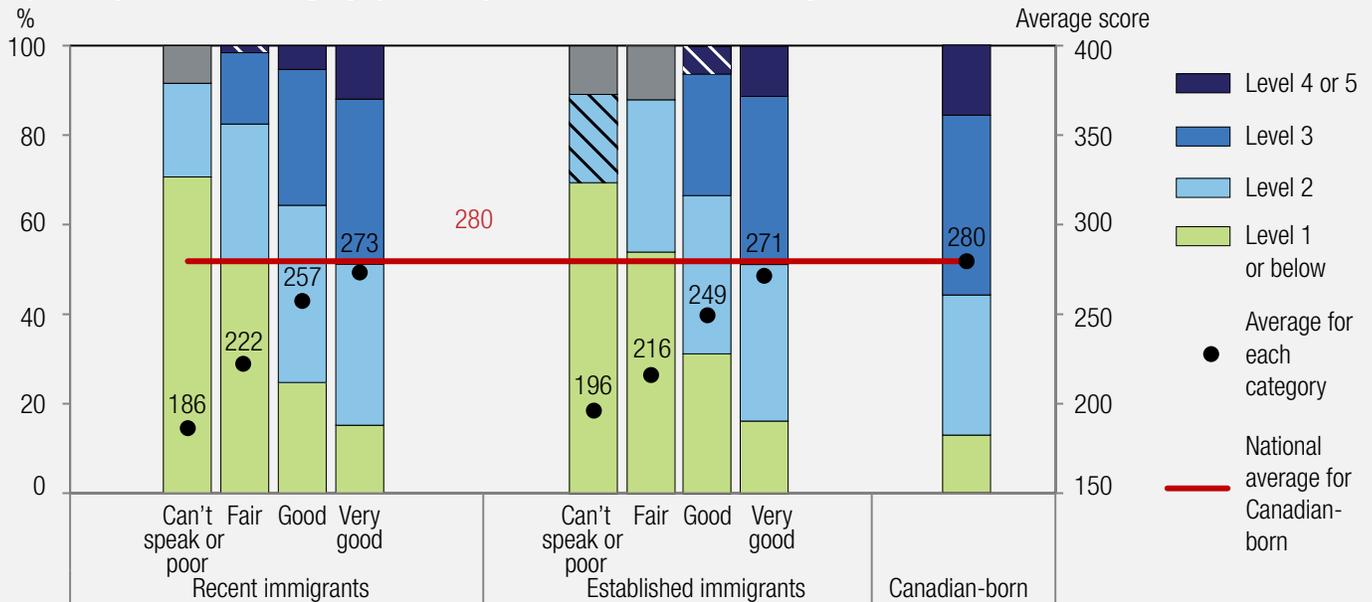


Source: Table 2.4c

Ability to speak an official language (self-reported)

This report uses immigrants' self-assessed ability to speak an official language as a proxy for their command of English or French.⁸ As expected, there are clear and strong positive associations between the self-assessed ability to speak an official language and proficiency in literacy, numeracy, and PS-TRE among immigrants assessed by PIAAC. However, even immigrants who self-reported to have a very good ability to speak English or French still show poorer results in the literacy, numeracy, and PS-TRE assessments than the Canadian-born population, but the differences are relatively small: less than 10 points in the average literacy and numeracy scores. By contrast, the differences between the Canadian-born and recent and established immigrants who reported that they cannot speak or have a poor ability to speak an official language are 93 and 83 points in literacy and 98 and 82 points in numeracy, respectively.

Figure 2.5a Literacy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by self-reported official-language proficiency, recent and established immigrants, Canada, 2012



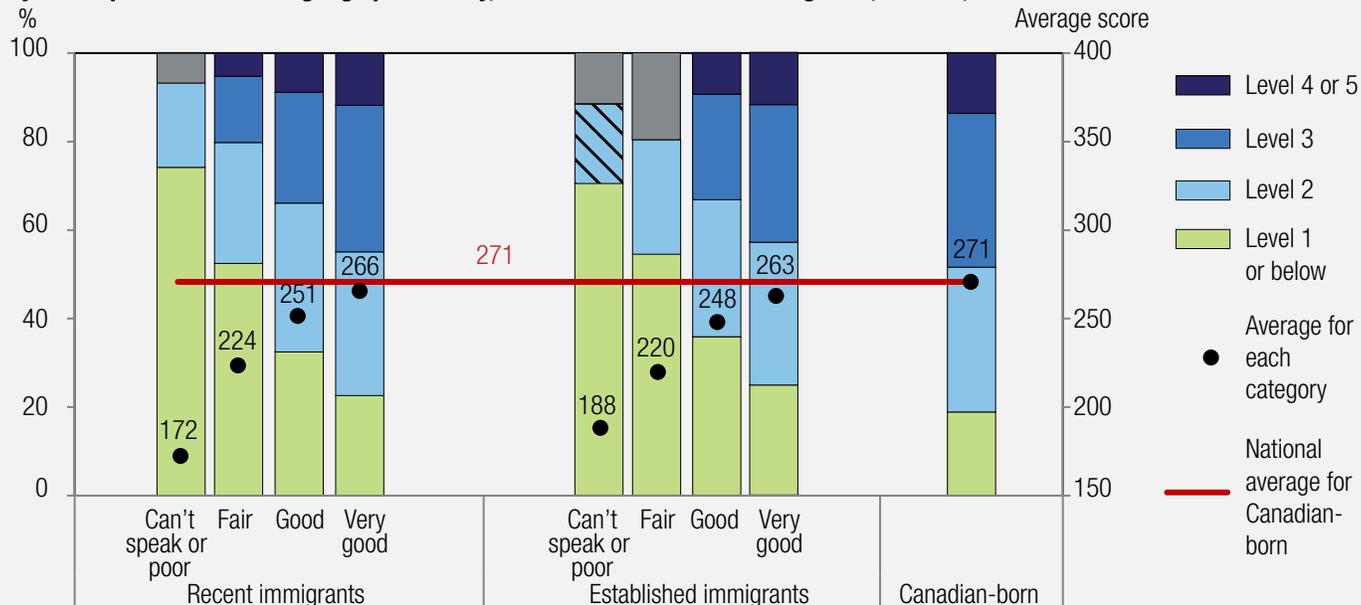
Source: Table 2.5a

Notes: 1. See Table 1.1 for national average for Canadian-born.

2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%); grey bars indicate that the estimates have been suppressed to meet confidentiality requirements.

⁸ The original data did not include self-assessed speaking ability for immigrants whose mother tongue was English or French. For the purposes of this analysis, this group was assumed to have very good official-language speaking ability.

Figure 2.5b Numeracy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by self-reported official-language proficiency, recent and established immigrants, Canada, 2012

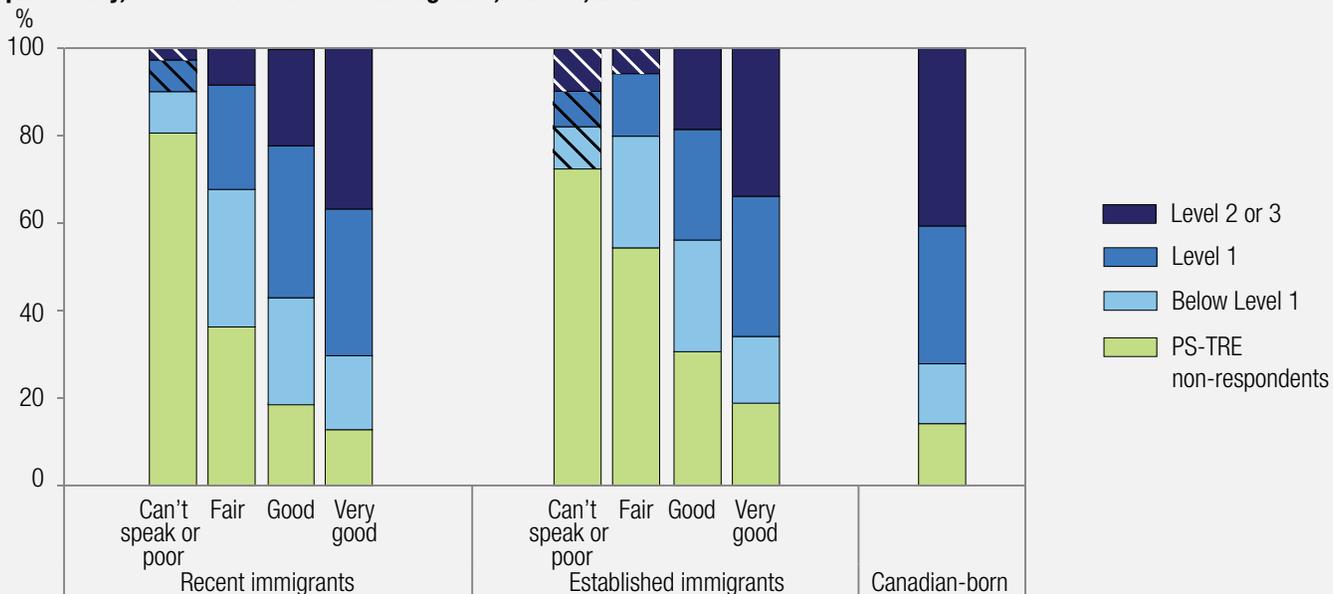


Source: Table 2.5b

Notes: 1. See Table 1.2 for national average for Canadian-born.

2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%); grey bars indicate that the estimates have been suppressed to meet confidentiality requirements.

Figure 2.5c PS-TRE – Percentage distributions of proficiency levels of population aged 16 to 65, by self-reported official-language proficiency, recent and established immigrants, Canada, 2012



Source: Table 2.5c

Notes: 1. See Table 1.4 for national average for Canadian-born.

2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%).

Country/region of education

Region and country of education can have an impact on immigrants' proficiency in literacy, numeracy, and PS-TRE as tested in English or French through two mechanisms: the language of instruction used in the education system (which can influence proficiency in English or French) and the quality of education provided in that country (which can influence overall cognitive skills).

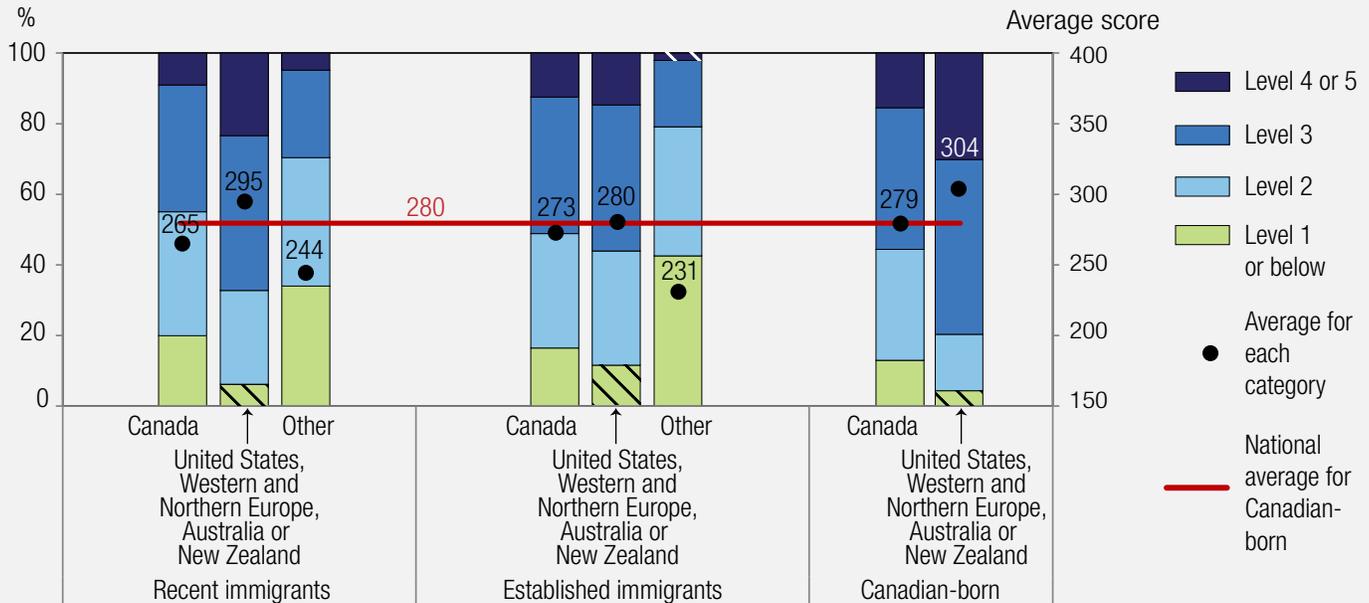
Among immigrants, those with the highest level of education obtained in Canada or "other Western countries" (the United States, Western and Northern Europe, Australia, or New Zealand) have much higher proficiencies in all three skill domains than immigrants with their highest level of education obtained in "other countries" (Figures 2.6a–2.6c).

For recent immigrants, those who attained their highest level of education in "other Western countries" have higher proficiencies, on average, in all three skill domains than recent immigrants with their highest level of education attained in Canada or among the Canadian-born. This is likely in part because recent immigrants with their highest education from "other Western

countries" have, on average, higher levels of education than immigrants with their highest education from Canada and the Canadian-born.

That said, attaining one's highest level of education in Canada appears to be an advantage over attaining a highest level of education in "other countries" but the advantage does not seem to hold when compared with the Canadian-born. On average, immigrants having completed their highest level of education in Canada perform at a lower level than the Canadian-born with a Canadian education, and at a considerably lower level than the Canadian-born group having completed their highest level of education from "other Western countries" in all the three skill domains.

Figure 2.6a Literacy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by country/region of highest educational attainment, recent and established immigrants and Canadian-born, Canada, 2012

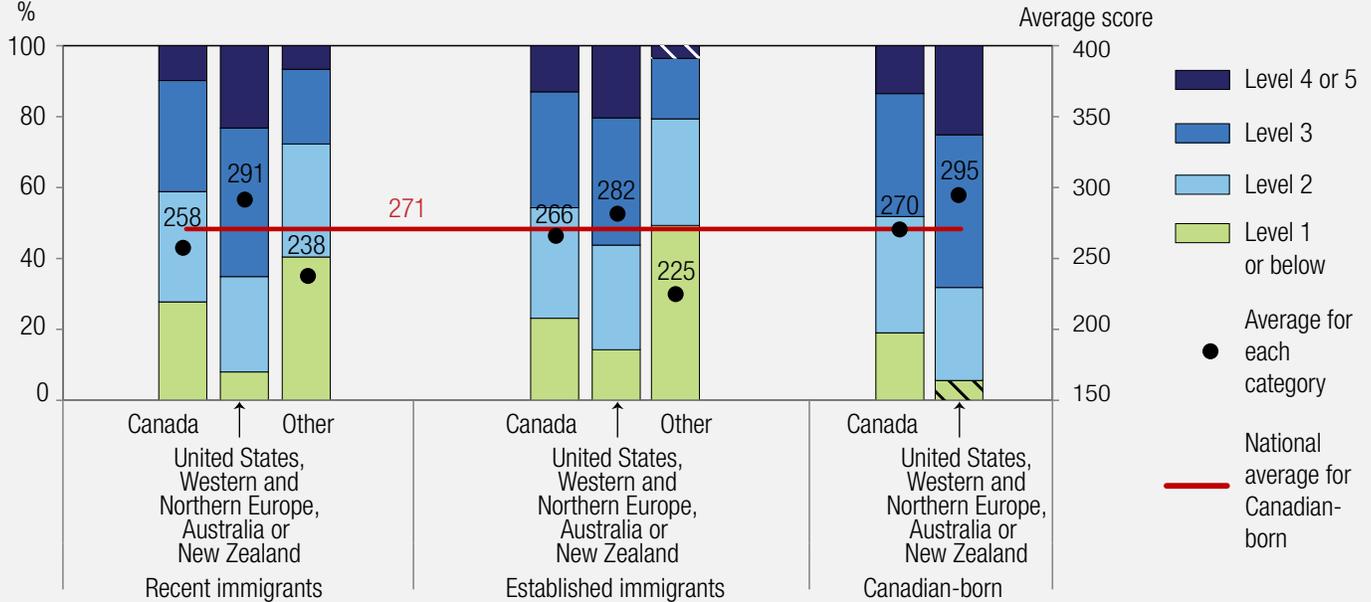


Source: Table 2.6a

Notes: 1. See Table 1.1 for national average for Canadian-born.

2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%).

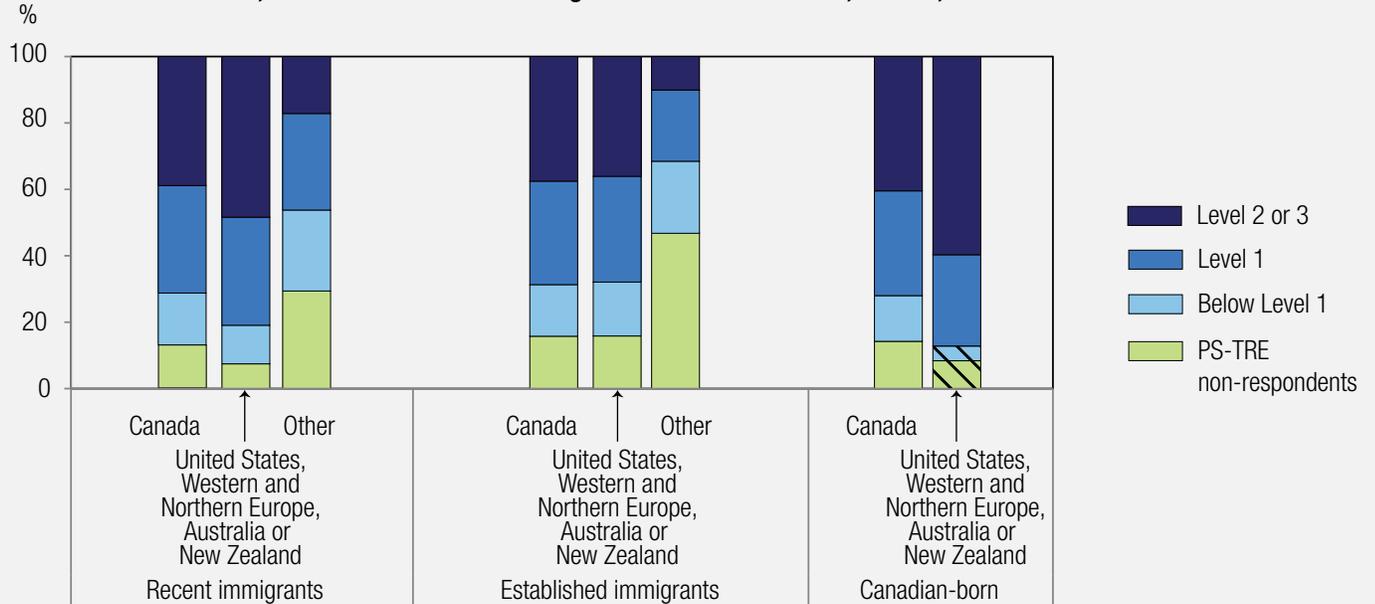
Figure 2.6b Numeracy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by country/region of highest educational attainment, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.6b

Notes: 1. See Table 1.2 for national average for Canadian-born.
2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%).

Figure 2.6c PS-TRE – Percentage distributions of proficiency levels of population aged 16 to 65, by country/region of highest educational attainment, recent and established immigrants and Canadian-born, Canada, 2012



Source: Table 2.6c

Note: Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%).

Age at landing

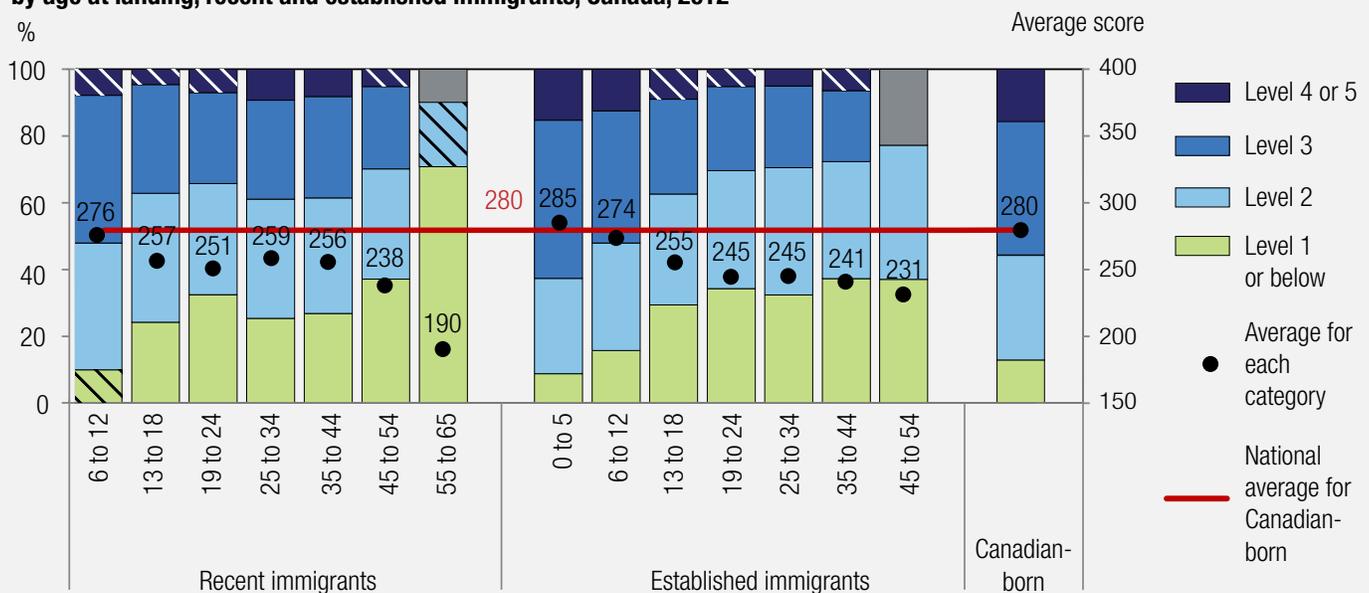
“Age at landing” refers to a person’s age at arrival as a permanent resident/immigrant in Canada. Landing as an immigrant in Canada at younger ages, especially at pre-school age, proves to be an advantage in terms of achieving higher proficiency in literacy, numeracy, and PS-TRE when assessed in English or French. On average, immigrants who came to Canada before they were 13 years old show proficiency scores similar to the Canadian-born in all three skills; in contrast, immigrants who landed in Canada at ages older than 12 show lower proficiency scores than the Canadian-born.

In general, among immigrants, landing in Canada at a younger age correlates with higher proficiency in literacy, numeracy, and PS-TRE. There are, however, some deviations from the overall pattern. Immigrants who landed when they were between the ages of 19 and 24 do not perform better in literacy and numeracy than those who landed at the ages of 25 to 34 and 35 to 44.

On average, immigrants who landed in Canada when they were between 55 and 65 years old perform at very low proficiency, with a large proportion scoring at the lowest proficiency levels in literacy and numeracy and a large proportion not participating in the PS-

TRE assessment. For example, the average literacy and numeracy scores of recent immigrants who landed in Canada at ages 55 to 65 is at Level 1 in literacy, and below Level 1 in numeracy; 83 per cent of recent immigrants from this group and 63 per cent of established immigrants who landed in Canada at ages 45 to 54 did not participate in the PS-TRE assessment, most likely due to the lack of basic computer skills.

Figure 2.7a Literacy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by age at landing, recent and established immigrants, Canada, 2012

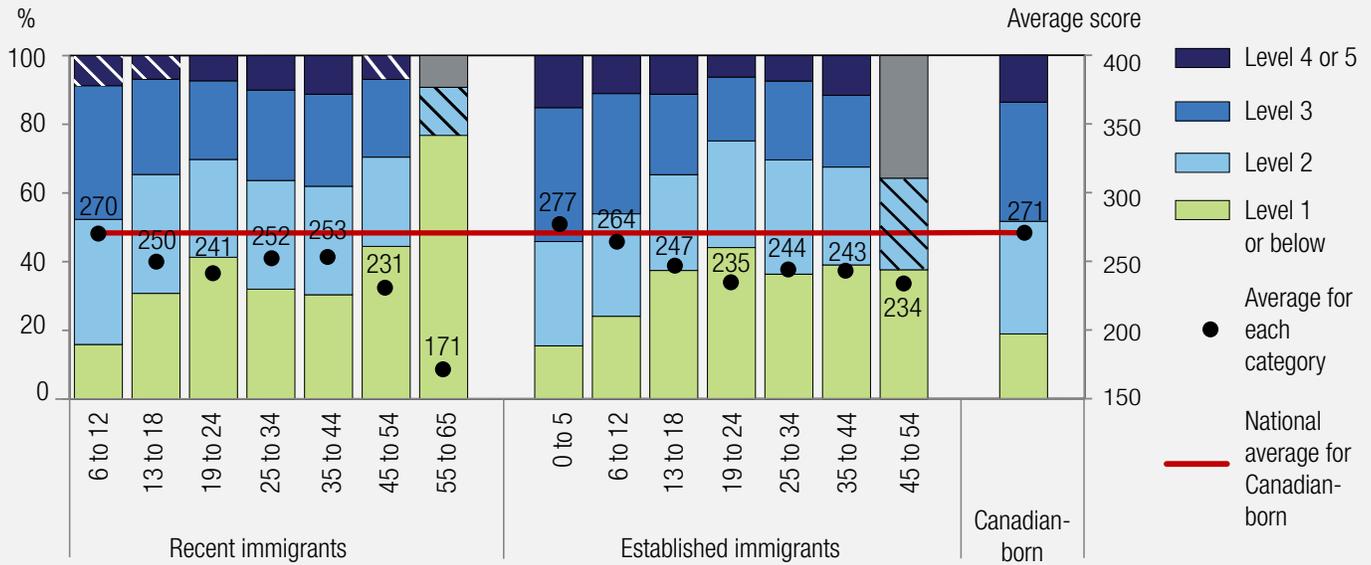


Source: Table 2.7a

Notes: 1. See Table 1.1 for national average for Canadian-born.

2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%); grey bars indicate that the estimates have been suppressed to meet confidentiality requirements.

Figure 2.7b Numeracy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by age at landing, recent and established immigrants, Canada, 2012

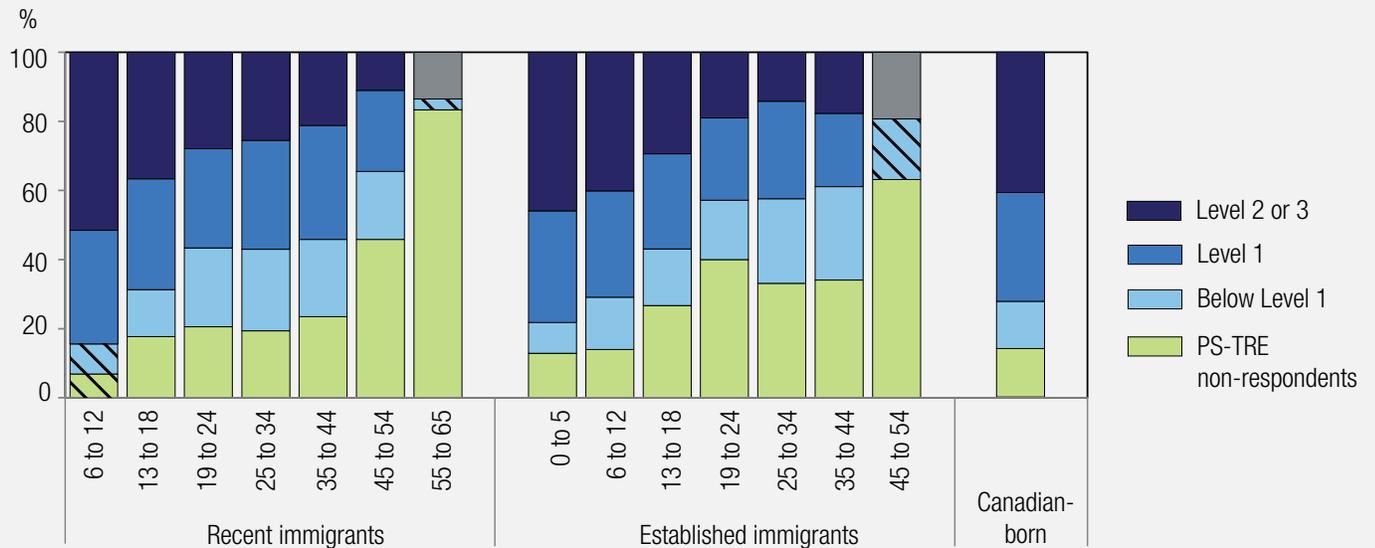


Source: Table 2.7b

Notes: 1. See Table 1.2 for national average for Canadian-born.

2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%); grey bars indicate that the estimates have been suppressed to meet confidentiality requirements.

Figure 2.7c PS-TRE – Percentage distributions of proficiency levels of population aged 16 to 65, by age at landing, recent and established immigrants, Canada, 2012



Source: Table 2.7c

Notes: 1. See Table 1.4 for national average for Canadian-born.

2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%); grey bars indicate that the estimates have been suppressed to meet confidentiality requirements.

Immigration category

PIAAC collected self-reported information on immigration programs under which immigrants were admitted to Canada: the refugee program; the program of reunification with family already in Canada (family class); the points system; and other.⁹ The following analysis is based on these immigration categories.

There are large differences in skill proficiencies in the three skill domains among immigrants of different immigration classes. Immigrants who came to Canada through the points system demonstrate much higher proficiencies than the immigrants from the family and the refugee classes in all the three skill domains. Immigrants admitted through the points system show skill proficiencies closer to those born in Canada. Immigrants of the refugee class score at the lowest levels of proficiency.

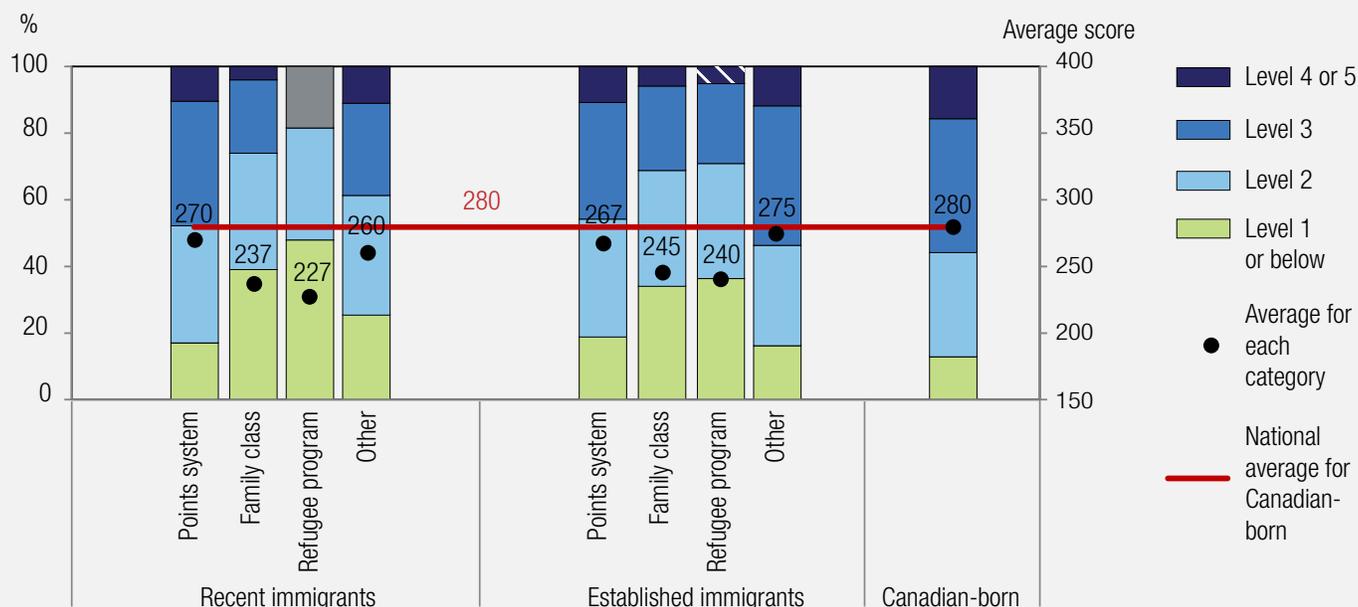
Immigrants of the refugee and family classes are admitted based on criteria different from immigrants selected through the points system. The former two programs fulfill Canada's humanitarian commitments, while the points system focuses on the probability of labour-market success. The differences in skill

proficiencies observed between immigrants of the points system and immigrants of the refugee and family classes appear to reflect the different selection criteria used in these programs and are therefore expected.

As shown in Figures 2.8a–2.8c, a very high percentage of immigrants in the refugee and family classes score at proficiency Level 1 or below in literacy and numeracy. In addition, a high proportion of immigrants of these classes either did not participate in the PS-TRE assessment or, if they did, score below Level 1 in PS-TRE. For example, 38 per cent of recent immigrants of the refugee class did not do the PS-TRE assessment, 30 per cent score below Level 1 in PS-TRE, and about half scored at Level 1 or below in literacy (48 per cent) and numeracy (57 per cent). These findings are important for illustrating that there are clearly some constraints on how tailored services can be delivered.

It should be noted that the self-reported immigration categories are prone to errors, as not all immigrants are necessarily aware of the specific category under which they were admitted as permanent residents to Canada. For example, immigrants who came at a young age may not know under what program they immigrated to Canada.

Figure 2.8a Literacy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by immigration class, recent and established immigrants, Canada, 2012



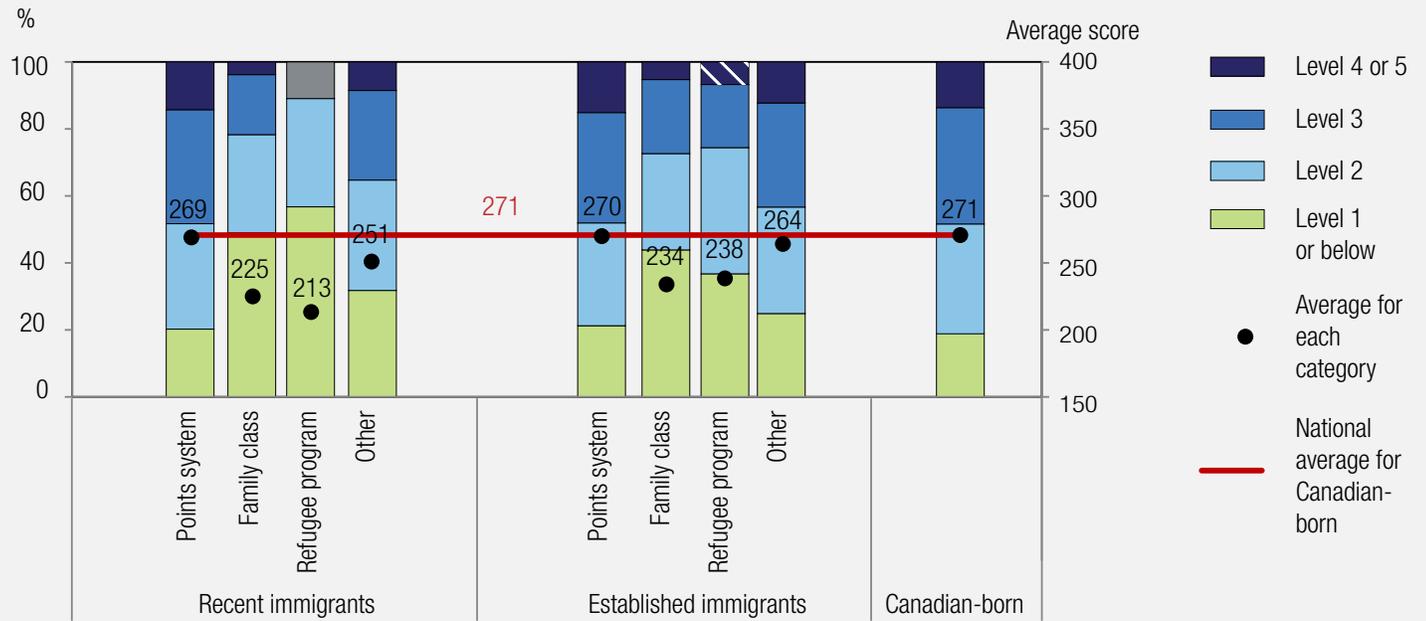
Source: Table 2.8a

Notes: 1. See Table 1.1 for national average for Canadian-born.

2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%); grey bars indicate that the estimates have been suppressed to meet confidentiality requirements.

⁹ The Canadian background questionnaire for PIAAC asks respondents born outside of Canada to select one of four broad immigration categories that best reflects their immigration pathway.

Figure 2.8b Numeracy – Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by immigration class, recent and established immigrants, Canada, 2012

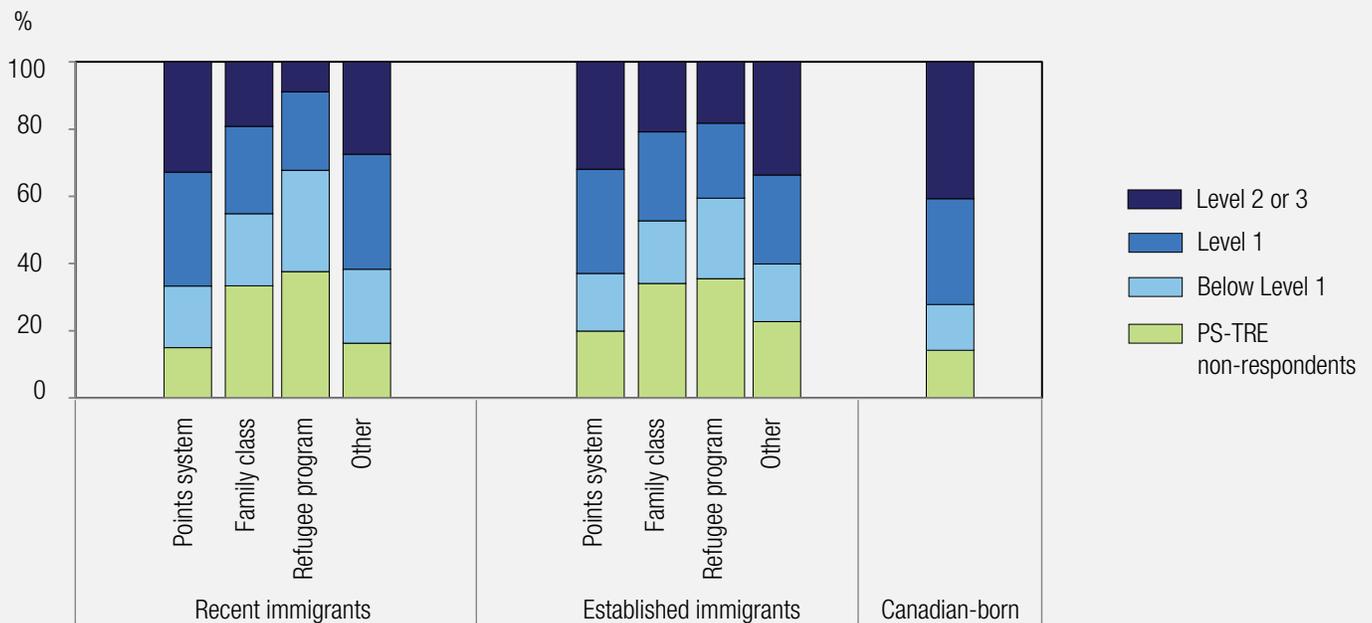


Source: Table 2.8b

Notes: 1. See Table 1.2 for national average for Canadian-born.

2. Striped bars indicate that the estimates are not reliable (coefficient of variation is above 33.3%); grey bars indicate that the estimates have been suppressed to meet confidentiality requirements.

Figure 2.8c PS-TRE – Percentage distributions of proficiency levels of population aged 16 to 65, by immigration class, recent and established immigrants, Canada, 2012



Source: Table 2.8c

Note: See Table 1.4 for national average for Canadian-born.



CHAPTER 3

ACCOUNTING FOR DIFFERENCES IN LITERACY AND NUMERACY PROFICIENCIES BETWEEN THE CANADIAN- BORN AND IMMIGRANTS, AND AMONG IMMIGRANTS



As we discussed earlier, the Canadian-born population and the two immigrant groups who landed in Canada at different periods of time differ considerably in their composition in terms of some key sociodemographic characteristics. Chapter 2 highlights some substantial differences in the average proficiency scores and proficiency-level distributions of the three skill domains among recent and established immigrants and the Canadian-born population according to these characteristics. These differences, however, are based on a descriptive analysis that takes into account only one or at most two variables at a time. While bringing such differences to light is important, we cannot attribute the observed differences to each individual factor's effect since most of the factors examined affect skill proficiency simultaneously.

This chapter presents the results from multivariate regression analysis to better explain the effects of these factors on skill proficiency.

Differences in literacy and numeracy proficiency between the Canadian-born and immigrants

Our previous descriptive analysis shows that immigrants with low levels of official-language proficiency and their highest level of education from “other countries” (neither Canada nor “other Western countries”) perform below the Canadian-born by large margins in the literacy and numeracy assessments. However, we do not know how much of the observed proficiency gaps can be attributed

to the effect of official-language proficiency or country of education. We apply multivariate regression models to estimate the net difference in the average literacy and numeracy proficiency scores between the Canadian-born and recent/established immigrants with various official-language proficiency levels and country-of-education profiles while controlling for other important sociodemographic characteristics.

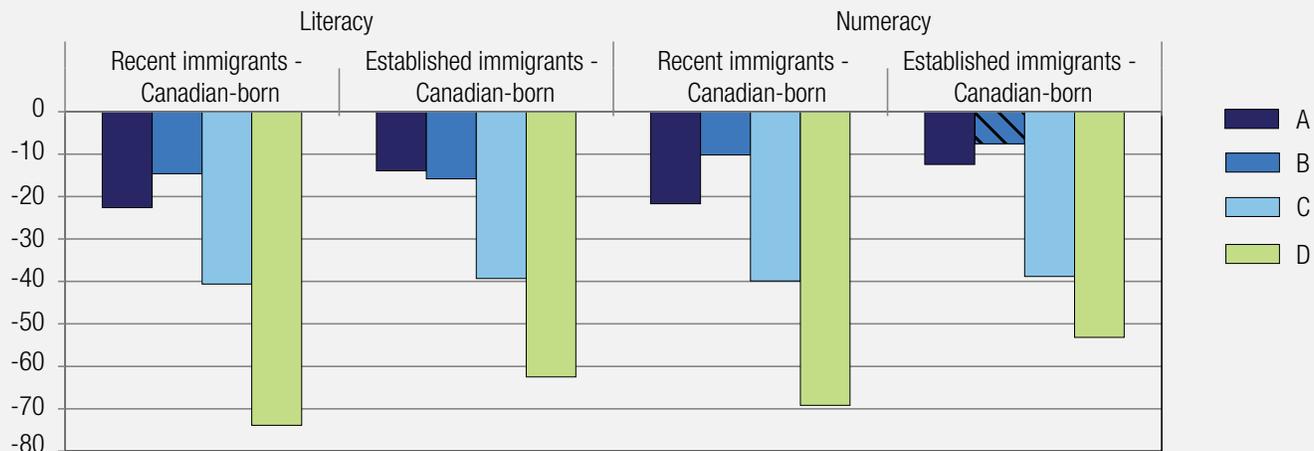
The dependent variable of the regression model is the literacy or numeracy score.¹⁰ To identify the independent effect of immigration status, official-language proficiency, and country/region of education on skill proficiency scores, we constructed our key explanatory variable to have the following categories:

- O - The Canadian-born (reference category);
- A - Immigrants with highest educational attainment from Canada;
- B - Immigrants with highest educational attainment from the United States, Western and Northern Europe, Australia and New Zealand (“other Western countries”);
- C - Immigrants with highest educational attainment from “other countries” with a good or very good ability to speak an official language;
- D - Immigrants with highest educational attainment from “other countries” with a fair or poor ability to speak an official language or can’t speak an official language.

To reveal possible differences between recent immigrants and established immigrants, we ran two sets of regression models for each of the outcome variables (literacy and numeracy). The first set of models includes the Canadian-born and recent immigrants in the sample of analysis, while the second set of models includes the Canadian-born and established immigrants. Figure 3.1 demonstrates the predicted differences in the average proficiency scores in literacy and numeracy between the Canadian-born and the four groups of recent or established immigrants. (The full regression results and variable definitions are provided in Appendix II, Table 3.1.)

¹⁰ We also tested models with log-transformed literacy or numeracy score as the dependent variable, but results showed similar patterns. For ease of interpretation, we present the results from only linear models.

Figure 3.1 Regression results: Predicted proficiency-score differences in literacy and numeracy between immigrants and Canadian-born aged 16 to 65, Canada, 2012



- A – Immigrants with highest educational attainment from Canada;
- B – Immigrants with highest educational attainment from the United States, Western and Northern Europe, Australia and New Zealand (“other Western countries”);
- C – Immigrants with highest educational attainment from “other countries” with a good or very good ability to speak an official language;
- D – Immigrants with highest educational attainment from “other countries” with a fair or poor ability to speak an official language or can’t speak an official language.

Source: Table 3.1

Note: The results are adjusted for age, gender, highest educational attainment, and parental education level. Striped bars indicate that the differences are not statistically significant at 0.10.

As Figure 3.1 indicates, after controlling for the effect of age, gender, highest educational attainment, and parental education, all four groups of recent and established immigrants show — to varying degrees — lower average scores than the Canadian-born on the literacy and numeracy scales. However, the difference in numeracy between established immigrants with their highest level of education attained in “other Western countries” and the Canadian-born is small and not statistically significant.

Immigrants with their highest level of education from Canada score significantly lower than their Canadian-born counterparts: slightly more than a 20-point difference in literacy and numeracy for recent immigrants and more than a 10-point difference in literacy and numeracy for established immigrants. Immigrants, especially recent immigrants, with their highest level of education from “other Western countries” also score significantly lower than the Canadian-born in both literacy and numeracy. They have similar or slightly higher average scores than immigrants educated in Canada.

Immigrants with their highest level of education from “other countries” show much larger differences from the Canadian-born in both literacy and numeracy. Among them, those who reported having a good ability to speak an official language perform much better than those who do not; for example, recent immigrants with their highest level of education attained in “other countries” and with a good ability to speak an official language have an average score around 40 points lower than their Canadian-born counterparts on both literacy and numeracy scales, while recent immigrants with a poor ability to speak an official language score even lower: 74 points and 69 points, respectively, lower than the Canadian-born.

The skills proficiency difference between the Canadian-born population and the four groups of recent or established immigrants show that both the place in which the highest level of education was attained and self-reported official-language proficiency are very important predictors of the differences in literacy and numeracy proficiency between the Canadian-born population and recent and established immigrants.

Differences in literacy and numeracy proficiency among immigrants

To examine the differences in skills proficiency among immigrants, a separate set of models that excluded the Canadian-born was used (to include more variables pertaining only to immigrants in the model).

Separate models for the two dependent variables — literacy score and numeracy score — were run. Independent variables include gender, age group, age at landing, educational attainment, parental education, immigration category, ability to speak an official language (self-reported), and country of education. (Full regression results are presented in Figure 3.2 and in Appendix II, Table 3.2.)

For the most part, results of the regression analysis confirm the patterns revealed by the descriptive analysis. After controlling for the effect of all other variables in the models, we find that among immigrants:

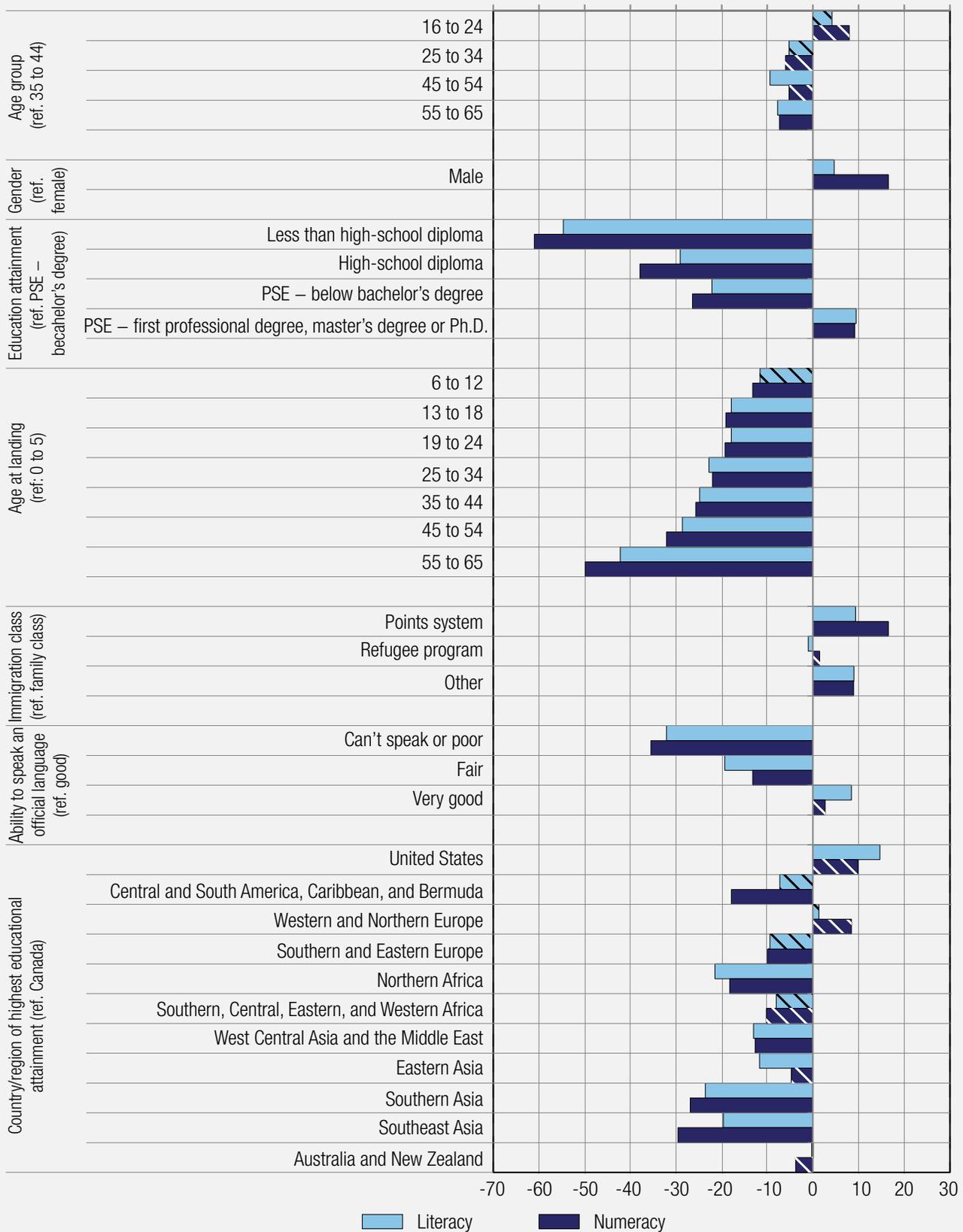
- men have slightly higher proficiency scores than women; the difference is larger in numeracy than in literacy;
- older immigrants (55+) have lower proficiency scores, but net of the effect of other variables in the model, the score difference between older and younger population groups is much smaller than the unadjusted difference revealed by the descriptive analysis presented earlier (Figures 2.1a–2.1c);
- immigrants who landed in Canada at younger ages have higher proficiency scores. Compared to those who immigrated to Canada when they were younger than 6, those who landed between the ages of 6 and 12 show modestly lower scores; those who landed at ages older than 12 show a lower score. The disadvantage increases with age at landing. For example, compared to immigrants who landed when they were younger than 6 years old, the literacy and numeracy scores of those who landed at ages 13 to 18 are 18 and 19 points lower, respectively, while those who landed at age 55 or older are 42 and 50 points lower, respectively;
- as expected, the differences among immigrants with different levels of education are also large. Compared to those with a bachelor's degree, those with a postsecondary education below a bachelor's degree, those with a high-school diploma, and those without a high-school diploma show much lower proficiency scores: at 22, 29, and 55 points lower on the literacy scale; and 26, 38, and 61 points lower on the numeracy scale. On the other hand, immigrants

with a first professional degree, master's degree, or Ph.D. show modestly higher average proficiency scores in literacy and numeracy than immigrants with a bachelor's degree. After controlling for the effect of other variables, we see that the differences in proficiencies between immigrants with different educational attainment remain very large;

- immigrants who reported “cannot speak” or having a poor or fair ability to speak an official language also show lower skill proficiency scores compared to those who report having a good ability. The difference between those who reported having a good ability and those who cannot speak or with a poor ability is 32 points on the literacy scale and 36 on the numeracy scale. The predicted differences are smaller than the difference observed;
- compared to immigrants who obtained their highest level of education in Canada, those who attained their highest level of education in the United States, Western or Northern Europe, Australia, or New Zealand show similar or modestly higher proficiency scores; immigrants who obtained their highest level of education in Southern Asia, Southeast Asia, and North Africa have the lowest average proficiency scores;
- Figures 2.8a–2.8c in Chapter 2 reveal substantial differences in skills proficiency between immigrants admitted to Canada under the points system and immigrants admitted under the family class or as refugees. However, after controlling for the effect of other variables in the model, we see that the differences between points-selected immigrants and those of other categories decrease substantially.



Figure 3.2 Regression results: Predicted proficiency-score differences in literacy and numeracy among immigrants aged 16 to 65, Canada, 2012



Source: Table 3.2

Note: Striped bars indicate that the differences are not statistically significant at 0.10.

Conclusion and discussion

This report provides an analysis of proficiency in literacy, numeracy, and problem solving in technology-rich environments (PS-TRE) of recent and established immigrants in Canada compared to the Canadian-born. It also examines the relationships between proficiency in each of the three skill domains and some key sociodemographic and immigration-related characteristics.

Findings from this study show that when literacy, numeracy, and PS-TRE are tested in either English or French, immigrants have lower proficiencies in these skills, on average, compared to the Canadian-born population. Proficiency scores in these skills vary considerably among immigrants, according to sociodemographic, educational, and immigration-related characteristics. A large proportion of immigrants have low proficiency levels in literacy, numeracy, and PS-TRE. For some immigrants, low proficiency levels may reflect their low cognitive skills in these skill domains. For others, especially for those with postsecondary education, poor proficiency assessment results may, to some extent, reflect their low official-language proficiency rather than low proficiency in literacy, numeracy, and PS-TRE. Credentials obtained in different countries and language environments do not necessarily translate into functional literacy, numeracy, and PS-TRE skills in an English- or French-language environment.

Regardless of the reason behind the low proficiency, inadequate competency in using any of these skills in Canada's official-language environment can impede the economic and social integration of immigrants and limit access to various services and programs. In today's knowledge-based society where new techniques are emerging at a fast pace, proficiency in these key information-processing competencies is also crucial for active engagement in lifelong learning and for the future success of immigrants.

This report highlights some factors associated with low proficiencies of immigrants and identifies immigrant groups who are particularly disadvantaged in possessing these key information-processing competencies in Canada's official languages.

PIAAC is a rich data source. While this study only looks at the levels and distributions of proficiencies in literacy, numeracy, and PS-TRE of immigrants and factors differentiating skill proficiencies, further studies are needed to understand how skill proficiencies in these three domains are associated with immigrant labour-market outcomes and their social integration.

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APPENDIX I

DEFINITIONS

Canada is a participant in the Programme for the International Assessment for Adult Competencies (PIAAC). The Canadian component was carried out in accordance with the standards in the OECD's PIAAC guidelines. These standards set out the minimum requirements for the survey design and the implementation of all phases of the survey, from planning to documentation, and are detailed in Annex A of *Skills in Canada – First Results from the Programme for the International Assessment of Adult Competencies (PIAAC)* (Statistics Canada, 2013). The “Notes to Readers” section in that publication explains concepts such as “means” and “confidence intervals” that are useful for understanding the results presented here.

Foundational skills: Definitions and descriptions of proficiency tasks

Literacy

Literacy is defined as “understanding, evaluating, using and engaging with written texts to participate in society, to achieve one’s goals, and to develop one’s knowledge and potential” (OECD, 2012, p. 19).

The population of adults aged 16 to 65 was assessed over a continuum of ability in literacy using a measurement scale ranging from 0 to 500. Proficiency levels are used to help interpret the findings. The OECD has divided reporting scales for literacy into five proficiency levels (with an additional category, “below Level 1”), defined by a particular score-point range, where each level corresponds to a real-world description of what adults with particular scores can do.

Literacy — Description of proficiency levels		
Level	Score range	Descriptors of the characteristics of literacy tasks
5	376–500	At this level, tasks may require the respondent to search for and integrate information across multiple, dense texts; construct syntheses of similar and contrasting ideas or points of view; or evaluate evidenced based arguments. Application and evaluation of logical and conceptual models of ideas may be required to accomplish tasks. Evaluating reliability of evidentiary sources and selecting key information is frequently a key requirement. Tasks often require respondents to be aware of subtle, rhetorical cues and to make high-level inferences or use specialized background knowledge.
4	326–375	Tasks at this level often require respondents to perform multiple-step operations to integrate, interpret, or synthesize information from complex or lengthy continuous, non-continuous, mixed, or multiple-type texts. Complex inferences and the application of background knowledge may be needed to perform successfully. Many tasks require identifying and understanding one or more specific, non-central ideas in the text to interpret or evaluate subtle evidence-claim or persuasive discourse relationships. Conditional information is frequently present in tasks at this level and must be taken into consideration by the respondent. Competing information is present and sometimes seemingly as prominent as correct information.
3	276–325	Texts at this level are often dense or lengthy, and include continuous, non-continuous, mixed, or multiple pages of text. Understanding text and rhetorical structures become more central to successfully completing tasks, especially navigating of complex digital texts. Tasks require the respondent to identify, interpret, or evaluate one or more pieces of information, and often require varying levels of inference. Many tasks require the respondent to construct meaning across larger chunks of text or perform multi-step operations in order to identify and formulate responses. Often tasks also demand that the respondent disregard irrelevant or inappropriate content to answer accurately. Competing information is often present, but it is not more prominent than the correct information.
2	226–275	At this level the medium of texts may be digital or printed, and texts may comprise continuous, non-continuous, or mixed types. Tasks in this level require respondents to make matches between the text and information, and may require paraphrasing or low-level inferences. Some competing pieces of information may be present. Some tasks require the respondent to: <ul style="list-style-type: none"> ▪ cycle through or integrate two or more pieces of information based on criteria ▪ compare and contrast or reason about information requested in the question ▪ navigate within digital texts to access and identify information from various parts of a document.
1	176–225	Most of the tasks at this level require the respondent to read relatively short digital or print continuous, non-continuous, or mixed texts to locate a single piece of information that is identical to or synonymous with the information given in the question or directive. Some tasks, such as those involving non-continuous texts, may require the respondent to enter personal information onto a document. Little, if any, competing information is present. Some tasks may require simple cycling through more than one piece of information. Knowledge and skill in recognizing basic vocabulary, determining the meaning of sentences, and reading paragraphs of text is expected.
Below 1	0–175	The tasks at this level require the respondent to read brief texts on familiar topics to locate a single piece of specific information. There is seldom any competing information in the text and the requested information is identical in form to information in the question or directive. The respondent may be required to locate information in short continuous texts. However, in this case, the information can be located as if the text were non-continuous in format. Only basic vocabulary knowledge is required, and the reader is not required to understand the structure of sentences or paragraphs or make use of other text features. Tasks below Level 1 do not make use of any features specific to digital texts.

Numeracy

PIAAC defines numeracy as “the ability to access, use, interpret and communicate mathematical information and ideas, in order to engage in and manage the mathematical demands of a range of situations in adult life” (OECD, 2012, p. 33).

The population of adults aged 16 to 65 was assessed over a continuum of ability in numeracy using a measurement scale ranging from 0 to 500. As is the case for literacy, the results for numeracy are presented either as an average score or as a distribution across proficiency levels.

Numeracy — Description of proficiency levels		
Level	Score range	Descriptors of the characteristics of numeracy tasks
5	376–500	Tasks at this level require the respondent to understand complex representations and abstract and formal mathematical and statistical ideas, possibly embedded in complex texts. Respondents may have to integrate multiple types of mathematical information where considerable translation or interpretation is required; draw inferences; develop or work with mathematical arguments or models; and justify, evaluate and critically reflect upon solutions or choices.
4	326–375	Tasks at this level require the respondent to understand a broad range of mathematical information that may be complex, abstract or embedded in unfamiliar contexts. These tasks involve undertaking multiple steps and choosing relevant problem-solving strategies and processes. Tasks tend to require analysis and more complex reasoning about quantities and data; statistics and chance; spatial relationships; and change, proportions and formulas. Tasks in this level may also require understanding arguments or communicating well-reasoned explanations for answers or choices.
3	276–325	Tasks at this level require the respondent to understand mathematical information that may be less explicit, embedded in contexts that are not always familiar and represented in more complex ways. Tasks require several steps and may involve the choice of problem-solving strategies and relevant processes. Tasks tend to require the application of number sense and spatial sense; recognizing and working with mathematical relationships, patterns, and proportions expressed in verbal or numerical form; and interpretation and basic analysis of data and statistics in texts, tables and graphs.
2	226–275	Tasks in this level require the respondent to identify and act on mathematical information and ideas embedded in a range of common contexts where the mathematical content is fairly explicit or visual with relatively few distractors. Tasks tend to require the application of two or more steps or processes involving calculation with whole numbers and common decimals, percents and fractions; simple measurement and spatial representation; estimation; and interpretation of relatively simple data and statistics in texts, tables and graphs.
1	176–225	Tasks at this level require the respondent to carry out basic mathematical processes in common, concrete contexts where the mathematical content is explicit with little text and minimal distractors. Tasks usually require simple one-step or simple processes involving counting; sorting; performing basic arithmetic operations; understanding simple percents such as 50%; or locating, identifying and using elements of simple or common graphical or spatial representations.
Below 1	0–175	Tasks at this level require the respondents to carry out simple processes such as counting, sorting, performing basic arithmetic operations with whole numbers or money, or recognizing common spatial representations in concrete, familiar contexts where the mathematical content is explicit with little or no text or distractors.

PS-TRE

For the problem solving in technology-rich environments (PS-TRE domain), respondents are measured for their ability to use “digital technology, communications tools, and networks to acquire and evaluate information, communicate with others, and perform practical tasks” (OECD, 2012, p. 45). The PS-TRE proficiency scale was divided into four levels, as described below.

PS-TRE — Description of proficiency levels		
Level	Score range	Descriptors of the characteristics of PS-TRE tasks
3	341–500	At this level, tasks typically require the use of both generic and more specific technology applications. Some navigation across pages and applications is required to solve the problem. The use of tools (e.g., a sort function) is needed to make progress towards the solution. The task may involve multiple steps and operators. The goal of the problem may have to be defined by the respondent, and the criteria to be met may or may not be explicit. There are typically high monitoring demands. Unexpected outcomes and impasses are likely to occur. The task may require evaluating the relevance and reliability of information in order to discard distractors. Integration and inferential reasoning may be needed to a large extent.
2	291–340	At this level, tasks typically require the use of both generic and specific technology applications. For instance, respondents may have to make use of a novel online form. Some navigation across pages and applications is required to solve the problem. The use of tools (e.g., a sort function) can facilitate resolution of the problem. The task may involve multiple steps and operators. The goal of the problem may have to be defined by the respondent, though the criteria to be met are explicit. There are higher monitoring demands. Some unexpected outcomes or impasses may appear. The task may require evaluating the relevance of a set of items to discard distractors. Some integration and inferential reasoning may be needed.
1	241–290	At this level, tasks typically require the use of widely available and familiar technology applications, such as e-mail software or a web browser. There is little or no navigation required to access to the information or commands required to solve the problem. The problem may be solved regardless of respondents' awareness and use of specific tools and functions (e.g., a sort function). The tasks involve few steps and a minimal number of operators. At the cognitive level, the respondent can readily infer the goal from the task statement; problem resolution requires the respondent to apply explicit criteria; and there are few monitoring demands (e.g. the respondent do not have to check whether he or she has used the appropriate procedure or made progress towards the solution). Identifying contents and operators can be done through simple match. Only simple forms of reasoning, such as assigning items to categories, are required; there is no need to contrast or integrate information.
Below 1	0–240	Tasks are based on well-defined problems involving the use of only one function within a generic interface to meet one explicit criterion without any categorical, inferential reasoning or transforming of information. Few steps are required and no sub-goal has to be generated.
PS-TRE non-respondents		This category includes those individuals who did not report previous computer experience, did not pass the ICT core test, or opted not to be assessed by a computer-based test.

Definitions of terms used in this report

Immigrants

An immigrant is a person who is, or has ever been, a landed immigrant/permanent resident in Canada.

Recent immigrants are those who landed in Canada as permanent residents between 2002 and 2012 (i.e., 10 years or less since landing).

Established immigrants are those who landed in Canada as permanent residents before 2002 (more than 10 years since landing).

Age at landing

Age at landing refers to a person's age at arrival as a permanent resident/immigrant in Canada.

Highest level of educational attainment

The highest level of education ever completed. Education is defined as formal education provided in the system of schools, colleges, universities and other formal educational institutions. Educational attainment is based on the 1997 International Standard Classification of Education (ISCED) coding developed by UNESCO. Includes every type of education associated with obtaining a certificate or diploma the respondent has ever successfully completed.

- Less than high-school diploma: no formal education or Elementary school, or Jr High/Middle School. In terms of ISCED classification, this category includes no formal qualification or below ISCED 1, ISCED 1, and ISCED 2.
- High-school diploma: Senior High-School, Adult secondary school, or Upgrading programs or courses. In terms of ISCED classification, this category includes ISCED 3C- shorter than 2 years, ISCED 3C-2 years or more, ISCED 3A-B, and ISCED 3 (without distinction A-B-C, 2 years or more).
- Postsecondary education — below bachelor's degree: non-university certificate or diploma from a college, school of nursing, or technical institute; trade/vocational certificates; apprenticeship certificates; CEGEP diploma or certificates; university transfer programs; and university certificate or diploma programs below bachelor's

degree. In terms of ISCED classification, this category includes: ISCED 4C, ISCED 4A-B, ISCED 4 (without distinction A-B-C), and ISCED 5B.

- Postsecondary education — bachelor's degree or higher: bachelor's degree and university certificate above bachelor level. In terms of ISCED classification, this category includes ISCED 5A-bachelor's degree.
- Postsecondary education — first professional degree, master's degree, or Ph.D.: first professional degree (medical, veterinary medicine, dental, optometry, law, and divinity), master's and Ph.D. In terms of ISCED classification, this category includes ISCED 5A- master's degree and ISCED 6.

Country/region of education

Regions of education are grouped based on Statistics Canada's Standard Classification of Countries and Areas of Interest (SCCAI), 2011.

The lists of countries and regions associated with the terms "Northern Europe," "Western Europe," Asia, "Southeast Asia," Oceania, and "Northern Africa" are available from the Statistics Canada Web site.

The term "other countries" used throughout this report refers to all 251 countries or areas in the SCCAI 2011 except for Canada, the United States, Australia, New Zealand, as well as Western and Northern Europe.

Mother tongue

Mother tongue refers to the first and second language learned at home in childhood and still understood by the individual at the time of the survey.

Bilingual persons are those whose mother tongue is both English and French.



APPENDIX II

TABLES

Table 1.1

Literacy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, for all immigrants, recent and established immigrants and Canadian-born, Canada and oversampled populations, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Canada										
Immigrants	26.8	(1.1)	34.4	(1.4)	30.4	(1.5)	8.4	(0.9)	256.3	(1.4)
Recent immigrants	27.6	(1.5)	35.0	(1.8)	29.7	(1.4)	7.7	(0.9)	254.7	(1.8)
Established immigrants	26.4	(1.5)	34.1	(2.3)	30.9	(2.1)	8.5	(1.1)	256.9	(1.8)
Canadian-born	12.9	(0.5)	31.3	(0.8)	40.2	(0.8)	15.7	(0.6)	279.5	(0.7)
Quebec										
Immigrants	29.5	(1.6)	33.8	(2.1)	29.1	(2.1)	7.6	(1.1)	252.5	(2.1)
Recent immigrants	28.3	(2.7)	35.0	(3.2)	29.0	(2.5)	7.8 ^M	(1.8)	254.1	(3.1)
Established immigrants	30.1	(2.6)	33.3	(2.8)	29.2	(2.8)	7.4 ^M	(1.6)	251.4	(3.1)
Canadian-born	16.9	(0.7)	34.4	(0.9)	36.9	(0.8)	11.9	(0.6)	271.7	(0.9)
Ontario										
Immigrants	25.0	(1.7)	36.1	(2.2)	30.8	(2.0)	8.1 ^M	(1.4)	257.4	(2.0)
Recent immigrants	24.7	(2.1)	37.6	(2.8)	30.8	(2.4)	6.9 ^M	(1.5)	256.3	(2.9)
Established immigrants	25.1	(2.2)	35.6	(3.1)	31.0	(2.7)	8.2 ^M	(1.6)	257.4	(2.5)
Canadian-born	9.5	(0.9)	29.9	(1.6)	42.3	(1.7)	18.3	(1.2)	285.4	(1.3)
Prairies										
Immigrants	30.5	(3.0)	32.8	(3.6)	27.6	(3.3)	9.1 ^M	(1.8)	254.7	(3.6)
Recent immigrants	33.7	(4.1)	32.5	(4.5)	26.0	(2.9)	7.8 ^M	(2.0)	249.8	(4.1)
Established immigrants	28.2 ^M	(5.0)	33.0 ^M	(5.9)	28.9 ^M	(4.9)	10.0 ^M	(2.6)	258.2	(4.8)
Canadian-born	11.9	(1.0)	30.2	(1.5)	41.7	(1.6)	16.3	(1.2)	281.6	(1.4)
British Columbia										
Immigrants	28.3	(3.1)	31.3	(3.2)	31.7	(3.5)	8.8 ^M	(1.7)	255.6	(3.8)
Recent immigrants	30.1	(3.2)	30.5	(3.2)	30.1	(3.3)	9.2 ^M	(2.1)	253.7	(3.9)
Established immigrants	27.8	(3.8)	31.1	(4.4)	32.4	(4.7)	8.7 ^M	(2.5)	256.3	(4.9)
Canadian-born	11.0	(1.3)	27.8	(1.9)	42.5	(2.4)	18.7	(1.9)	284.6	(2.1)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

SE Standard error

Table 1.2

Numeracy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, for all immigrants, recent and established immigrants and Canadian-born, Canada and oversampled populations, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Canada										
Immigrants	33.0	(1.3)	30.7	(1.4)	26.6	(1.5)	9.7	(0.8)	250.4	(1.5)
Recent immigrants	33.7	(1.6)	31.0	(1.6)	26.1	(1.3)	9.2	(0.9)	248.4	(2.0)
Established immigrants	32.7	(1.7)	30.6	(1.8)	26.8	(2.1)	9.9	(1.0)	251.2	(2.1)
Canadian-born	18.9	(0.6)	32.7	(0.6)	34.7	(0.8)	13.6	(0.5)	270.8	(0.8)
Quebec										
Immigrants	32.2	(1.8)	31.8	(2.5)	26.4	(2.1)	9.6	(1.2)	250.4	(2.3)
Recent immigrants	29.3	(2.7)	33.5	(3.6)	28.3	(3.2)	8.8 ^M	(1.7)	253.2	(3.4)
Established immigrants	34.1	(2.6)	30.7	(2.9)	25.0	(3.0)	10.3 ^M	(1.8)	248.7	(3.4)
Canadian-born	19.4	(0.8)	35.2	(1.0)	34.3	(0.8)	11.1	(0.6)	267.8	(0.8)
Ontario										
Immigrants	32.4	(1.6)	31.1	(1.7)	27.3	(1.9)	9.2	(1.3)	250.6	(2.1)
Recent immigrants	33.2	(2.6)	32.7	(2.7)	25.8	(2.3)	8.3 ^M	(1.4)	248.2	(2.9)
Established immigrants	32.2	(2.3)	30.6	(2.3)	27.7	(2.5)	9.4 ^M	(1.6)	251.3	(2.7)
Canadian-born	17.1	(1.1)	31.7	(1.3)	35.6	(1.7)	15.6	(1.2)	274.8	(1.6)
Prairies										
Immigrants	37.4	(4.1)	30.0	(4.1)	22.3	(3.2)	10.2 ^M	(2.0)	247.2	(4.7)
Recent immigrants	40.3	(4.2)	27.8 ^M	(4.8)	21.6	(3.6)	10.3 ^M	(2.4)	242.5	(5.1)
Established immigrants	35.2	(5.5)	31.6	(5.2)	23.0 ^M	(4.5)	10.2 ^M	(3.0)	250.8	(6.2)
Canadian-born	18.2	(1.3)	32.2	(1.7)	35.2	(1.9)	14.5	(1.1)	272.2	(1.7)
British Columbia										
Immigrants	33.3	(3.3)	29.2	(3.3)	27.2	(3.3)	10.2 ^M	(2.1)	250.1	(4.0)
Recent immigrants	35.2	(3.2)	26.6	(3.2)	27.6	(2.6)	10.6 ^M	(2.0)	247.3	(4.4)
Established immigrants	32.7	(4.5)	30.1	(4.5)	27.2 ^M	(4.7)	10.1 ^M	(2.9)	251.1	(5.4)
Canadian-born	16.9	(1.6)	30.5	(2.4)	37.5	(2.5)	15.2	(1.6)	274.3	(2.1)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

SE Standard error

Table 1.3

Proportion of population aged 16 to 65 who did not participate in the PS-TRE assessment, by reason, recent and established immigrants and Canadian-born, Canada, 2012

	No computer experience		Failed ICT core		Opted out of CBA	
	%	SE	%	SE	%	SE
Recent immigrants	3.7	(0.6)	10.6	(0.9)	8.4	(0.9)
Established immigrants	8.7	(0.8)	9.4	(0.9)	9.3	(0.9)
Canadian-born	3.7	(0.2)	4.7	(0.3)	5.5	(0.3)
Total	4.5	(0.2)	5.9	(0.2)	6.3	(0.3)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

SE Standard error

Table 1.4

PS-TRE — Percentage distributions of proficiency levels of population aged 16 to 65, for all immigrants, recent and established immigrants and Canadian-born, Canada and oversampled populations, 2012

	PS-TRE non-respondents		Below Level 1		Level 1		Level 2 or 3	
	%	SE	%	SE	%	SE	%	SE
Canada								
Immigrants	26.1	(1.0)	19.0	(1.0)	28.4	(1.3)	26.5	(1.4)
Recent immigrants	22.9	(1.2)	20.7	(1.4)	30.5	(1.3)	25.9	(1.3)
Established immigrants	27.8	(1.4)	18.2	(1.3)	27.5	(1.8)	26.5	(1.9)
Canadian-born	14.1	(0.5)	13.7	(0.5)	31.5	(0.8)	40.7	(0.8)
Quebec								
Immigrants	21.8	(1.5)	21.9	(1.7)	30.3	(2.3)	26.0	(2.2)
Recent immigrants	13.8	(1.7)	25.3	(2.7)	34.6	(3.0)	26.3	(2.6)
Established immigrants	27.0	(2.5)	19.7	(2.6)	27.5	(3.1)	25.8	(3.0)
Canadian-born	15.9	(0.6)	18.0	(0.7)	32.3	(1.0)	33.8	(0.8)
Ontario								
Immigrants	25.8	(1.4)	18.8	(1.4)	29.3	(1.9)	26.1	(2.0)
Recent immigrants	24.0	(2.0)	19.7	(2.1)	30.4	(2.4)	25.8	(2.1)
Established immigrants	26.6	(1.9)	18.5	(1.9)	29.1	(2.6)	25.8	(2.6)
Canadian-born	11.8	(0.9)	10.7	(1.1)	31.8	(1.8)	45.8	(1.7)
Prairies								
Immigrants	28.8	(2.7)	21.4	(2.3)	24.7	(2.7)	25.1	(3.2)
Recent immigrants	28.3	(3.4)	22.2	(3.1)	27.1	(3.4)	22.5	(2.8)
Established immigrants	29.5	(4.0)	20.5 ^M	(3.4)	22.9 ^M	(4.0)	27.0 ^M	(5.0)
Canadian-born	13.2	(1.2)	13.3	(1.1)	32.1	(1.6)	41.5	(1.5)
British Columbia								
Immigrants	30.0	(2.7)	15.7	(2.6)	26.5	(2.6)	27.7	(3.1)
Recent immigrants	25.9	(3.0)	16.9	(2.3)	29.4	(2.9)	27.8	(2.9)
Established immigrants	32.1	(3.6)	15.2 ^M	(3.5)	25.2	(3.7)	27.5	(4.3)
Canadian-born	13.6	(1.8)	11.7	(1.7)	29.2	(1.9)	45.5	(2.3)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

SE Standard error

Table 2.1a

Literacy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by age group, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
16 to 24	15.4	(2.1)	36.2	(4.4)	41.3	(4.0)	7.1 ^M	(2.0)	269.6	(2.8)
25 to 34	21.0	(2.2)	34.1	(2.9)	33.6	(3.0)	11.4 ^M	(2.1)	266.0	(2.9)
35 to 44	23.6	(2.1)	31.9	(2.6)	33.7	(2.5)	10.8 ^M	(1.8)	262.8	(2.7)
45 to 54	32.1	(2.6)	37.7	(3.0)	24.1	(2.6)	6.1 ^M	(1.3)	246.6	(2.7)
55 to 65	34.5	(2.8)	33.3	(2.7)	25.9	(2.3)	6.4 ^M	(1.4)	245.4	(3.2)
Recent immigrants										
16 to 24	21.6	(3.1)	38.5	(4.1)	34.8	(3.6)	U	(1.8)	260.2	(3.2)
25 to 34	27.7	(2.7)	34.6	(3.2)	28.6	(2.5)	9.1 ^M	(2.0)	256.7	(3.1)
35 to 44	25.7	(2.1)	34.8	(2.8)	30.9	(3.0)	8.5	(1.4)	257.5	(2.9)
45 to 54	29.1	(3.6)	34.6	(4.2)	29.0	(3.7)	7.4 ^M	(1.8)	252.2	(3.9)
55 to 65	58.6	(6.6)	27.1 ^M	(5.6)	11.4 ^M	(3.8)	U	(1.8)	207.3	(8.0)
Established immigrants										
16 to 24	U	(3.6)	33.5 ^M	(7.4)	48.4	(7.0)	U	(4.0)	280.0	(4.6)
25 to 34	14.3 ^M	(3.8)	33.4	(5.5)	39.7	(5.5)	12.6 ^M	(3.6)	274.7	(4.7)
35 to 44	22.2	(3.6)	29.9	(4.1)	35.7	(3.8)	12.2 ^M	(2.8)	266.3	(4.1)
45 to 54	33.1	(3.2)	38.5	(3.9)	22.8	(3.1)	5.6 ^M	(1.5)	244.8	(3.3)
55 to 65	32.6	(2.9)	33.7	(2.8)	27.1	(2.5)	6.7 ^M	(1.5)	248.2	(3.4)
Canadian-born										
16 to 24	12.1	(1.1)	32.2	(1.7)	42.6	(1.8)	13.0	(1.2)	278.3	(1.4)
25 to 34	7.8	(1.0)	27.0	(1.9)	42.4	(2.5)	22.8	(1.7)	291.6	(1.5)
35 to 44	9.6	(1.0)	26.7	(1.7)	44.3	(1.6)	19.4	(1.5)	287.8	(1.5)
45 to 54	15.7	(1.0)	31.7	(1.2)	37.9	(1.5)	14.8	(1.1)	275.4	(1.4)
55 to 65	18.4	(0.9)	38.2	(1.3)	34.5	(1.3)	9.0	(0.9)	266.3	(1.1)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

SE Standard error

Table 2.1b

Numeracy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by age group, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
16 to 24	20.9	(2.8)	36.2	(3.6)	33.8	(3.9)	9.1 ^M	(2.5)	263.6	(3.4)
25 to 34	29.5	(2.7)	29.9	(3.0)	29.6	(3.3)	11.1 ^M	(2.2)	257.5	(3.5)
35 to 44	29.6	(2.2)	28.5	(2.5)	29.7	(2.5)	12.3	(1.7)	257.3	(2.7)
45 to 54	36.6	(2.5)	31.3	(2.6)	23.6	(2.4)	8.5 ^M	(1.5)	244.1	(2.9)
55 to 65	41.5	(2.7)	30.6	(2.9)	20.6	(2.9)	7.3 ^M	(1.4)	237.4	(3.5)
Recent immigrants										
16 to 24	28.4	(3.4)	35.1	(3.9)	29.6	(3.4)	7.0 ^M	(2.1)	253.6	(3.6)
25 to 34	35.5	(3.0)	30.5	(3.0)	25.7	(2.6)	8.3	(1.3)	248.1	(3.1)
35 to 44	30.7	(2.1)	31.7	(2.4)	26.4	(2.0)	11.2 ^M	(1.9)	252.9	(3.1)
45 to 54	33.8	(3.9)	28.8	(3.9)	26.6	(3.3)	10.8 ^M	(2.1)	249.2	(4.4)
55 to 65	64.7	(6.1)	21.4 ^M	(5.7)	U	(3.8)	U	(2.2)	194.4	(9.6)
Established immigrants										
16 to 24	U	(5.0)	38.0 ^M	(6.8)	37.8 ^M	(7.4)	U	(4.3)	274.4	(6.0)
25 to 34	23.3 ^M	(4.6)	29.5 ^M	(5.5)	33.2 ^M	(6.1)	14.0 ^M	(4.1)	267.2	(6.0)
35 to 44	28.8	(3.4)	26.1	(3.6)	32.2	(4.0)	12.9 ^M	(2.5)	260.3	(4.3)
45 to 54	37.3	(3.0)	32.0	(3.2)	23.0	(3.0)	7.7 ^M	(1.7)	242.6	(3.6)
55 to 65	39.9	(2.8)	31.2	(3.1)	21.3	(3.1)	7.6 ^M	(1.5)	240.3	(3.6)
Canadian-born										
16 to 24	18.7	(1.3)	33.4	(1.9)	34.7	(1.7)	13.2	(1.3)	270.2	(1.8)
25 to 34	13.5	(1.3)	29.0	(1.6)	38.6	(2.1)	18.9	(1.5)	282.8	(1.6)
35 to 44	13.9	(1.0)	30.7	(1.4)	39.0	(1.6)	16.3	(1.6)	279.0	(1.6)
45 to 54	21.5	(1.1)	32.7	(1.3)	33.5	(1.5)	12.3	(0.9)	266.4	(1.6)
55 to 65	25.7	(1.0)	37.6	(1.4)	28.6	(1.3)	8.1	(0.9)	257.0	(1.2)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

SE Standard error

Table 2.1c

PS-TRE — Percentage distributions of proficiency levels of population aged 16 to 65, by age group, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	PS-TRE non-respondents		Below Level 1		Level 1		Level 2 or 3	
	%	SE	%	SE	%	SE	%	SE
Immigrants								
16 to 24	10.2	(1.6)	10.3 ^M	(1.9)	31.2	(4.2)	48.3	(3.8)
25 to 34	15.1	(2.0)	17.4	(2.4)	31.0	(3.3)	36.6	(3.3)
35 to 44	23.3	(2.0)	17.1	(1.7)	29.2	(2.5)	30.4	(2.6)
45 to 54	29.0	(2.4)	23.8	(2.5)	29.1	(2.7)	18.1	(2.0)
55 to 65	43.0	(2.4)	21.3	(2.6)	23.4	(2.7)	12.4	(1.8)
Recent immigrants								
16 to 24	14.8	(2.3)	13.7 ^M	(2.6)	31.8	(3.9)	39.7	(4.2)
25 to 34	19.0	(2.2)	22.9	(2.9)	31.0	(2.8)	27.1	(2.2)
35 to 44	21.6	(2.0)	22.5	(2.0)	32.5	(2.3)	23.4	(2.3)
45 to 54	30.8	(3.2)	22.3	(3.3)	28.1	(3.4)	18.8	(2.4)
55 to 65	64.1	(5.7)	13.7 ^M	(3.8)	15.9 ^M	(4.3)	U	(2.4)
Established immigrants								
16 to 24	U	(2.3)	U	(3.3)	30.6 ^M	(6.9)	57.6	(6.0)
25 to 34	11.6 ^M	(3.2)	11.7 ^M	(3.6)	31.6 ^M	(5.5)	45.1	(5.9)
35 to 44	24.3	(3.0)	13.4 ^M	(2.6)	27.0	(4.0)	35.3	(3.9)
45 to 54	28.8	(3.0)	24.1	(3.0)	29.2	(3.3)	17.8	(2.5)
55 to 65	41.6	(2.5)	21.7	(2.7)	23.7	(2.9)	12.9	(1.9)
Canadian-born								
16 to 24	5.6	(0.7)	8.5	(0.9)	32.9	(1.9)	53.0	(1.9)
25 to 34	6.1	(0.7)	10.4	(1.1)	29.4	(1.9)	54.1	(2.0)
35 to 44	9.2	(0.7)	10.9	(1.0)	31.3	(1.6)	48.6	(1.7)
45 to 54	19.1	(1.1)	16.5	(1.0)	32.3	(1.3)	32.2	(1.3)
55 to 65	28.8	(0.9)	21.1	(1.0)	31.6	(1.2)	18.4	(1.1)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

SE Standard error

Table 2.2a

Literacy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by gender, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
Male	24.5	(1.6)	34.2	(2.1)	31.9	(2.0)	9.4	(1.2)	259.6	(1.9)
Female	29.0	(1.5)	34.6	(1.6)	28.9	(1.6)	7.5	(1.1)	253.2	(1.9)
Recent immigrants										
Male	24.2	(2.0)	33.8	(2.4)	32.6	(2.2)	9.5	(1.6)	260.6	(2.4)
Female	30.7	(2.0)	36.2	(2.2)	27.1	(1.8)	6.0	(1.0)	249.2	(2.4)
Established immigrants										
Male	24.6	(2.3)	34.4	(3.4)	31.7	(3.0)	9.3 ^M	(1.6)	259.1	(2.5)
Female	28.2	(2.1)	33.9	(2.2)	30.1	(2.1)	7.8 ^M	(1.4)	254.6	(2.6)
Canadian-born										
Male	13.5	(0.8)	30.4	(1.0)	39.5	(1.2)	16.5	(0.8)	279.7	(1.0)
Female	12.2	(0.6)	32.2	(1.2)	40.8	(1.1)	14.8	(0.8)	279.4	(0.9)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

SE Standard error

Table 2.2b

Numeracy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by gender, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
Male	27.7	(1.8)	28.8	(2.0)	30.1	(1.8)	13.5	(1.3)	260.7	(2.2)
Female	38.2	(1.5)	32.5	(1.6)	23.2	(1.8)	6.1 ^M	(1.0)	240.5	(2.0)
Recent immigrants										
Male	26.2	(2.1)	30.3	(2.4)	30.0	(2.0)	13.4	(1.7)	261.2	(2.7)
Female	40.6	(2.1)	31.6	(2.2)	22.4	(1.7)	5.3 ^M	(0.9)	236.6	(2.3)
Established immigrants										
Male	28.4	(2.4)	28.0	(2.5)	30.1	(2.6)	13.5	(1.6)	260.3	(2.9)
Female	37.1	(2.2)	33.1	(2.3)	23.5	(2.4)	6.3 ^M	(1.3)	242.0	(2.7)
Canadian-born										
Male	16.8	(0.8)	29.7	(1.1)	36.2	(1.1)	17.3	(0.8)	276.8	(1.0)
Female	21.0	(0.8)	35.9	(1.0)	33.2	(1.1)	9.9	(0.7)	264.6	(1.1)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

SE Standard error

Table 2.2c

PS-TRE — Percentage distributions of proficiency levels of population aged 16 to 65, by gender, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	PS-TRE non-respondents		Below Level 1		Level 1		Level 2 or 3	
	%	SE	%	SE	%	SE	%	SE
Immigrants								
Male	23.8	(1.4)	17.8	(1.4)	29.3	(2.0)	29.1	(2.1)
Female	28.4	(1.5)	20.1	(1.4)	27.6	(1.7)	23.9	(1.8)
Recent immigrants								
Male	21.8	(1.8)	18.0	(1.8)	30.7	(2.2)	29.6	(1.8)
Female	24.0	(1.6)	23.1	(2.0)	30.4	(1.8)	22.5	(1.6)
Established immigrants								
Male	24.7	(1.9)	17.9	(1.7)	28.6	(2.9)	28.8	(2.9)
Female	30.9	(2.1)	18.6	(2.0)	26.4	(2.7)	24.2	(2.5)
Canadian-born								
Male	15.3	(0.6)	14.1	(0.6)	30.1	(1.1)	40.5	(1.0)
Female	12.9	(0.5)	13.3	(0.6)	33.0	(1.0)	40.8	(1.0)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

SE Standard error

Table 2.2d

Literacy — Differences in average proficiency scores between men and women aged 16 to 65, by age group, recent and established immigrants and Canadian-born, Canada, 2012

Literacy		Mean difference (male/female)
Recent immigrants	16 to 24	3.4
	25 to 34	4.4
	35 to 44	14.5***
	45 to 54	21.8***
	55 to 65	30.8*
Established immigrants	16 to 24	-3.7
	25 to 34	-0.2
	35 to 44	-5.3
	45 to 54	11.2*
	55 to 65	9.8
Canadian-born	16 to 24	-1.1
	25 to 34	-2.5
	35 to 44	-2.2
	45 to 54	1.2
	55 to 65	4.3*

*** p<0.01, ** p<0.05, * p<0.1.

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

Table 2.2e

Numeracy — Differences in average proficiency scores between men and women aged 16 to 65, by age group, recent and established immigrants and Canadian-born, Canada, 2012

Numeracy		Mean difference (male/female)
Recent immigrants	16 to 24	12.0*
	25 to 34	16.9***
	35 to 44	28.7***
	45 to 54	35.8***
	55 to 65	53.3***
Established immigrants	16 to 24	5.5
	25 to 34	14.7
	35 to 44	6.1
	45 to 54	22.6***
	55 to 65	28.2***
Canadian-born	16 to 24	9.9***
	25 to 34	9.7***
	35 to 44	12.0***
	45 to 54	12.5***
	55 to 65	15.5***

*** p<0.01, ** p<0.05, * p<0.1.

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definition in Appendix I.

Table 2.3a

Literacy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by educational attainment, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
Less than high-school diploma	62.0	(3.9)	27.6	(4.2)	9.6 ^M	(2.1)	U	(0.5)	204.2	(4.1)
High-school diploma	34.5	(2.9)	36.8	(3.4)	25.4	(3.0)	U	(1.3)	243.9	(3.0)
Postsecondary education – below bachelor's degree	26.7	(2.2)	37.4	(2.7)	29.7	(2.4)	6.2 ^M	(1.5)	255.0	(2.5)
University education	12.4	(1.4)	33.0	(2.1)	39.7	(2.5)	15.0	(1.6)	279.2	(1.7)
Postsecondary education – bachelor's degree	14.5	(2.0)	35.5	(2.7)	37.7	(2.9)	12.3	(2.0)	273.8	(2.1)
Postsecondary education – first professional degree, master's degree, or Ph.D.	8.8 ^M	(1.8)	28.5	(3.1)	43.1	(4.2)	19.6	(2.7)	288.4	(2.7)
Recent immigrants										
Less than high-school diploma	51.4	(4.9)	29.9 ^M	(5.8)	16.9 ^M	(4.1)	U	(1.3)	216.9	(4.9)
High-school diploma	39.2	(3.3)	34.3	(3.7)	22.5 ^M	(3.8)	U	(2.0)	238.7	(4.4)
Postsecondary education – below bachelor's degree	33.8	(3.1)	37.9	(3.5)	24.5	(2.7)	U	(1.4)	244.8	(3.5)
University education	15.3	(1.8)	35.2	(2.3)	37.5	(2.2)	12.0	(1.5)	273.3	(2.0)
Postsecondary education – bachelor's degree	17.5	(2.6)	38.1	(3.1)	35.2	(2.9)	9.2 ^M	(1.7)	267.8	(2.5)
Postsecondary education – first professional degree, master's degree, or Ph.D.	11.3 ^M	(2.1)	30.1	(2.8)	41.7	(3.4)	16.9	(2.6)	283.1	(2.9)
Established immigrants										
Less than high-school diploma	66.9	(5.1)	26.3 ^M	(5.4)	x	x	x	x	198.2	(5.5)
High-school diploma	32.6	(3.8)	38.0	(4.3)	26.4	(3.7)	U	(1.6)	245.9	(3.7)
Postsecondary education – below bachelor's degree	24.7	(2.7)	37.4	(3.4)	31.6	(3.1)	6.3 ^M	(1.9)	257.5	(3.0)
University education	10.4 ^M	(2.0)	31.3	(3.4)	41.4	(3.8)	16.9	(2.4)	283.0	(2.4)
Postsecondary education – bachelor's degree	12.4 ^M	(2.7)	34.0	(4.3)	39.5	(4.5)	14.0 ^M	(2.8)	277.5	(3.0)
Postsecondary education – first professional degree, master's degree, or Ph.D.	U	(2.8)	26.8 ^M	(5.1)	44.4	(6.2)	21.6 ^M	(4.1)	292.3	(4.1)
Canadian-born										
Less than high-school diploma	36.1	(2.0)	39.1	(2.5)	22.2	(1.6)	2.6 ^M	(0.8)	241.3	(1.5)
High-school diploma	12.3	(0.9)	37.9	(1.3)	39.8	(1.2)	10.0	(1.0)	274.2	(1.2)
Postsecondary education – below bachelor's degree	9.6	(0.6)	33.4	(1.0)	44.1	(1.4)	12.9	(0.9)	280.9	(0.9)
University education	1.8 ^M	(0.4)	13.6	(0.9)	47.3	(1.7)	37.3	(1.8)	312.8	(1.1)
Postsecondary education – bachelor's degree	2.0 ^M	(0.6)	14.7	(1.2)	47.9	(1.9)	35.4	(2.0)	310.7	(1.4)
Postsecondary education – first professional degree, master's degree, or Ph.D.	U	(0.5)	10.6	(1.5)	45.6	(3.0)	42.9	(3.4)	318.6	(2.2)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the Statistics Act

SE Standard error

Table 2.3b

Numeracy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by educational attainment, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
Less than high-school diploma	67.5	(3.8)	23.7	(3.9)	7.9 ^M	(2.0)	U	(0.5)	193.7	(4.5)
High-school diploma	45.6	(3.3)	30.6	(3.2)	20.3	(2.8)	U	(1.4)	232.3	(3.4)
Postsecondary education – below bachelor's degree	33.9	(2.6)	33.9	(2.8)	25.8	(2.3)	6.5 ^M	(1.3)	248.3	(2.8)
University education	15.6	(1.5)	30.5	(2.1)	36.1	(2.5)	17.8	(1.6)	278.2	(1.8)
Postsecondary education – bachelor's degree	18.0	(2.1)	32.9	(2.7)	35.1	(3.1)	13.9	(1.9)	271.7	(2.3)
Postsecondary education – first professional degree, master's degree, or Ph.D.	11.4 ^M	(2.2)	26.3	(3.0)	37.7	(4.1)	24.6	(2.9)	289.4	(3.1)
Recent immigrants										
Less than high-school diploma	59.7	(5.1)	24.7 ^M	(5.4)	13.3 ^M	(3.0)	U	(1.1)	204.8	(5.2)
High-school diploma	47.1	(4.2)	30.3	(4.3)	19.3 ^M	(3.6)	U	(1.5)	226.6	(4.7)
Postsecondary education – below bachelor's degree	39.8	(3.5)	33.1	(3.3)	22.1	(2.6)	5.0 ^M	(1.5)	239.2	(3.9)
University education	20.3	(1.9)	31.8	(2.4)	33.1	(1.9)	14.8	(1.6)	270.3	(2.3)
Postsecondary education – bachelor's degree	22.9	(2.6)	32.9	(3.1)	32.4	(2.6)	11.8	(1.9)	264.9	(3.0)
Postsecondary education – first professional degree, master's degree, or Ph.D.	15.8 ^M	(3.0)	30.0	(3.4)	34.3	(3.3)	20.0	(3.0)	280.1	(3.8)
Established immigrants										
Less than high-school diploma	70.8	(4.9)	23.3 ^M	(5.0)	x	x	x	x	188.5	(6.1)
High-school diploma	44.9	(4.2)	30.5	(3.9)	20.8 ^M	(3.6)	U	(1.9)	234.7	(4.2)
Postsecondary education – below bachelor's degree	32.5	(3.2)	34.4	(3.4)	26.2	(2.7)	6.9 ^M	(1.6)	250.4	(3.5)
University education	12.3	(2.0)	29.6	(2.8)	38.4	(3.9)	19.7	(2.5)	283.5	(2.6)
Postsecondary education – bachelor's degree	14.8 ^M	(2.7)	33.1	(3.7)	37.2	(4.9)	14.9 ^M	(2.9)	275.9	(3.2)
Postsecondary education – first professional degree, master's degree, or Ph.D.	U	(2.9)	23.5 ^M	(4.4)	40.3	(6.2)	27.9	(4.4)	296.2	(4.3)
Canadian-born										
Less than high-school diploma	46.3	(2.0)	33.5	(2.1)	17.3	(1.6)	2.9 ^M	(0.7)	229.7	(1.9)
High-school diploma	20.3	(1.3)	39.0	(1.5)	32.1	(1.4)	8.6	(0.9)	263.9	(1.5)
Postsecondary education – below bachelor's degree	14.9	(0.8)	35.9	(1.1)	37.8	(1.1)	11.4	(0.8)	273.3	(1.1)
University education	3.4 ^M	(0.6)	19.1	(1.2)	45.7	(1.9)	31.8	(1.7)	305.7	(1.2)
Postsecondary education – bachelor's degree	3.5 ^M	(0.7)	20.3	(1.6)	45.6	(2.4)	30.6	(2.1)	304.5	(1.4)
Postsecondary education – first professional degree, master's degree, or Ph.D.	3.1 ^M	(1.0)	15.8	(2.5)	45.9	(2.8)	35.1	(3.1)	309.2	(2.6)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the Statistics Act

SE Standard error

Table 2.3c

PS-TRE — Percentage distributions of proficiency levels of population aged 16 to 65, by educational attainment, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	PS-TRE non-respondents		Below Level 1		Level 1		Level 2 or 3	
	%	SE	%	SE	%	SE	%	SE
Immigrants								
Less than high-school diploma	63.7	(3.3)	15.3	(2.5)	13.0 ^M	(2.5)	8.0 ^M	(1.5)
High-school diploma	36.2	(2.4)	18.9	(1.9)	23.6	(2.9)	21.2	(2.6)
Postsecondary education – below bachelor's degree	20.6	(1.8)	23.5	(2.1)	30.8	(2.6)	25.1	(2.5)
University education	13.8	(1.3)	16.9	(1.5)	33.8	(2.0)	35.5	(1.9)
Postsecondary education – bachelor's degree	15.1	(1.6)	17.7	(1.9)	34.3	(2.8)	32.9	(2.3)
Postsecondary education – first professional degree, master's degree, or Ph.D.	11.5	(1.9)	15.4	(2.5)	33.0	(3.3)	40.0	(3.1)
Recent immigrants								
Less than high-school diploma	48.3	(5.0)	17.8 ^M	(3.6)	15.8 ^M	(3.2)	18.1 ^M	(3.7)
High-school diploma	30.8	(3.2)	19.6	(2.3)	28.6	(3.4)	21.0	(3.1)
Postsecondary education – below bachelor's degree	23.2	(2.7)	26.4	(3.2)	30.1	(3.3)	20.3	(2.6)
University education	14.1	(1.5)	19.4	(1.9)	34.7	(2.3)	31.8	(2.1)
Postsecondary education – bachelor's degree	15.6	(2.1)	20.9	(2.3)	35.1	(3.1)	28.4	(2.5)
Postsecondary education – first professional degree, master's degree, or Ph.D.	11.4 ^M	(1.9)	16.8 ^M	(3.2)	33.9	(4.0)	38.0	(3.5)
Established immigrants								
Less than high-school diploma	70.5	(4.2)	14.4 ^M	(3.5)	11.7 ^M	(3.4)	U	(1.3)
High-school diploma	38.3	(3.2)	18.7	(2.4)	21.6	(3.5)	21.4	(3.5)
Postsecondary education – below bachelor's degree	20.4	(2.2)	22.8	(2.6)	31.2	(3.4)	25.7	(3.1)
University education	13.6	(1.8)	15.1	(2.1)	33.3	(2.7)	38.0	(2.7)
Postsecondary education – bachelor's degree	14.7	(2.0)	15.6 ^M	(2.8)	34.0	(3.7)	35.7	(3.4)
Postsecondary education – first professional degree, master's degree, or Ph.D.	11.7 ^M	(2.8)	14.3 ^M	(3.2)	32.1	(4.4)	41.9	(4.5)
Canadian-born								
Less than high-school diploma	27.5	(1.1)	23.6	(1.2)	27.2	(1.9)	21.8	(1.8)
High-school diploma	15.0	(0.9)	14.4	(1.1)	34.0	(1.3)	36.7	(1.2)
Postsecondary education – below bachelor's degree	12.7	(0.7)	14.0	(0.7)	35.2	(1.4)	38.2	(1.4)
University education	5.6	(0.5)	4.9	(0.6)	25.5	(1.3)	64.0	(1.4)
Postsecondary education – bachelor's degree	5.3	(0.6)	5.3	(0.7)	25.6	(1.6)	63.8	(1.7)
Postsecondary education – first professional degree, master's degree, or Ph.D.	6.6	(1.1)	4.0 ^M	(0.9)	24.9	(2.4)	64.6	(2.7)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

SE Standard error

Table 2.3d

Literacy — Average scores and score at the 5th, 25th, 75th, and 95th percentiles of population aged 16 to 65, by educational attainment, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	5 th percentile		25 th percentile		Average score	SE	75 th percentile		95 th percentile	
	Scores	SE	Scores	SE			Scores	SE	Scores	SE
Immigrants										
Less than high-school diploma	106.5	(10.9)	159.7	(15.2)	204.2	(4.1)	247.4	(6.8)	293.7	(6.2)
High-school diploma	150.8	(13.7)	213.2	(5.3)	243.9	(3.0)	280.9	(4.3)	319.9	(5.6)
Postsecondary education – below bachelor's degree	167.4	(10.1)	223.0	(4.1)	255.0	(2.5)	291.1	(3.7)	330.1	(6.0)
University education	202.8	(5.4)	248.8	(2.7)	279.2	(1.7)	311.6	(2.8)	350.3	(4.2)
Postsecondary education – bachelor's degree	197.2	(7.5)	243.8	(3.5)	273.8	(2.1)	306.7	(3.4)	344.7	(5.6)
Postsecondary education – first professional degree, master's degree, or Ph.D.	213.4	(8.1)	259.3	(6.6)	288.4	(2.7)	318.8	(4.6)	357.6	(4.9)
Recent immigrants										
Less than high-school diploma	106.4	(15.2)	171.5	(14.5)	216.9	(4.9)	265.1	(15.1)	309.7	(23.4)
High-school diploma	138.2	(18.8)	204.0	(7.4)	238.7	(4.4)	278.2	(7.7)	322.6	(9.4)
Postsecondary education – below bachelor's degree	153.1	(16.6)	212.1	(6.8)	244.8	(3.5)	280.7	(4.5)	321.9	(6.8)
University education	193.3	(7.7)	243.8	(3.1)	273.3	(2.0)	306.9	(3.3)	344.8	(4.5)
Postsecondary education – bachelor's degree	189.3	(9.9)	238.5	(4.6)	267.8	(2.5)	301.7	(3.5)	338.9	(5.6)
Postsecondary education – first professional degree, master's degree, or Ph.D.	204.7	(7.0)	254.6	(6.2)	283.1	(2.9)	315.1	(4.5)	352.2	(6.3)
Established immigrants										
Less than high-school diploma	106.7	(21.5)	155.6	(11.8)	198.2	(5.5)	239.5	(9.3)	282.6	(8.8)
High-school diploma	157.1	(16.2)	216.0	(6.2)	245.9	(3.7)	281.8	(5.5)	318.9	(7.9)
Postsecondary education – below bachelor's degree	171.9	(11.1)	226.4	(4.8)	257.5	(3.0)	293.0	(6.0)	330.1	(6.8)
University education	208.6	(6.5)	252.8	(6.1)	283.0	(2.4)	314.6	(4.9)	353.5	(7.0)
Postsecondary education – bachelor's degree	202.3	(12.1)	247.9	(5.1)	277.5	(3.0)	310.1	(7.0)	346.4	(8.1)
Postsecondary education – first professional degree, master's degree, or Ph.D.	221.8	(12.3)	264.6	(9.7)	292.3	(4.1)	322.1	(8.1)	361.3	(12.7)
Canadian-born										
Less than high-school diploma	157.4	(5.2)	211.1	(2.8)	241.3	(1.5)	275.8	(2.2)	315.1	(4.2)
High-school diploma	203.8	(4.0)	247.6	(1.9)	274.2	(1.2)	302.5	(2.0)	340.0	(3.2)
Postsecondary education – below bachelor's degree	210.2	(3.2)	254.8	(1.4)	280.9	(0.9)	309.1	(1.4)	344.2	(1.9)
University education	247.1	(3.7)	290.4	(2.0)	312.8	(1.1)	337.7	(1.8)	370.8	(3.6)
Postsecondary education – bachelor's degree	244.2	(5.5)	288.3	(1.7)	310.7	(1.4)	336.1	(2.2)	369.0	(4.1)
Postsecondary education – first professional degree, master's degree, or Ph.D.	256.2	(4.9)	296.6	(3.4)	318.6	(2.2)	342.5	(3.6)	376.0	(7.2)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

SE Standard error

Table 2.3e

Numeracy — Average scores and score at the 5th, 25th, 75th, and 95th percentiles of population aged 16 to 65, by educational attainment, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	5 th percentile		25 th percentile		Average score	SE	75 th percentile		95 th percentile	
	Scores	SE	Scores	SE			Scores	SE	Scores	SE
Immigrants										
Less than high-school diploma	86.7	(11.8)	151.8	(11.0)	193.7	(4.5)	238.1	(9.4)	294.1	(9.9)
High-school diploma	132.0	(16.1)	196.0	(4.6)	232.3	(3.4)	274.2	(5.5)	319.2	(8.4)
Postsecondary education – below bachelor's degree	155.4	(9.7)	212.8	(4.8)	248.3	(2.8)	286.7	(4.7)	332.1	(7.3)
University education	189.2	(5.6)	244.0	(3.8)	278.2	(1.8)	314.8	(3.1)	357.6	(6.1)
Postsecondary education – bachelor's degree	182.2	(11.5)	238.5	(4.2)	271.7	(2.3)	308.2	(3.9)	351.5	(7.1)
Postsecondary education – first professional degree, master's degree, or Ph.D.	201.7	(7.5)	255.2	(7.5)	289.4	(3.1)	325.4	(4.8)	365.6	(8.1)
Recent immigrants										
Less than high-school diploma	86.8	(18.2)	159.6	(14.1)	204.8	(5.2)	253.4	(11.9)	309.9	(10.8)
High-school diploma	113.5	(15.1)	189.9	(7.4)	226.6	(4.7)	270.5	(8.7)	315.2	(9.0)
Postsecondary education – below bachelor's degree	144.3	(22.8)	203.2	(7.8)	239.2	(3.9)	280.1	(7.5)	326.1	(8.9)
University education	179.5	(8.0)	234.7	(4.6)	270.3	(2.3)	308.6	(3.5)	352.4	(6.3)
Postsecondary education – bachelor's degree	176.0	(11.0)	230.2	(5.7)	264.9	(3.0)	303.3	(5.0)	344.6	(5.3)
Postsecondary education – first professional degree, master's degree, or Ph.D.	186.1	(15.8)	244.4	(7.8)	280.1	(3.8)	318.6	(5.3)	364.7	(8.6)
Established immigrants										
Less than high-school diploma	86.4 ^M	(17.3)	147.9	(16.2)	188.5	(6.1)	232.6	(14.0)	280.7	(11.0)
High-school diploma	141.7	(16.2)	198.0	(6.5)	234.7	(4.2)	275.5	(3.7)	320.6	(15.6)
Postsecondary education – below bachelor's degree	158.7	(13.2)	215.1	(6.0)	250.4	(3.5)	287.7	(4.7)	334.1	(7.4)
University education	198.0	(12.1)	250.1	(5.6)	283.5	(2.6)	317.7	(4.2)	359.6	(8.5)
Postsecondary education – bachelor's degree	187.9	(16.0)	243.8	(7.1)	275.9	(3.2)	311.3	(5.8)	353.5	(10.4)
Postsecondary education – first professional degree, master's degree, or Ph.D.	213.6	(14.9)	264.9	(9.8)	296.2	(4.3)	329.7	(8.1)	367.7	(16.9)
Canadian-born										
Less than high-school diploma	136.3	(5.8)	195.6	(2.7)	229.7	(1.9)	267.6	(3.1)	313.7	(3.7)
High-school diploma	185.7	(3.6)	233.8	(2.3)	263.9	(1.5)	295.2	(2.0)	338.7	(3.6)
Postsecondary education – below bachelor's degree	197.1	(3.5)	244.2	(1.7)	273.3	(1.1)	304.3	(1.7)	343.5	(2.3)
University education	234.7	(3.4)	279.2	(1.9)	305.7	(1.2)	333.9	(2.3)	372.8	(4.1)
Postsecondary education – bachelor's degree	233.3	(4.8)	277.7	(2.0)	304.5	(1.4)	333.0	(2.8)	372.6	(4.5)
Postsecondary education – first professional degree, master's degree, or Ph.D.	237.9	(7.9)	284.4	(4.6)	309.2	(2.6)	336.2	(3.8)	373.6	(6.3)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

SE Standard error

Table 2.4a

Literacy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by mother tongue, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
English or bilingual	19.2	(2.2)	35.6	(3.0)	34.1	(2.7)	11.1	(1.8)	267.6	(2.6)
French	18.5 ^M	(3.9)	36.5	(4.9)	35.1	(5.2)	10.0 ^M	(3.0)	267.4	(4.5)
Other	30.3	(1.4)	33.8	(1.6)	28.7	(1.7)	7.2	(1.0)	251.1	(1.8)
Recent immigrants										
English or bilingual	18.1	(2.9)	38.3	(3.6)	31.9	(2.8)	11.7 ^M	(2.2)	269.1	(3.1)
French	18.4 ^M	(4.8)	37.9 ^M	(6.7)	31.7 ^M	(5.9)	U	(4.6)	267.3	(5.9)
Other	30.8	(1.8)	33.9	(2.0)	29.0	(1.9)	6.3 ^M	(1.1)	249.8	(2.4)
Established immigrants										
English or bilingual	19.4	(2.9)	34.9	(4.2)	35.3	(3.5)	10.4 ^M	(2.1)	267.1	(3.2)
French	19.0 ^M	(5.9)	36.1 ^M	(7.3)	36.8 ^M	(7.1)	U	(3.9)	266.5	(6.1)
Other	30.0	(1.9)	33.8	(2.4)	28.6	(2.3)	7.7 ^M	(1.3)	251.6	(2.4)
Canadian-born										
English or bilingual	11.2	(0.6)	30.1	(0.9)	41.7	(1.1)	17.0	(0.7)	282.8	(0.9)
French	17.5	(0.8)	34.6	(0.9)	36.2	(0.9)	11.7	(0.6)	270.6	(0.9)
Other	13.4 ^M	(2.5)	31.5	(4.3)	38.4	(3.5)	16.7 ^M	(2.8)	279.0	(3.0)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

SE Standard error

Table 2.4b

Numeracy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by mother tongue, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
English or bilingual	28.4	(2.7)	31.3	(2.5)	28.5	(2.4)	11.8	(1.6)	259.0	(3.0)
French	19.6 ^M	(3.7)	36.5	(5.7)	32.7	(4.9)	11.2 ^M	(3.1)	266.1	(4.9)
Other	35.6	(1.6)	30.1	(1.5)	25.5	(1.6)	8.8	(0.9)	246.0	(1.9)
Recent immigrants										
English or bilingual	26.2	(3.4)	34.2	(3.5)	28.6	(3.0)	11.0 ^M	(2.2)	260.3	(3.3)
French	23.4 ^M	(5.2)	32.7 ^M	(6.3)	34.7	(5.4)	9.2 ^M	(3.0)	260.9	(5.8)
Other	36.5	(2.1)	30.0	(1.8)	24.8	(1.6)	8.7	(1.1)	244.3	(2.6)
Established immigrants										
English or bilingual	29.3	(3.3)	30.6	(3.3)	28.0	(3.0)	12.1	(2.0)	258.4	(3.8)
French	17.7 ^M	(5.0)	38.2 ^M	(7.9)	31.8 ^M	(7.2)	U	(4.8)	268.8	(7.0)
Other	35.1	(2.1)	30.2	(2.0)	26.0	(2.3)	8.7	(1.3)	246.9	(2.6)
Canadian-born										
English or bilingual	18.3	(0.8)	31.7	(0.8)	35.4	(1.0)	14.6	(0.7)	272.4	(1.0)
French	20.0	(0.8)	35.8	(0.9)	33.5	(0.9)	10.8	(0.6)	266.5	(0.8)
Other	21.5	(3.3)	32.1	(3.1)	31.8	(3.2)	14.6	(2.4)	268.9	(3.7)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

SE Standard error

Table 2.4c

PS-TRE — Percentage distributions of proficiency levels of population aged 16 to 65, by mother tongue, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	PS-TRE non-respondents		Below Level 1		Level 1		Level 2 or 3	
	%	SE	%	SE	%	SE	%	SE
Immigrants								
English or bilingual	21.8	(1.8)	16.3	(1.8)	31.2	(2.6)	30.7	(2.5)
French	15.9 ^M	(3.6)	19.7 ^M	(3.7)	28.1 ^M	(4.9)	36.3	(4.7)
Other	28.4	(1.3)	20.0	(1.3)	27.4	(1.4)	24.3	(1.5)
Recent immigrants								
English or bilingual	17.9	(2.6)	19.1	(3.0)	31.5	(3.2)	31.5	(2.9)
French	12.8 ^M	(4.2)	19.3 ^M	(4.4)	33.1 ^M	(6.3)	34.8 ^M	(6.7)
Other	25.0	(1.4)	21.2	(1.6)	30.1	(1.5)	23.7	(1.4)
Established immigrants								
English or bilingual	23.5	(2.3)	15.3	(2.2)	31.2	(3.4)	30.0	(3.1)
French	18.7 ^M	(5.7)	20.5 ^M	(5.6)	23.4 ^M	(6.2)	37.4 ^M	(6.5)
Other	30.1	(1.9)	19.5	(1.8)	26.1	(2.0)	24.4	(2.2)
Canadian-born								
English or bilingual	13.2	(0.6)	12.0	(0.6)	31.4	(1.1)	43.4	(1.0)
French	17.2	(0.6)	18.4	(0.7)	31.8	(1.0)	32.7	(1.0)
Other	10.6 ^M	(1.9)	13.5 ^M	(2.3)	32.6	(3.7)	43.3	(3.4)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

SE Standard error

Table 2.5a

Literacy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by self-reported official-language proficiency, for all immigrants and recent and established immigrants, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
Can't speak or poor	70.1	(5.4)	20.1 ^M	(4.7)	x	x	x	x	192.3	(7.0)
Fair	53.2	(3.9)	32.7	(4.2)	13.1 ^M	(2.5)	U	(0.6)	218.6	(3.7)
Good	29.1	(2.4)	36.9	(2.7)	28.4	(2.5)	5.6 ^M	(1.4)	252.5	(2.7)
Very good	16.1	(1.2)	35.2	(1.9)	37.1	(2.0)	11.6	(1.2)	272.0	(1.5)
Recent immigrants										
Can't speak or poor	70.7	(5.4)	20.9 ^M	(5.8)	x	x	x	x	186.3	(6.4)
Fair	52.1	(3.7)	30.4	(3.2)	15.9 ^M	(3.0)	U	(1.0)	222.3	(4.3)
Good	24.8	(3.1)	39.5	(3.3)	30.4	(2.8)	5.3 ^M	(1.5)	257.4	(3.0)
Very good	15.2	(1.9)	36.0	(2.4)	36.9	(2.0)	11.9	(1.6)	273.3	(2.2)
Established immigrants										
Can't speak or poor	69.5	(8.2)	U	(7.2)	x	x	x	x	196.1	(10.6)
Fair	54.0	(5.8)	34.0 ^M	(6.3)	x	x	x	x	216.0	(5.4)
Good	31.8	(3.3)	35.3	(3.9)	27.2	(3.4)	U	(2.0)	249.4	(3.6)
Very good	16.3	(1.6)	34.9	(2.8)	37.6	(2.8)	11.2	(1.5)	271.4	(2.0)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the *Statistics Act*

SE Standard error

Table 2.5b

Numeracy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by self-reported official-language proficiency, for all immigrants and recent and established immigrants, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
Can't speak or poor	72.1	(5.2)	18.3 ^M	(4.7)	U	(3.1)	U	(2.0)	182.0	(7.2)
Fair	53.9	(3.8)	26.4	(3.4)	16.1 ^M	(2.8)	U	(1.5)	221.2	(4.2)
Good	34.5	(2.4)	32.0	(2.3)	24.3	(2.3)	9.2 ^M	(1.7)	249.4	(2.9)
Very good	24.2	(1.6)	32.3	(1.9)	31.6	(2.0)	11.8	(1.2)	263.6	(1.9)
Recent immigrants										
Can't speak or poor	74.2	(5.3)	19.0 ^M	(5.6)	x	x	x	x	172.4	(6.5)
Fair	52.5	(4.4)	27.3	(3.9)	15.0 ^M	(2.9)	U	(2.0)	223.5	(4.6)
Good	32.5	(3.1)	33.6	(3.3)	25.0	(2.5)	8.9 ^M	(1.8)	251.5	(3.2)
Very good	22.7	(1.9)	32.5	(2.3)	33.1	(1.9)	11.8	(1.5)	265.6	(2.2)
Established immigrants										
Can't speak or poor	70.5	(7.5)	U	(6.8)	x	x	x	x	188.3	(11.0)
Fair	54.4	(5.2)	25.9 ^M	(4.8)	x	x	x	x	219.8	(5.9)
Good	35.8	(3.5)	30.9	(3.6)	23.9	(3.3)	9.4 ^M	(2.4)	248.0	(4.3)
Very good	24.8	(2.1)	32.3	(2.4)	31.1	(2.6)	11.8	(1.5)	262.8	(2.5)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the *Statistics Act*

SE Standard error

Table 2.5c

PS-TRE — Percentage distributions of proficiency levels of population aged 16 to 65, by self-reported official-language proficiency, for all immigrants and recent and established immigrants, Canada, 2012

	PS-TRE non-respondents		Below Level 1		Level 1		Level 2 or 3	
	%	SE	%	SE	%	SE	%	SE
Immigrants								
Can't speak or poor	75.2	(4.4)	10.1 ^M	(3.3)	U	(3.2)	U	(3.1)
Fair	47.7	(3.2)	27.5	(3.0)	18.0 ^M	(3.0)	6.8 ^M	(2.0)
Good	26.0	(2.2)	25.1	(2.2)	28.9	(2.2)	20.0	(2.1)
Very good	17.0	(1.2)	15.7	(1.2)	32.4	(1.7)	34.9	(1.9)
Recent immigrants								
Can't speak or poor	80.6	(3.6)	9.5 ^M	(3.0)	U	(2.6)	U	(1.2)
Fair	36.2	(3.1)	31.4	(3.9)	23.9	(3.6)	8.4 ^M	(1.9)
Good	18.7	(2.1)	24.5	(2.8)	34.7	(2.9)	22.1	(2.2)
Very good	12.8	(1.5)	16.9	(1.7)	33.6	(2.0)	36.8	(2.0)
Established immigrants								
Can't speak or poor	72.4	(7.0)	U	(5.1)	U	(4.7)	U	(5.2)
Fair	54.7	(4.6)	25.2 ^M	(4.4)	14.4 ^M	(4.4)	U	(2.9)
Good	30.5	(3.2)	25.6	(3.1)	25.2	(3.5)	18.6 ^M	(3.2)
Very good	18.8	(1.5)	15.3	(1.6)	32.0	(2.2)	33.9	(2.4)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

SE Standard error

Table 2.6a

Literacy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by country/region of highest educational attainment, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
Canada	17.2	(1.5)	32.9	(2.3)	37.8	(2.6)	12.1	(1.8)	271.5	(2.0)
United States, Western and Northern Europe, Australia and New Zealand	9.6 ^M	(2.7)	30.9	(4.8)	41.8	(5.1)	17.8 ^M	(3.3)	285.4	(3.4)
Other	38.9	(1.4)	36.4	(1.8)	21.4	(1.4)	3.3 ^M	(0.7)	236.8	(1.7)
Recent immigrants										
Canada	20.0	(2.8)	35.1	(3.4)	35.9	(2.8)	9.1 ^M	(2.4)	265.1	(3.2)
United States, Western and Northern Europe, Australia and New Zealand	U	(2.5)	26.6	(4.4)	43.9	(4.2)	23.3 ^M	(4.2)	294.9	(3.7)
Other	34.0	(1.8)	36.3	(2.0)	24.8	(1.8)	4.9 ^M	(0.9)	244.4	(2.3)
Established immigrants										
Canada	16.4	(1.7)	32.5	(2.8)	38.7	(3.0)	12.4	(1.9)	272.8	(2.3)
United States, Western and Northern Europe, Australia and New Zealand	U	(4.2)	32.3 ^M	(7.3)	41.3 ^M	(7.6)	14.7 ^M	(4.5)	280.4	(5.1)
Other	42.5	(2.5)	36.6	(3.2)	18.8	(2.2)	U	(0.8)	231.0	(2.5)
Canadian-born										
Canada	13.0	(0.5)	31.5	(0.8)	40.1	(0.8)	15.5	(0.6)	279.3	(0.7)
United States, Western and Northern Europe, Australia and New Zealand	U	(2.7)	16.0 ^M	(4.9)	49.5 ^M	(9.5)	30.1 ^M	(8.9)	303.9	(5.2)
Other	x	x	U	(28.2)	x	x	x	x	259.4	(17.5)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the *Statistics Act*

SE Standard error

Table 2.6b

Numeracy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by country/region of highest educational attainment, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
Canada	23.9	(1.8)	31.0	(2.3)	32.6	(2.6)	12.5	(1.4)	264.6	(2.3)
United States, Western and Northern Europe, Australia and New Zealand	12.2 ^M	(2.4)	28.9	(4.1)	37.7	(3.8)	21.2 ^M	(3.9)	284.6	(4.0)
Other	45.5	(1.9)	30.9	(1.6)	18.7	(1.6)	4.9	(0.8)	230.4	(2.0)
Recent immigrants										
Canada	27.8	(2.8)	31.1	(2.6)	31.3	(2.9)	9.8 ^M	(1.8)	257.5	(3.5)
United States, Western and Northern Europe, Australia and New Zealand	8.0 ^M	(2.4)	26.9	(4.3)	41.9	(4.3)	23.2 ^M	(4.2)	291.5	(4.3)
Other	40.4	(2.2)	31.9	(2.1)	21.0	(1.5)	6.6	(1.0)	237.7	(2.5)
Established immigrants										
Canada	23.1	(2.1)	31.2	(2.7)	32.7	(3.1)	13.0	(1.7)	266.0	(2.8)
United States, Western and Northern Europe, Australia and New Zealand	14.3 ^M	(3.9)	29.5 ^M	(6.2)	35.9	(5.7)	20.4 ^M	(5.8)	281.5	(5.8)
Other	49.3	(2.8)	30.1	(2.5)	17.0	(2.5)	U	(1.2)	224.9	(3.1)
Canadian-born										
Canada	19.0	(0.6)	32.8	(0.6)	34.6	(0.8)	13.5	(0.5)	270.5	(0.8)
United States, Western and Northern Europe, Australia and New Zealand	U	(2.4)	26.2 ^M	(6.7)	43.1	(6.7)	25.1 ^M	(7.0)	294.7	(6.0)
Other	x	x	U	(24.9)	x	x	x	x	261.4	(18.1)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the *Statistics Act*

SE Standard error

Table 2.6c

PS-TRE — Percentage distributions of proficiency levels of population aged 16 to 65, by country/region of highest educational attainment, for all immigrants, recent and established immigrants and Canadian-born, Canada, 2012

	PS-TRE non-respondents		Below Level 1		Level 1		Level 2 or 3	
	%	SE	%	SE	%	SE	%	SE
Immigrants								
Canada	15.1	(1.4)	15.5	(1.4)	31.2	(2.2)	38.2	(2.3)
United States, Western and Northern Europe, Australia and New Zealand	12.5 ^M	(2.3)	14.7 ^M	(3.1)	32.5	(3.5)	40.3	(3.6)
Other	39.3	(1.6)	22.8	(1.5)	24.7	(1.5)	13.1	(1.3)
Recent immigrants								
Canada	13.1	(1.8)	15.6 ^M	(2.8)	32.4	(3.4)	38.9	(3.1)
United States, Western and Northern Europe, Australia and New Zealand	7.4 ^M	(2.3)	11.6 ^M	(3.0)	32.5	(4.3)	48.4	(4.6)
Other	29.4	(1.6)	24.4	(1.7)	29.1	(1.7)	17.2	(1.4)
Established immigrants								
Canada	15.7	(1.8)	15.5	(1.7)	31.2	(2.6)	37.6	(2.7)
United States, Western and Northern Europe, Australia and New Zealand	15.9 ^M	(3.6)	16.2 ^M	(5.0)	31.9 ^M	(5.5)	36.1	(5.4)
Other	46.7	(2.6)	21.7	(2.5)	21.5	(2.4)	10.1 ^M	(1.9)
Canadian-born								
Canada	14.2	(0.5)	13.8	(0.5)	31.6	(0.8)	40.4	(0.8)
United States, Western and Northern Europe, Australia and New Zealand	U	(2.8)	U	(2.5)	27.5 ^M	(6.8)	59.7	(7.1)
Other	x	x	x	x	x	x	U	(20.6)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the *Statistics Act*

SE Standard error

Table 2.7a

Literacy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by age at landing, for all immigrants and recent and established immigrants, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
0 to 5	9.5 ^M	(2.2)	28.6	(4.2)	46.9	(4.9)	15.1 ^M	(3.5)	284.4	(3.3)
6 to 12	15.0 ^M	(2.6)	32.9	(4.4)	40.2	(5.1)	11.9 ^M	(2.8)	274.0	(3.6)
13 to 18	27.9	(3.6)	34.7	(4.0)	29.6	(3.7)	7.7 ^M	(2.4)	255.8	(4.1)
19 to 24	33.8	(3.8)	34.7	(3.7)	25.8	(3.1)	5.6 ^M	(1.6)	246.3	(4.0)
25 to 34	29.5	(2.2)	37.1	(2.8)	26.6	(2.4)	6.8	(1.0)	250.7	(2.2)
35 to 44	32.2	(2.7)	34.7	(3.3)	25.8	(2.8)	7.3 ^M	(1.7)	248.4	(3.2)
45 to 54	37.1	(4.8)	35.7 ^M	(6.2)	22.9 ^M	(4.3)	U	(2.0)	235.8	(5.8)
55 to 65	70.8	(9.6)	x	x	U	(3.9)	x	x	190.5	(12.2)
Recent immigrants										
6 to 12	U	(4.0)	37.9	(6.2)	44.2	(5.9)	U	(3.2)	275.9	(4.2)
13 to 18	24.2 ^M	(4.4)	38.6	(6.3)	32.5	(4.6)	U	(2.4)	256.6	(4.0)
19 to 24	32.5	(4.5)	33.3	(4.6)	27.2	(4.1)	U	(2.7)	250.9	(5.0)
25 to 34	25.4	(2.3)	35.7	(3.0)	29.6	(2.1)	9.3	(1.5)	258.6	(2.6)
35 to 44	26.9	(2.9)	34.6	(3.3)	30.4	(3.5)	8.1 ^M	(1.6)	255.7	(3.2)
45 to 54	37.2	(5.3)	33.0 ^M	(6.0)	24.6 ^M	(4.5)	U	(2.1)	238.2	(5.4)
55 to 65	70.8	(9.6)	x	x	U	(3.9)	x	x	190.5	(12.2)
Established immigrants										
0 to 5	8.8 ^M	(2.2)	28.6	(4.4)	47.3	(5.0)	15.3 ^M	(3.5)	285.1	(3.3)
6 to 12	15.8 ^M	(3.0)	32.2	(5.0)	39.5	(5.7)	12.5 ^M	(3.2)	273.7	(4.1)
13 to 18	29.4 ^M	(5.0)	33.2 ^M	(5.6)	28.4 ^M	(5.1)	U	(3.1)	255.4	(5.6)
19 to 24	34.4	(4.7)	35.3	(4.8)	25.2	(3.7)	U	(1.9)	244.6	(4.7)
25 to 34	32.4	(3.6)	38.1	(4.7)	24.5	(3.5)	5.0 ^M	(1.5)	245.2	(3.5)
35 to 44	37.3	(5.3)	35.0	(5.6)	21.3 ^M	(4.2)	U	(3.0)	241.0	(6.0)
45 to 54	37.1 ^M	(10.0)	40.2 ^M	(13.3)	x	x	x	x	231.4	(13.9)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the *Statistics Act*

SE Standard error

Table 2.7b

Numeracy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by age at landing, for all immigrants and recent and established immigrants, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
0 to 5	16.3 ^M	(3.5)	30.1	(4.3)	38.6	(4.9)	15.0 ^M	(3.2)	276.3	(4.1)
6 to 12	23.1	(3.4)	30.7	(4.0)	35.5	(4.2)	10.7 ^M	(2.5)	265.0	(4.3)
13 to 18	35.5	(3.9)	29.7	(4.0)	24.8	(3.7)	10.0 ^M	(2.6)	247.7	(4.9)
19 to 24	43.3	(3.9)	30.5	(3.5)	19.7	(2.9)	6.5 ^M	(1.5)	236.5	(4.3)
25 to 34	34.6	(2.3)	32.6	(2.3)	24.3	(2.0)	8.5	(1.2)	247.4	(2.4)
35 to 44	34.8	(3.4)	30.0	(3.3)	23.8	(2.8)	11.4 ^M	(2.0)	248.1	(3.9)
45 to 54	41.9	(5.1)	26.4 ^M	(4.9)	25.8 ^M	(5.1)	U	(2.2)	232.0	(7.3)
55 to 65	76.8	(8.2)	x	x	U	(3.2)	x	x	171.4	(14.1)
Recent immigrants										
6 to 12	15.9 ^M	(4.9)	36.4 ^M	(7.1)	38.9	(6.2)	U	(3.7)	270.2	(5.1)
13 to 18	30.8	(4.5)	34.6	(5.2)	27.7 ^M	(4.9)	U	(2.6)	249.7	(4.5)
19 to 24	41.3	(4.3)	28.5	(4.4)	22.9 ^M	(4.0)	7.4 ^M	(2.0)	241.3	(5.2)
25 to 34	32.0	(2.4)	31.7	(2.8)	26.3	(2.0)	10.1	(1.6)	252.2	(2.6)
35 to 44	30.4	(2.8)	31.6	(3.4)	26.8	(2.9)	11.2 ^M	(2.1)	253.2	(3.5)
45 to 54	44.4	(5.7)	26.0 ^M	(4.6)	22.7 ^M	(4.8)	U	(2.4)	230.8	(6.9)
55 to 65	76.8	(8.2)	x	x	U	(3.2)	x	x	171.4	(14.1)
Established immigrants										
0 to 5	15.5 ^M	(3.5)	30.4	(4.4)	39.0	(5.0)	15.2 ^M	(3.2)	277.1	(4.1)
6 to 12	24.1	(4.0)	29.8	(4.4)	35.0	(4.7)	11.0 ^M	(2.9)	264.3	(4.9)
13 to 18	37.4	(5.3)	27.9 ^M	(5.3)	23.4 ^M	(5.0)	11.3 ^M	(3.5)	246.8	(6.8)
19 to 24	44.1	(5.0)	31.0	(4.5)	18.6 ^M	(3.4)	6.2 ^M	(1.8)	234.7	(5.3)
25 to 34	36.4	(3.6)	33.2	(3.7)	22.9	(3.1)	7.4 ^M	(1.9)	244.0	(4.0)
35 to 44	39.0	(5.9)	28.5 ^M	(5.1)	20.8 ^M	(4.8)	11.6 ^M	(3.2)	243.1	(7.1)
45 to 54	37.7 ^M	(10.4)	x	x	U	(12.7)	x	x	233.9	(17.1)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the *Statistics Act*

SE Standard error

Table 2.7c

PS-TRE — Percentage distributions of proficiency levels of population aged 16 to 65, by age at landing, for all immigrants and recent and established immigrants, Canada, 2012

	PS-TRE non-respondents		Below Level 1		Level 1		Level 2 or 3	
	%	SE	%	SE	%	SE	%	SE
Immigrants								
0 to 5	13.3 ^M	(2.6)	9.2 ^M	(2.5)	32.0	(4.9)	45.5	(5.0)
6 to 12	13.1	(2.1)	14.3 ^M	(2.8)	31.1	(3.9)	41.6	(4.1)
13 to 18	24.1	(3.1)	15.5 ^M	(2.7)	28.9	(3.7)	31.4	(3.8)
19 to 24	34.7	(3.1)	18.7	(2.6)	25.3	(3.2)	21.3	(2.6)
25 to 34	27.5	(2.1)	24.1	(2.0)	29.5	(2.2)	18.9	(1.7)
35 to 44	28.8	(2.6)	24.6	(2.4)	27.2	(2.4)	19.4	(2.2)
45 to 54	52.1	(5.7)	19.0 ^M	(4.2)	20.6 ^M	(5.1)	8.4 ^M	(2.3)
55 to 65	83.4	(6.4)	x	x	U	(4.9)	x	x
Recent immigrants								
6 to 12	U	(2.6)	U	(3.7)	32.9 ^M	(7.2)	51.5	(7.4)
13 to 18	17.7 ^M	(3.3)	13.6 ^M	(3.2)	32.1	(5.1)	36.6	(4.5)
19 to 24	20.6	(3.3)	22.8 ^M	(4.8)	28.7	(4.7)	27.9	(3.5)
25 to 34	19.4	(1.7)	23.6	(2.3)	31.4	(2.4)	25.5	(2.0)
35 to 44	23.5	(2.6)	22.4	(2.5)	33.0	(3.0)	21.2	(2.2)
45 to 54	45.9	(4.6)	19.7 ^M	(4.0)	23.5 ^M	(4.5)	11.0 ^M	(2.6)
55 to 65	83.4	(6.4)	x	x	U	(4.9)	x	x
Established immigrants								
0 to 5	12.9 ^M	(2.6)	9.0 ^M	(2.5)	32.3	(4.9)	45.9	(5.1)
6 to 12	14.0 ^M	(2.5)	15.1 ^M	(3.1)	30.8	(4.4)	40.1	(4.6)
13 to 18	26.7	(4.1)	16.3 ^M	(3.7)	27.6 ^M	(4.6)	29.4 ^M	(5.0)
19 to 24	40.0	(3.8)	17.2	(2.8)	23.9	(3.7)	19.0 ^M	(3.5)
25 to 34	33.2	(3.2)	24.5	(3.2)	28.2	(3.4)	14.2 ^M	(2.4)
35 to 44	34.1	(4.4)	27.0	(4.2)	21.2 ^M	(4.6)	17.7 ^M	(4.0)
45 to 54	63.2 ^M	(13.7)	U	(9.7)	x	x	x	x

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the *Statistics Act*

SE Standard error

Table 2.8a

Literacy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by immigration class, for all immigrants and recent and established immigrants, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
Points system	18.1	(1.4)	35.2	(2.1)	36.1	(2.5)	10.6	(1.3)	268.4	(2.0)
Family class	35.3	(2.0)	34.7	(2.4)	24.4	(2.1)	5.7 ^M	(1.3)	243.5	(2.5)
Refugee program	39.9	(5.0)	34.7	(4.6)	21.2	(3.4)	U	(1.7)	236.4	(4.9)
Other	18.4	(2.8)	31.9	(4.1)	38.0	(3.5)	11.8 ^M	(2.6)	271.1	(3.3)
Recent immigrants										
Points system	17.1	(1.7)	35.1	(2.1)	37.4	(2.2)	10.4	(1.6)	269.9	(2.3)
Family class	39.0	(2.5)	34.9	(2.9)	22.1	(2.5)	4.0 ^M	(1.1)	236.9	(3.0)
Refugee program	47.9	(6.7)	33.6 ^M	(6.7)	x	x	x	x	227.3	(5.4)
Other	25.4 ^M	(5.6)	35.9 ^M	(6.0)	27.7 ^M	(4.9)	11.0 ^M	(2.6)	260.2	(5.7)
Established immigrants										
Points system	18.8	(2.3)	35.4	(3.8)	35.0	(4.1)	10.8 ^M	(2.1)	267.2	(2.9)
Family class	34.1	(2.6)	34.8	(3.1)	25.4	(2.6)	5.8 ^M	(1.7)	245.4	(3.1)
Refugee program	36.4	(6.0)	34.6	(5.7)	24.0 ^M	(4.7)	U	(2.5)	240.4	(6.7)
Other	16.2 ^M	(3.5)	30.2 ^M	(5.1)	41.8	(4.7)	11.8 ^M	(3.4)	274.5	(3.9)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the Statistics Act

SE Standard error

Table 2.8b

Numeracy — Average scores and percentage distributions of proficiency levels of population aged 16 to 65, by immigration class, for all immigrants and recent and established immigrants, Canada, 2012

	Level 1 or below		Level 2		Level 3		Level 4 or 5		Average score	SE
	%	SE	%	SE	%	SE	%	SE		
Immigrants										
Points system	20.8	(2.0)	31.1	(2.1)	33.4	(2.3)	14.7	(1.6)	269.6	(2.4)
Family class	45.1	(2.1)	28.7	(2.1)	21.2	(2.3)	4.9 ^M	(1.1)	231.9	(2.6)
Refugee program	42.6	(4.1)	36.2	(4.2)	16.3 ^M	(3.3)	U	(1.8)	231.1	(4.9)
Other	26.5	(3.5)	32.2	(3.8)	29.7	(3.8)	11.6 ^M	(3.0)	261.2	(4.0)
Recent immigrants										
Points system	20.2	(1.9)	31.5	(2.3)	34.1	(1.9)	14.2	(1.6)	269.0	(2.7)
Family class	49.0	(3.1)	29.3	(3.2)	17.9	(2.1)	3.7 ^M	(1.2)	225.0	(3.1)
Refugee program	56.8	(6.6)	32.3 ^M	(6.4)	x	x	x	x	213.3	(5.5)
Other	31.8	(4.9)	33.0	(4.6)	26.8	(4.4)	8.5 ^M	(2.5)	251.0	(5.4)
Established immigrants										
Points system	21.2	(3.0)	30.7	(3.2)	33.0	(3.6)	15.1	(2.4)	270.0	(3.4)
Family class	43.9	(2.9)	28.8	(3.2)	22.1	(2.9)	5.3 ^M	(1.3)	234.0	(3.2)
Refugee program	36.8	(5.0)	37.6	(5.5)	18.9 ^M	(4.7)	U	(2.7)	238.4	(6.6)
Other	24.9 ^M	(4.5)	31.8	(4.9)	31.0	(4.8)	12.3 ^M	(3.9)	264.2	(4.9)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

U Too unreliable to be published

x Suppressed to meet the confidentiality requirements of the Statistics Act

SE Standard error

Table 2.8c

PS-TRE — Percentage distributions of proficiency levels of population aged 16 to 65, by immigration class, for all immigrants and recent and established immigrants, Canada, 2012

	PS-TRE non-respondents		Below Level 1		Level 1		Level 2 or 3	
	%	SE	%	SE	%	SE	%	SE
Immigrants								
Points system	17.9	(1.5)	17.6	(1.5)	32.2	(2.2)	32.3	(2.3)
Family class	33.9	(1.6)	19.2	(1.6)	26.2	(1.7)	20.7	(1.9)
Refugee program	35.5	(3.8)	25.8	(4.1)	22.9 ^M	(4.1)	15.8 ^M	(3.5)
Other	20.6	(2.9)	18.5	(2.7)	28.6	(3.8)	32.4	(3.6)
Recent immigrants								
Points system	15.0	(1.6)	18.3	(1.9)	33.9	(2.0)	32.8	(2.1)
Family class	33.4	(2.5)	21.4	(2.5)	26.1	(2.3)	19.1	(2.1)
Refugee program	37.6	(5.3)	30.1 ^M	(6.8)	23.4 ^M	(5.7)	8.9 ^M	(2.7)
Other	16.3 ^M	(3.9)	21.9 ^M	(4.1)	34.3	(4.9)	27.5	(3.9)
Established immigrants								
Points system	19.9	(2.2)	17.2	(2.3)	31.0	(3.5)	31.9	(3.4)
Family class	34.1	(2.0)	18.6	(2.0)	26.5	(2.1)	20.8	(2.3)
Refugee program	35.5	(4.9)	23.9 ^M	(5.0)	22.4 ^M	(5.1)	18.2 ^M	(4.8)
Other	22.7	(3.5)	17.2 ^M	(3.5)	26.4 ^M	(4.8)	33.7	(4.6)

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

^M Use with caution

SE Standard error

Table 3.1

Regression results: Predicted proficiency-score differences in literacy and numeracy between immigrants and Canadian-born aged 16 to 65, Canada, 2012

	Literacy		Numeracy	
	Recent immigrant — Canadian-born	Established immigrant — Canadian-born	Recent immigrant — Canadian-born	Established immigrant — Canadian-born
Country/region of education and language ability (reference: Canadian-born)				
Immigrants with highest education from Canada	-22.6***	-13.9***	-21.7***	-12.4***
Immigrants with highest education from the United States, Western and Northern Europe, Australia and New Zealand ("other Western countries")	-14.6***	-15.8***	-10.2**	-7.6
Immigrants with highest education from "other countries" with a good or very good ability to speak an official language	-40.6***	-39.3***	-39.9***	-38.8***
Immigrants with highest education from "other countries" with a fair or poor ability to speak an official language or can't speak an official language	-73.9***	-62.5***	-69.2***	-53.2***
Age group (reference: 35 to 44)				
16 to 24	5.7***	5.7***	8.4***	8.5***
25 to 34	0.7	0.6	0.1	0.1
45 to 54	-5.2***	-6.7***	-4.4***	-5.2***
55 to 65	-9.8***	-8.9***	-9.2***	-8.7***
Gender (reference: female)				
Male	2.6**	2.1*	14.9***	14.6***
Educational attainment (reference: postsecondary education – bachelor's degree)				
Less than high-school diploma	-61.6***	-62.5***	-69.4***	-70.4***
High-school diploma	-33.7***	-33.1***	-39.6***	-39.5***
Postsecondary education – below bachelor's degree	-24.9***	-25.0***	-27.1***	-27.6***
Postsecondary education – first professional degree, master's degree, or Ph.D.	8.1***	8.8***	5.2**	7.5***
Parental education (reference: at least one parent has attained tertiary)				
Neither parent has attained upper secondary	-18.3***	-17.0***	-19.5***	-18.5***
One parent attained secondary or postsecondary non-tertiary	-7.2***	-6.3***	-9.2***	-8.8***

*** p<0.01, ** p<0.05, * p<0.1.

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.

Table 3.2

Regression results: Predicted proficiency-score differences in literacy and numeracy among immigrants aged 16 to 65, Canada, 2012

	Literacy	Numeracy
Gender (reference: female)		
Male	4.7**	16.5***
Age group (reference: 35 to 44)		
16 to 24	4.2	8.0
25 to 34	-5.3	-6.0
45 to 54	-9.5**	-5.3
55 to 65	-7.7**	-7.3*
Age at landing (reference: 0 to 5)		
6 to 12	-11.6**	-13.2**
13 to 18	-17.9***	-19.1***
19 to 24	-17.9***	-19.3***
25 to 34	-22.8***	-22.0***
35 to 44	-24.8***	-25.7***
45 to 54	-28.6***	-32.1***
55 to 65	-42.2***	-49.9***
Educational attainment (reference: postsecondary education – bachelor's degree)		
Less than high-school diploma	-54.7***	-61.0***
High-school diploma	-29.1***	-37.9***
Postsecondary education – below bachelor's degree	-22.1***	-26.4***
Postsecondary education – first professional degree, master's degree, or Ph.D.	9.4***	9.1**
Parental education (reference: at least one parent has attained tertiary)		
Neither parent has attained upper secondary	-11.6***	-14.8***
One parent attained secondary or postsecondary non-tertiary	-5.1*	-9.5***
Immigration class (reference: family class)		
Points system	9.3***	16.5***
Refugee program	-1.0	1.5
Other	9.0**	8.9**
Ability to speak an official language (reference: good)		
Can't speak or poor	-32.1***	-35.5***
Fair	-19.3***	-13.2***
Very good	8.5**	2.6
Country/region of highest educational attainment (reference: Canada)		
United States	14.6*	9.8
Central and South America, Caribbean, and Bermuda	-7.3	-17.9***
Western and Northern Europe	1.3	8.4
Southern and Eastern Europe	-9.4	-9.9*
Northern Africa	-21.5***	-18.2**
Southern, Central, Eastern, and Western Africa	-8.1	-10.2
West Central Asia and the Middle East	-13.0**	-12.7*
Eastern Asia	-11.7**	-4.8
Southern Asia	-23.5***	-26.9***
Southeast Asia	-19.6***	-29.6***
Australia and New Zealand	-0.2	-3.8

*** p<0.01, ** p<0.05, * p<0.1.

Source: The Programme for the International Assessment of Adult Competencies, 2012.

Note: See definitions in Appendix I.



APPENDIX III

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The following dedicated professionals work in federal, provincial, and territorial departments and agencies across the country. Through analysis, collaboration, and provision of guidance and various other forms of support, they were instrumental in making this study a reality.

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