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Building on our Competencies:

Canadian Results of the International Adult Literacy and Skills Survey

2003

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Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

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Preface

> *Of learning as of virtue, it may be affirmed, that it is at once honoured and neglected.* Samuel Johnson, 1760

This report presents new information on the level and distribution of literacy performance for all Canadian provinces and territories. The 2003 International Adult Literacy and Skills Survey did not merely ask respondents about their education or self-assessed literacy proficiency, but actually measured their performance against an international standard, and linked this to economic and social outcomes.

The results document the powerful influence literacy exerts on people's life chances and quality of life. Even though Canadians are better educated and their living environments more literacy rich than ever before, many adults nevertheless experience a literacy challenge in everyday life. Paradoxically, the improvements achieved in the quality of schooling and in the level of educational attainment of the population have not diminished but reinforced the concern with literacy. This is because literacy demands are not static but evolve with social and economic change. Literacy requirements in Canadian workplaces have increased over time, by some measures dramatically so. In addition to the abilities normally associated with literacy – mainly reading and writing – people today also require higher-order analytical skills, numeracy and technological and computer literacy.

In addition to the literacy profiles of Canadians, this report presents, for the first time, a comparative analysis of the population distribution of numeracy and problem solving abilities, ranging from elementary to advanced levels of complexity. It also shows how these abilities are related to the use of computers and other information and communication technologies in Canadian society. Because the 2003 literacy scores are directly comparable to those from the 1994 International Adult Literacy Survey, the report allows the reader to understand how the level of literacy in Canada has changed over the past decade.

Contrary to expectation, the report finds little improvement in literacy proficiency since 1994. The new survey shows almost nine million Canadians aged 16 to 65 (12 million if Canadians over 65 are included) score below the desirable threshold of prose literacy performance. This average result masks the fact that there are significant differences between the provinces and territories in the proportions of the population with low literacy, numeracy and problem solving scores. The new

literacy data will be used extensively in further studies to understand these differences and, particularly, why literacy in Canada has not improved as much as expected.

This information is invaluable for policy makers, service providers and literacy professionals in making good decisions and creating the conditions that foster high rates of adult learning. This is significant because of the importance of literacy for economic development and social cohesion. Moreover, the Government of Canada has stated that raising literacy and numeracy is a priority. Results from this survey will provide evidence to formulate policies that will ensure that Canadians are well equipped to face the future.

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Highlights

This report presents the results of the 2003 International Adult Literacy and Skills Survey (IALSS) that measured the proficiencies in literacy, numeracy and problem solving of the Canadian population. It shows the skills distributions of the population of each of the ten provinces and three territories and of specific subpopulations, such as immigrants, Aboriginal peoples and minority language groups. The report also analyses the relationships between socio-demographic characteristics, such as age, education, type of work and income, and performance in literacy, numeracy and problem solving.

- The average proficiency scores of the adult population aged 16 and over in the Yukon, Alberta, Saskatchewan and British Columbia are above the Canadian averages across all four domains measured in the IALSS 2003 while those of New Brunswick, Newfoundland and Labrador and Nunavut are below.
- Nova Scotia, the Northwest Territories, Manitoba, Ontario and Prince Edward Island have average scores that are not statistically different than the Canadian averages. In Quebec, the average scores for the two literacy domains are below the national averages while for the numeracy and problem solving domains there is no difference.
- Nationally, 48 percent of the adult population – 12 million Canadians aged 16 and over– perform below Level 3 on the prose and document literacy scales (about 9 million or 42 percent of Canadians aged 16 to 65). Level 3 proficiency is considered to be the "desired level" of competence for coping with the increasing skill demands of the emerging knowledge and information economy.
- At 55%, the proportion of the Canadian population aged 16 and over with numeracy scores below Level 3 was even more pronounced.
- Overall, there has been little change in literacy performance between 1994 and 2003.
- The established patterns of literacy proficiency continue to prevail, with higher performance among the young and the educated.
- In New Brunswick, Quebec, Ontario and Manitoba, Francophones have lower average prose literacy scores than Anglophones.

- In part a reflection of differing levels of formal education and use of a mother tongue other than English or French, the literacy performance of the Aboriginal populations surveyed is lower than that of the total Canadian population.
- The proportion of immigrants whose mother tongue is neither English nor French at Level 1 on the prose literacy scale is about twice that of immigrants with a mother tongue of English or French and over three times that of the Canadian-born population.
- Proficiency of Canadians, aged 16 to 65, in literacy, numeracy and problem solving is clearly linked to their labour market outcomes. The average proficiency scores of those employed are higher than those who are either unemployed or not in the labour force.
- Respondents reporting poor health score lower on the document literacy scale compared with those reporting fair, good or excellent health. Although the nature of this relationship needs to be explored further, the evidence suggests that health issues and literacy issues intersect.
- Higher levels of prose literacy are associated with higher engagement in various community activities. Literacy may be a key factor in building a socially engaged community, while such a community in turn may be more likely to develop a literacy rich environment to sustain and improve its literacy base.

Introduction

Literacy, numeracy and problem solving are essential to function in today's world. For individuals, they are the key to realizing their full economic and social potential and the foundation upon which they acquire additional knowledge and skills throughout adulthood. They are strongly associated with individual outcomes and enable people to participate in their communities, make wise consumer decisions, and construct social networks.

Proficiency in literacy, numeracy and problem solving enhance the capacity of individuals to participate in lifelong learning and to improve productivity. In a global economy, a highly skilled population is an asset and fundamental to economic growth. Factors such as globalization, the impact of new technologies and the move to a knowledge economy have led the occupational composition in Canada to shift towards more highly skilled occupations requiring higher levels of education. A knowledge economy requires workers who can adapt quickly to the changing skills requirements in the labour market.

The social implications of literacy, numeracy and problem solving are no less important. Understanding the link between these competencies and civic participation, for example, has important implications for building strong communities and social institutions. Inadequate proficiencies in literacy, numeracy or problem solving increase the risk of exclusion for particular societal groups.

Canada, as well as many other countries, invests heavily in compulsory education in order to build a strong foundation of literacy, numeracy and problem solving. Measuring the distribution of these competencies in the population can assist individuals, employers, communities and governments in making decisions that are crucial to achieving high rates of economic growth, reducing inequalities in economic and social outcomes, and promoting social inclusion.

Previous international research has already shown that most of the differences in the level and distribution of skill can be explained by social background, education and a range of factors that reflect how adults lead their lives. Further, differences in the level and distribution of skill have been found to be associated with large differences in outcomes in multiple facets of life – work, education, home and the community. And finally, large differences in skills exist both within and between countries.

This report presents the results of the 2003 International Adult Literacy and Skills Survey (IALSS) that aimed to measure the proficiencies in literacy, numeracy

and problem solving of the Canadian population. It focuses on differences within Canada rather than those observed between countries. The IALSS sample is large enough to present the skills distributions of the population of each of the ten provinces and three territories and of specific subpopulations, such as immigrants, Aboriginal people and minority language groups. The report also analyses the relationships between socio-demographic characteristics, such as age, education, type of work and income, and performance in literacy, numeracy and problem solving.

Text box A

Literacy is a continuum

The 2003 International Adult Literacy and Skills Survey, like its predecessor, the 1994 International Adult Literacy Survey is not a survey aimed at distinguishing those who are "literate" from those who are "illiterate". There is no arbitrary standard used in the IALSS to distinguish adults who have proficiency from those who do not. The IALSS measures literacy and numeracy along a continuum of proficiency that indicates how well adults use information in today's society.

What is the IALSS?

Conducted in 2003, the International Adult Literacy and Skills Survey (IALSS) is the Canadian component of the Adult Literacy and Life Skills program (ALL). The ALL program is a "… large-scale co-operative effort undertaken by governments, national statistical agencies, research institutions and multi-lateral agencies" that provides internationally comparable measures in four domains: prose and document literacy, numeracy and problem solving (OECD and Statistics Canada, 2005). Over 23,000 individuals aged 16 and over from across the ten provinces and three territories responded to the Canadian IALSS.

Text box B

The Adult Literacy and Life Skills Program (ALL)

The development and management of the ALL study were co-ordinated by Statistics Canada and the Educational Testing Services (ETS, Princeton, United States) in collaboration with the National Center for Education Statistics (NCES) of the United States Department of Education, the Organization for Economic Co-operation and Development (OECD) and the Institute for Statistics (UIS) of the United Nations Educational, Scientific and Cultural Organization (UNESCO).

The ALL survey, undertaken during the first half of 2003, required all participating countries[1] to collect data from a nationally representative sample of at least 3,000 respondents aged 16 to 65 for each language tested – English and French in the case of Canada. The minimum sample requirements for the ALL survey were exceeded in Canada because several federal agencies and provincial governments funded the collection of additional cases so as to ensure high reliability in the estimation of data values for small population groups. Moreover, unlike the 1994 IALS,[2] the 2003 Canadian IALSS also benefited from contributions made by territorial governments. As a result, the number of respondents is sufficient to provide accurate estimates for the Yukon, Northwest Territories and Nunavut (a complete list of Partners to the IALSS can be found in Annex D). Finally, as with the 1994 IALS, the 2003 IALSS added Canadians over the age of 65 to the sample. Over 23,000 individuals from across Canada spent an average of two hours responding to the IALSS. Annex Table I.3 shows the actual and weighted distributions of respondents from across Canada.

Every respondent was first given a common questionnaire seeking information about demographic characteristics and variables such as educational attainment, occupation, income, and engagement in adult learning and community activities. The respondents were then given an internationally validated psychometric[3] instrument designed to measure proficiency in four domains:

- *Prose literacy* – the knowledge and skills needed to understand and use information from texts including editorials, news stories, brochures and instruction manuals.
- *Document literacy* – the knowledge and skills required to locate and use information contained in various formats, including job applications, payroll forms, transportation schedules, maps, tables and charts.
- *Numeracy* – the knowledge and skills required to effectively manage the mathematical demands of diverse situations.
- *Problem solving* – problem solving involves goal-directed thinking and action in situations for which no routine solutions exist. The problem solver has a more or less well defined goal, but it is not immediately obvious how to reach it. The incongruence of goals and admissible operators constitutes a problem. The understanding of the problem situation and its step-by-step transformation, based on planning and reasoning, constitute the process of problem solving.

The IALSS builds on its predecessor, the 1994 International Adult Literacy Survey (IALS). The IALSS numeracy scale expands the quantitative literacy domain measured in 1994 and is a broader, more inclusive measure of mathematics skills and knowledge. Problem solving is a new domain in 2003. The prose and document literacy scales used in 2003, however, are identical to those carried by the IALS in 1994. Thus, for several countries including Canada, it is now possible to examine both the current distributions of prose and document literacy and how these have evolved between 1994 and 2003.

Text box C

The four domains: Prose and document literacy, numeracy and problem solving

The same prose and document literacy scales are used in both the 1994 IALS and the 2003 IALSS. For both domains, the proficiency scales from the two surveys were linked through the inclusion of a subset of test items originally used in 1994. Thus, for several countries including Canada, the current distributions of prose and document literacy can be compared to those in 1994 to see how these have evolved.

The 2003 IALSS numeracy scale builds on the quantitative literacy domain measured in 1994, providing a broader, more inclusive measure of mathematics skills and conceptual mathematical knowledge. This expanded scale measures more than the ability to perform mathematical operations on numbers embedded in text by including many tasks that require no or little reading.

Finally, the IALSS carried tasks to assess proficiency in problem solving. This new domain was validated through rigorous testing and displays unique characteristics not found in the other measures. To some extent, it requires the integration of the knowledge and skills measured by the literacy and numeracy domains and their application to new situations. It also implicates basic logical tools needed to provide effective solution strategies to the problems presented in

Text box C (concluded)

The four domains: Prose and document literacy, numeracy and problem solving

everyday life. These include the ability to order, evaluate and prioritize a series of factors and to discriminate, plan, analyze and reason through a variety of choices in order to arrive at an effective solution to a given problem.

The conceptualization and definitions of the four domains as well as examples of actual test items used in the assessment are presented in Annex B. Readers requiring additional technical information on the psychometric aspects of the study are referred to Statistics Canada (2004).

How to interpret the IALSS

Like the IALS before it, the 2003 IALSS conceptualizes proficiency along a continuum that denotes how well adults use information to function in society and the economy. The IALSS does not measure the absence of competencies rather it measures knowledge and skills in the four domains along a broad range of ability. Consequently, the results cannot be used to classify population groups as either "literate" or "illiterate".

Proficiency in each domain is measured on a continuous scale. Each scale starts at zero and increases to a theoretical maximum of 500 points. Scores along the scale denote the points at which a person with a given level of performance has an 80 percent probability of successfully completing a task at that level of difficulty (see Text Box D).

Useful summary statistics can be derived that describe the competencies of populations such as their overall average score. Populations with similar average scores, however, may have quite different numbers of low or high performing adults. Thus, one can also look at how the scores are distributed within populations by using percentile scores. Percentile scores are the scores below which a specified percentage of adults are found. Thus, for example, the 5th percentile score is the one below which we find 5 percent of adults in a particular population. Differences in percentile scores tell us something about the degree of equality in proficiency across populations.

The IALSS scores are also grouped into proficiency levels representing a set of tasks of increasing difficulty (see Table I.1). For the prose and document literacy domains as well as the numeracy domain, experts have defined five broad levels of difficulty, each corresponding to a similar range of scores. For the problem solving domain, experts have defined four broad levels of difficulty. In each domain, Level 1 denotes the lowest proficiency level and Level 4/5 the highest.

It is important, for analytical as well as operational reasons, to define a "desired level" of competence for coping with the increasing skill demands of the emerging knowledge and information economy. Level 3 performance is generally chosen as a benchmark because in developed countries, performance above Level 2 is generally associated with a number of positive outcomes. These include increased civic participation, increased economic success and independence, and enhanced opportunities for lifelong learning and personal literacy (Kirsch, I., et al., 1993; Murray, T.S. et al., 1997; Tuijnman, A., 2001). Whereas individuals at proficiency Levels 1 and 2 typically have not yet mastered the minimum foundation of literacy needed to attain higher levels of performance (Strucker, J., Yamamoto, K. 2005).

Secondary analysis of the 1994 IALS data has yielded consistent evidence that the performance difference between Level 2 and Level 3 on the prose, document and quantitative literacy scales is substantive and corresponds to a significant difference in measurable benefits accruing to citizens in OECD countries (OECD and HRDC, 1997). Results of preliminary analysis of the IALSS data, including the new numeracy scale, are consistent with this finding. For this reason, some of the analyses contained in this report anchor the scales at the cut point between Levels 2 and 3, thus highlighting the distributions above and below this threshold for the prose, document and numeracy domains. In contrast, interpretation of the problem solving domain (see Table I.2) is more complex and no single "desirable" threshold has yet been set.

Thus, the tables and charts included in this report provide multiple ways to examine how the distributions of competencies differ across Canada.

Text box D

Measuring proficiency

For IALSS, each proficiency scale starts at zero and increases to a theoretical maximum of 500 points. Scores along the scale denote the points at which a person with a given level of performance has an 80 percent probability of successfully completing a task at that level of difficulty. For instance, a person with an assessed performance at 250 points has an 80 percent probability of correctly answering a task with an estimated difficulty level of 250. The same individual would have an "80 percent plus" probability of correctly answering a simpler task (about 95 percent for a task with a complexity of 200) and a diminished probability (less than 80 percent) of successfully completing a more difficult task (about 40 percent for a task with a complexity of 300) (Kirsch, Jungeblut and Campbell, 1992).

Interestingly, while the probability of a correct response may approach zero as the tasks become more difficult, it can never quite reach it because there is always some chance, however small, that a correct answer will be provided regardless of ability. Accordingly, the results presented in this report measure performance along a proficiency continuum. The scales do not measure the absence of a competence, and thus cannot distinguish those who have from those who lack a specific competency.

The proficiency levels used for IALSS are useful in summarizing the results but also have some limitations. First, the relatively small proportions of respondents who actually reach Level 5 do not always allow for accurate reporting. For this reason, whenever results are presented by proficiency level, Levels 4 and 5 are combined. Second, as shown in Tables I.1 and I.2, the levels indicate specific sets of abilities and, therefore, the thresholds for the levels are not equidistant. The ranges of scores in each level are therefore not identical. In fact, for all four domains, Level 1 captures almost half of the scale. The thresholds for the problem solving domain are set somewhat differently and Level 1 covers precisely half of the scale. Level 1 includes all basic abilities required to attain higher levels. In other words, the ability to read may lie somewhere in Level 1, but the ability to understand and use what has been read comes in gradations of complexity from Level 1 to Level 5. The upshot of the relatively large ranges of scores in Level 1 on each of the scales is that there are multiple sub-levels of proficiency within this level. The range includes those who can barely read at all as well as those who read poorly or inattentively.[4]

Table I.1

Five levels of difficulty for the prose, document and numeracy domains

	Prose	Document	Numeracy
Level 1 (0 to 225)	Most of the tasks in this level require the respondent to read relatively short text to locate a single piece of information which is identical to or synonymous with the information given in the question or directive. If plausible but incorrect information is present in the text, it tends not to be located near the correct information.	Tasks in this level tend to require the respondent either to locate a piece of information based on a literal match or to enter information from personal knowledge onto a document. Little, if any, distracting information is present.	Tasks in this level require the respondent to show an understanding of basic numerical ideas by completing simple tasks in concrete, familiar contexts where the mathematical content is explicit with little text. Tasks consist of simple, one-step operations such as counting, sorting dates, performing simple arithmetic operations or understanding common and simple percents such as 50%.
Level 2 (226 to 275)	Some tasks in this level require respondents to locate a single piece of information in the text; however, several distracters or plausible but incorrect pieces of information may be present, or low-level inferences may be required. Other tasks require the respondent to integrate two or more pieces of information or to compare and contrast easily identifiable information based on a criterion provided in the question or directive.	Tasks in this level are more varied than those in Level 1. Some require the respondents to match a single piece of information; however, several distracters may be present, or the match may require low-level inferences. Tasks in this level may also ask the respondent to cycle through information in a document or to integrate information from various parts of a document.	Tasks in this level are fairly simple and relate to identifying and understanding basic mathematical concepts embedded in a range of familiar contexts where the mathematical content is quite explicit and visual with few distracters. Tasks tend to include one-step or two-step processes and estimations involving whole numbers, benchmark percents and fractions, interpreting simple graphical or spatial representations, and performing simple measurements.
Level 3 (276 to 325)	Tasks in this level tend to require respondents to make literal or synonymous matches between the text and information given in the task, or to make matches that require low-level inferences. Other tasks ask respondents to integrate information from dense or lengthy text that contains no organizational aids such as headings. Respondents may also be asked to generate a response based on information that can be easily identified in the text. Distracting information is present, but is not located near the correct information.	Some tasks in this level require the respondent to integrate multiple pieces of information from one or more documents. Others ask respondents to cycle through rather complex tables or graphs which contain information that is irrelevant or inappropriate to the task.	Tasks in this level require the respondent to demonstrate understanding of mathematical information represented in a range of different forms, such as in numbers, symbols, maps, graphs, texts, and drawings. Skills required involve number and spatial sense, knowledge of mathematical patterns and relationships and the ability to interpret proportions, data and statistics embedded in relatively simple texts where there may be distracters. Tasks commonly involve undertaking a number of processes to solve problems.
Level 4 (326 to 375)	These tasks require respondents to perform multiple-feature matches and to integrate or synthesize information from complex or lengthy passages. More complex inferences are needed to perform successfully. Conditional information is frequently present in tasks at this level and must be taken into consideration by the respondent.	Tasks in this level, like those at the previous levels, ask respondents to perform multiple-feature matches, cycle through documents, and integrate information; however, they require a greater degree of inference. Many of these tasks require respondents to provide numerous responses but do not designate how many responses are needed. Conditional information is also present in the document tasks at this level and must be taken into account by the respondent.	Tasks at this level require respondents to understand a broad range of mathematical information of a more abstract nature represented in diverse ways, including in texts of increasing complexity or in unfamiliar contexts. These tasks involve undertaking multiple steps to find solutions to problems and require more complex reasoning and interpretation skills, including comprehending and working with proportions and formulas or offering explanations for answers.
Lev el 5 (376 to 500)	Some tasks in this level require the respondent to search for information in dense text which contains a number of plausible distracters. Others ask respondents to make high-level inferences or use specialized background knowledge. Some tasks ask respondents to contrast complex information.	Tasks in this level require the respondent to search through complex displays that contain multiple distracters, to make high-level text-based inferences, and to use specialized knowledge.	Tasks in this level require respondents 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, draw inferences, or generate mathematical justification for answers.

Table I.2

Four levels of difficulty for the problem solving domain

	Problem solving
Level 1 (0 to 250)	Tasks in this level typically require the respondent to make simple inferences, based on limited information stemming from a familiar context. Tasks in this level are rather concrete with a limited scope of reasoning. They require the respondent to make simple connections, without having to check systematically any constraints. The respondent has to draw direct consequences, based on the information given and on his/her previous knowledge about a familiar context.
Level 2 (251 to 300)	Tasks in this level often require the respondent to evaluate certain alternatives with regard to well-defined, transparent, explicitly stated criteria. The reasoning however may be done step by step, in a linear process, without loops or backtracking. Successful problem solving may require to combine information from different sources, as e.g. from the question section and the information section of the test booklet.
Level 3 (301 to 350)	Some tasks in this level require the respondent to order several objects according to given criteria. Other tasks require him/her to determine a sequence of actions/events or to construct a solution by taking non-transparent or multiple interdependent constraints into account. The reasoning process goes back and forth in a non-linear manner, requiring a good deal of self-regulation. At this level respondents often have to cope with multi-dimensional or ill-defined goals.
Level 4 (351 to 500)	Items in this level require the respondent to judge the completeness, consistency and/or dependency among multiple criteria. In many cases, he/she has to explain how the solution was reached and why it is correct. The respondent has to reason from a meta-perspective, taking into account an entire system of problem solving states and possible solutions. Often the criteria and the goals have to be inferred from the given information before actually starting the solution process.

Organization of the report

Chapter 1 presents international, provincial and territorial comparisons of performance in the four domains measured (prose literacy, document literacy, numeracy, and problem solving). This chapter also presents analysis exploring changes in literacy performance over time. Chapter 2 examines variations in the population distributions of proficiency by various demographic characteristics, including age, gender and education. Chapter 3 analyses the proficiency distributions of population groups of special interest, including Aboriginal and immigrant populations. Chapter 4 analyses the relationships between proficiency and economic outcomes such as labour force participation and income inequality. Chapter 5 presents analytical results concerning the magnitude of the effects of proficiency on social outcomes, notably health and civic engagement and investigates patterns in the relationships between proficiency and the use of information and communication technologies (ICT) in Canada. The key findings are summarized and discussed in the Conclusion.

Data underlying the graphs and figures in the body of the report can be found, often with more details, in the tables of Annex A. A detailed overview of the IALSS proficiency scales – how they are defined, how they were measured, how proficiency was summarized and how proficiency estimates should be interpreted can be found in Annex B. Annex C documents key methodological aspects of the study and, finally, Annex D identifies the various federal, provincial, territorial and international agencies responsible for the IALSS.

Note to readers

The proficiency results are generally reported separately for the four measured scales – prose literacy, document literacy, numeracy, and problem solving.

Given the comparative nature of IALSS, every effort was made to establish the validity, reliability, comparability and interpretability of estimates, and to control and quantify errors that might interfere with or bias interpretation. Notes to figures and tables are used to alert readers whenever errors might affect interpretation.

The data presented in this report are estimated from representative but complex samples of adults in Canada. Additionally, there is a degree of error associated with the measurement of skills because they are estimated on the basis of responses to samples of test items. In the report's data tables, standard errors, in parenthesis next to the actual estimates, express the degree of uncertainty associated with both sampling and measurement errors.

When comparing 2003 IALSS results for Canada to either 2003 data for other countries or to the 1994 IALS, it is necessary to use a sub-sample of the IALSS. On one hand, the international comparisons need to be restricted to the 16 to 65 age group, since Canada is the only country that collected data for the over 65 population. On the other hand, the comparisons to the 1994 IALS need to be restricted to the provinces since the northern territories were not part of the 1994 survey. Each of these sub-samples of the 2003 IALSS displays somewhat different proficiency profiles, which needs to be kept in mind.

Table I.3

Geographical distribution of IALSS respondents, Canada and jurisdictions, aged 16 and over, 2003

Province or Territory	Abbreviations	Actual number of respondents	Weighted number of respondents
Newfoundland and Labrador	N.L.	1,299	431,647
Prince Edward Island	P.E.I.	645	111,274
Nova Scotia	N.S.	1,272	747,446
New Brunswick	N.B.	1,466	599,680
Quebec	Que.	4,166	5,994,043
Ontario	Ont.	4,946	9,621,290
Manitoba	Man.	2,267	852,805
Saskatchewan	Sask.	1,234	741,828
Alberta	Alta.	1,307	2,428,843
British Columbia	B.C.	1,849	3,313,116
Yukon	Yokun	1,092	20,738
Northwest Territory	N.W.T.	818	26,541
Nunavut	Nvt.	677	12,592
Canada	**Can.**	**23,038**	**24,901,843**

Endnotes

1. Participating countries included Bermuda, Canada, Italy, Norway, Switzerland, the United States and the Mexican state of Nuevo Leon.
2. The International Adult Literacy Survey (IALS) was fielded between 1994 and 1998 in 22 countries. Data for Canada were collected in 1994. Results are reported in three volumes, see OECD and Statistics Canada (1995), OECD and HRDC (1997), and OECD and Statistics Canada (2000).
3. Psychometrics refers to the branch of psychology that deals with the design, administration, and interpretation of quantitative tests for the measurement of variables such as intelligence, aptitude, and personality traits.
4. The International Survey of Reading Skills is a follow-up to the 2003 IALSS that will provide more information about respondents at Level 1. Results are expected in 2006.

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Chapter 1

Provincial, territorial and international comparisons of adult competencies

This chapter compares the profiles of the adult population in the ten provinces and three territories, in terms of average scores and proficiency levels in four domains: prose literacy, document literacy, numeracy and problem solving. It situates the provinces and territories internationally by comparing them to the six countries other than Canada that participated in the 2003 ALL. Finally, it compares results from the 1994 IALS to those of 2003 for the prose and document domains.

Average proficiency scores of provinces and territories

The average proficiency scores of the adult population aged 16 and over in the Yukon, Alberta, Saskatchewan and British Columbia are above the Canadian averages across all four domains measured in the IALSS 2003 (See Text Box A1) while those of New Brunswick, Newfoundland and Labrador and Nunavut are below. Nova Scotia, the Northwest Territories, Manitoba, Ontario and Prince Edward Island have average scores that are not statistically different than the Canadian averages. In Quebec, the average scores for the two literacy domains are below the national averages while for the numeracy and problem solving domains there is no difference (Table 1.1).

Text table 1.1

Provincial and territorial performance in relation to the Canadian average

	Prose	Document	Numeracy	Problem solving
Average score significantly higher than the Canadian average	Yukon, Alberta, British Columbia, Saskatchewan	Yukon, Alberta, British Columbia, Saskatchewan	Yukon, Alberta, British Columbia, Saskatchewan	Yukon, Alberta, British Columbia, Saskatchewan
Average score not significantly different than the Canadian average	Nova Scotia, Northwest Territories, Manitoba, Prince Edward Island, Ontario	Nova Scotia, Northwest Territories, Manitoba, Prince Edward Island, Ontario	Nova Scotia, Northwest Territories, Manitoba, Prince Edward Island, Ontario, Quebec	Nova Scotia, Northwest Territories, Manitoba, Prince Edward Island, Ontario, Quebec
Average score significantly lower than the Canadian average	Quebec, New Brunswick, Newfoundland and Labrador, Nunavut	Quebec, New Brunswick, Newfoundland and Labrador, Nunavut	New Brunswick, Newfoundland and Labrador, Nunavut	New Brunswick, Newfoundland and Labrador, Nunavut

Source: *International Adult Literacy and Skills Survey, 2003.*

This general pattern wherein western provinces score above the Canadian average, central Canada at the average and eastern provinces below the average was also observed in both the 1989 survey of Literacy Skills Used in Daily Activities (LSUDA) and the 1994 IALS. The IALSS 2003 shows that this same east to west pattern also holds for the territories. However, there are exceptions to this generalization, most notably Nova Scotia and Prince Edward Island.

Text box A1

A note on statistical comparisons

The average proficiency values were computed from the scores of random *samples* of respondents from each jurisdiction across Canada and not from the entire population in each jurisdiction. Consequently it cannot be said with certainty that a *sample* average has the same value as a *population* average that would have been obtained had all residents been assessed. Additionally, a degree of error is associated with the scores describing a respondent's proficiency as these scores are estimates based on responses to a sample of test items. A statistic, called the *standard error,* is used to express the degree of uncertainty associated with the sample error and the measurement error of the test. The standard error can be used to construct *confidence intervals*, which allow one to make inferences about the population mean scores and distributions in a manner that reflects the uncertainty associated with the sample estimates. A 95 percent confidence interval is used in this report and represents a range of plus or minus about two standard errors around the sample average. Using this confidence interval, it can be inferred that the population mean scores or proportions would lie within this confidence interval in 95 out of 100 replications of the measurement, using different samples randomly drawn from the same population.

When comparing scores among countries, provinces, territories or population subgroups, the degree of error in each average score should be considered in order to determine if the averages really are different from each other. Standard errors and confidence intervals may be used as the basis for performing these comparative statistical tests. Such tests can identify, with a known probability, whether there are actual differences in the populations being compared.

For example, when an observed difference is *significant* at the 0.05 level, it implies that the probability is less than 0.05 that the observed difference could have occurred because of sampling and measurement error. When comparing jurisdictions, extensive use is made of this type of test to reduce the likelihood that any spurious differences due to sampling and measurement error be interpreted as real.

Only statistically significant differences at the 0.05 level are noted in this report, unless otherwise stated. This means that the 95 percent confidence intervals for the averages being compared do not overlap. Due to rounding error, some non-overlapping confidence intervals share an upper or lower limit. All statistical differences are based on un-rounded data.

Table 1.1 groups provinces and territories with respect to how they compare to the Canadian average scores. Figures 1.1A to D indicate whether the average scores of the provinces and territories differ from one another in a statistically significant way. For each pair, across all four domains, the figures show which scores are statistically higher, lower or where the differences are not statistically significant. The provinces and territories are ranked by average score from highest to lowest across the columns and down the rows.

The Yukon has the highest average proficiency scores in all four domains. Its prose literacy score is significantly higher not just than the Canadian average but also than all other provinces and territories. The higher than average score in the

Yukon is undoubtedly a result of many factors, some of which will be expanded upon in this report, including age, occupation, industry of employment and the literacy performance of its Aboriginal people. According to the 2001 Census of Canada and the Yukon Labour Force Survey, 2003, when compared to Canada as a whole, the Yukon's population is more concentrated in the 25 to 54 age group and in management, social science and government occupations. As will be seen in subsequent chapters, literacy performance is higher among these ages and types of occupations.

In each of the four domains, Nunavut's scores are lower than all other provinces and territories. The IALSS assessments were conducted in English or French. The mother tongue of over 60 percent of respondents in Nunavut, however, is neither English nor French but Inuktitut. Further, over half of the Nunavut respondents use Inuktitut on a daily basis (other Aboriginal languages are also used regularly in Nunavut). Since IALSS measures literacy of respondents in English or French, it may not provide an accurate profile of the competencies of the population in Nunavut.

In all four domains, the scores of the adult population in Saskatchewan, Alberta and British Columbia are significantly above the national average and their scores are similar to each other. After the Yukon, these three provinces have the highest average scores of all jurisdictions with the exception of Nova Scotia and the Northwest Territories in selected domains.

The average prose and document literacy scores for Quebec, New Brunswick, Newfoundland and Labrador are similar to one another; however, each of these provinces has a score lower than the Canadian average.

Five jurisdictions, Nova Scotia, the Northwest Territories, Manitoba, Prince Edward Island and Ontario have average scores in all domains that are about the same as the Canadian national average. Within this middle performing group, there are no significant differences in their average scores.

While Prince Edward Island and Ontario belong to the middle performing group of provinces, relative to the Canadian average, their average prose literacy scores are not really much different from those of New Brunswick and Quebec - two provinces that belong to the lower performing group.

In contrast, Nova Scotia and the Northwest Territories, which also belong to the middle performing group of provinces, have average prose literacy scores that are not much different from the higher performing provinces. The same is true for the Northwest Territories in the document literacy domain.

On the numeracy scale, however, Nova Scotia's average score is at least 10 points lower than any of the scores of the jurisdictions belonging to the higher performing group. On the problem solving scale, the Northwest Territories' average score is 9 points below that of the higher group.

Figure 1.1 A and B

Comparisons of provinces and territories based on average scores, by domain, population aged 16 and over, 2003

A. Prose

Provinces and Territories	Comparison													
Reference	Yukon	Sask.	Alta.	B.C.	N.S.	N.W.T.	Man.	P.E.I.	**Canada**	Ont.	Que.	N.B.	N.L.	Nvt.
Yukon		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Saskatchewan	▼		•	•	•	•	▲	▲	▲	▲	▲	▲	▲	▲
Alberta	▼	•		•	•	•	▲	▲	▲	▲	▲	▲	▲	▲
British Columbia	▼	•	•		•	•	▲	▲	▲	▲	▲	▲	▲	▲
Nova Scotia	▼	•	•	•		•	•	•	•	•	▲	▲	▲	▲
Northwest Territories	▼	•	•	•	•		•	•	•	•	▲	▲	▲	▲
Manitoba	▼	▼	▼	▼	•	•		•	•	•	▲	▲	▲	▲
Prince Edward Island	▼	▼	▼	▼	•	•	•		•	•	•	•	▲	▲
Canada	▼	▼	▼	▼	•	•	•	•		•	▲	▲	▲	▲
Ontario	▼	▼	▼	▼	•	•	•	•	•		•	•	▲	▲
Quebec	▼	▼	▼	▼	▼	▼	▼	•	▼	•		•	•	▲
New Brunswick	▼	▼	▼	▼	▼	▼	▼	•	▼	•	•		•	▲
Newfoundland and Labrador	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•		▲
Nunavut	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	

B. Document

Provinces and Territories	Comparison													
Reference	Yukon	Alta.	Sask.	B.C.	N.W.T.	N.S.	Man.	**Canada**	P.E.I.	Ont.	Que.	N.B.	N.L.	Nvt.
Yukon		•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Alberta	•		•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Saskatchewan	•	•		•	•	•	▲	▲	▲	▲	▲	▲	▲	▲
British Columbia	▼	•	•		•	▲	▲	▲	▲	▲	▲	▲	▲	▲
Northwest Territories	▼	▼	•	•		•	▲	▲	▲	▲	▲	▲	▲	▲
Nova Scotia	▼	▼	•	▼	•		•	•	•	•	▲	▲	▲	▲
Manitoba	▼	▼	▼	▼	•	•		•	•	•	▲	▲	▲	▲
Canada	▼	▼	▼	▼	•	•	•		•	•	▲	▲	▲	▲
Prince Edward Island	▼	▼	▼	▼	•	•	•	•		•	•	•	▲	▲
Ontario	▼	▼	▼	▼	•	•	•	•	•		▲	▲	▲	▲
Quebec	▼	▼	▼	▼	▼	▼	▼	▼	•	▼		•	•	▲
New Brunswick	▼	▼	▼	▼	▼	▼	▼	▼	•	▼	•		•	▲
Newfoundland and Labrador	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•		▲
Nunavut	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	

▲ Mean proficiency significantly higher than comparison jurisdiction
• No statistically significant difference from comparison jurisdiction
▼ Mean proficiency significantly lower than comparison jurisdiction

Note: Jurisdictions are ranked by the average proficiency score.
Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 1.1 C and D (concluded)

Comparisons of provinces and territories based on average scores, by domain, population aged 16 and over, 2003

C. Numeracy

Provinces and Territories	Comparison													
Reference	Yukon	Alta.	Sask.	B.C.	N.W.T.	**Canada**	N.S.	Man.	Ont.	P.E.I.	Que.	N.B.	N.L.	Nvt.
Yukon		•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Alberta	•		•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Saskatchewan	▼	•		•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲
British Columbia	▼	•	•		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Northwest Territories	▼	▼	•	▼		•	•	•	•	•	•	▲	▲	▲
Canada	▼	▼	▼	▼	•		•	•	•	•	•	▲	▲	▲
Nova Scotia	▼	▼	▼	▼	•	•		•	•	•	•	▲	▲	▲
Manitoba	▼	▼	▼	▼	•	•	•		•	•	•	▲	▲	▲
Ontario	▼	▼	▼	▼	•	•	•	•		•	•	▲	▲	▲
Prince Edward Island	▼	▼	▼	▼	•	•	•	•	•		•	•	•	▲
Quebec	▼	▼	▼	▼	•	•	•	•	•	•		•	▲	▲
New Brunswick	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	•		•	▲
Newfoundland and Labrador	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	▼	•		▲
Nunavut	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	

D. Problem solving

Provinces and Territories	Comparison													
Reference	Yukon	Alta.	Sask.	B.C.	N.S.	Man.	**Canada**	N.W.T.	Ont.	P.E.I.	Que.	N.B.	N.L.	Nvt.
Yukon		•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Alberta	•		•	•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲
Saskatchewan	•	•		•	•	▲	▲	▲	▲	▲	▲	▲	▲	▲
British Columbia	▼	•	•		▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Nova Scotia	▼	•	•	▼		•	•	•	•	•	•	▲	▲	▲
Manitoba	▼	▼	▼	▼	•		•	•	•	•	•	▲	▲	▲
Canada	▼	▼	▼	▼	•	•		•	•	•	•	▲	▲	▲
Northwest Territories	▼	▼	▼	▼	•	•	•		•	•	•	▲	▲	▲
Ontario	▼	▼	▼	▼	•	•	•	•		•	•	•	▲	▲
Prince Edward Island	▼	▼	▼	▼	•	•	•	•	•		•	•	•	▲
Quebec	▼	▼	▼	▼	•	•	•	•	•	•		•	▲	▲
New Brunswick	▼	▼	▼	▼	▼	▼	▼	▼	•	•	•		•	▲
Newfoundland and Labrador	▼	▼	▼	▼	▼	▼	▼	▼	▼	•	▼	•		▲
Nunavut	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	

▲ Mean proficiency significantly higher than comparison jurisdiction

• No statistically significant difference from comparison jurisdiction

▼ Mean proficiency significantly lower than comparison jurisdiction

Note: Jurisdictions are ranked by the average proficiency score.

Source: *International Adult Literacy and Skills Survey, 2003.*

Incidence of low proficiency in Canada

Another way of assessing Canadian performance across these four domains is to examine the percentage of the population at proficiency Levels 1 and 2. The benefit of this method is that it allows one to see how literacy, numeracy and problem solving abilities are distributed, in varying degrees, in each of the jurisdictions under examination.

For the prose, document and numeracy scales, Level 3 is considered to be the desired threshold or the "…minimum for persons to understand and use information contained in the increasingly difficult texts and tasks that characterize the emerging knowledge society and information economy." [1] (See Table I.1 in the Introduction for a description of the proficiency levels). Such a desired level has not yet been defined for the problem solving scale. (Figures 1.2A through 1.2D present the percentage of the population at each of the proficiency levels.)

Just under half of Canadian adults aged 16 and over, 48 percent, score below Level 3 on the prose and document literacy scales while just over half (55 percent) are below Level 3 on the numeracy scale. For those aged 16 to 65, the proportion below Level 3 on the prose literacy scale is 42 percent (See Text Box B1).

Text box B1

Proficiency among 16 to 65 year-olds

As can be seen in Chapter 2 of this report, age and literacy performance are related. Performance is stronger in the younger age groups. This is clearly seen when the Canadian and jurisdictional average proficiency scores and levels are presented for only those aged 16 to 65; that is, excluding seniors. For example, 42 percent of those aged 16 to 65 score below Level 3 on the prose literacy scale. Yet, for those aged 16 and over the proportion is 48 percent - a reflection of the lower average scores among the 66 and over population. In prose literacy, the average score for the 16 to 65 year-old population is 281, corresponding to Level 3 proficiency. When seniors are included, the average score of those 16 and over is 272, corresponding to Level 2 proficiency. Nevertheless, even if the older population is excluded there remain about 9 million Canadians age 16 to 65 who score below Level 3 in prose literacy.

Table 1.1 in this chapter shows how provinces and territories compare to the national average across the four domains assessed by IALSS for the 16 and over population. When only those 16 to 65 are included, the picture is much the same. The Yukon, Saskatchewan, Alberta and British Columbia jurisdictions have average scores that are above the national average for 16 to 65 year-olds in each of the four domains. Three jurisdictions, New Brunswick, Newfoundland and Labrador and Nunavut, all score below the national average for 16 to 65 year-olds for each of the four domains. One province, Quebec, scores below the national average for prose and document literacy and at the national average for numeracy and problem solving. All other jurisdictions score at the national average for 16 to 65 year-olds across all four domains.

For the 16 and over population, the Yukon has average proficiency scores that are higher than all other jurisdictions across all four domains, partly due to the fact that the Yukon's population is more concentrated in the 25 to 54 age range. When the 66 and over population is excluded, the average scores for the 16 to 65 year-old population in the Yukon and the other high performing jurisdictions (Saskatchewan, Alberta and British Columbia) are more similar (Tables 1.6 to 1.9 in Annex A present data for the 16 to 65 year-old population).

At both the national and jurisdictional levels, the proportions of the population age 16 and over below Level 3 tend to be higher in the numeracy domain than in either the prose or document literacy domains (Table 1.2).

Text table 1.2

Proportions of the adult population 16 and over at proficiency Levels 1 and 2 by groups of provinces and territories and by prose, document and numeracy domains

	Yukon	British Columbia, Alberta, Saskatchewan	Northwest Territories, Manitoba, Ontario, Nova Scotia, Prince Edward Island	Quebec, New Brunswick, Newfoundland and Labrador	Nunavut	Canada
			Percent below level 3			
Prose	33.4	39.5 to 40.1	44.8 to 49.5	54.6 to 56.0	73.0	**47.7**
Document	35.5	40.2 to 40.6	46.1 to 50.6	56.7 to 58.3	73.8	**48.6**
Numeracy	43.2	48.7 to 48.9	53.0 to 59.6	58.9 to 65.3	78.1	**55.1**

Source: *International Adult Literacy and Skills Survey, 2003.*

In each of the three domains, the province or territory with the lowest proportion of its population below Level 3 is the Yukon. In the prose literacy domain, for instance, about one-third of the Yukon's population is below Level 3.

Next are the provinces of Alberta, British Columbia and Saskatchewan which have slightly larger, yet very similar, proportions of their population below Level 3 in each of the three domains. The Northwest Territories, Manitoba, Ontario, Nova Scotia and Prince Edward Island have proportions of their population with less than Level 3 proficiency that are about the Canadian average.

The differences between Alberta, British Columbia and Saskatchewan and the group of provinces and territories that form the average group are significant, over 4 percentage points, in each of the prose literacy, document literacy and numeracy domains.

With more than 54 percent of their population at Levels 1 and 2 in the prose literacy domain, and higher proportions in the other domains, Quebec, New Brunswick and Newfoundland and Labrador clearly have a significant proportion of their population aged 16 and over at risk of not being able to fully reach their social and economic potential. As at the national level, the proportions at Levels 1 and 2 are lower when only the population between the ages of 16 and 65 are considered (See Annex A Table 1.7).

Text table 1.3

Proportions of the adult population 16 and over at proficiency Level 1 by groups of provinces and territories and by prose, document and numeracy domains

	Yukon	British Columbia, Alberta, Saskatchewan	Northwest Territories, Manitoba, Ontario, Nova Scotia, Prince Edward Island	Quebec, New Brunswick, Newfoundland and Labrador	Nunavut	Canada
			Percent at level 1			
Prose	10.5	13.5 to 17.3	17.3 to 21.3	22.3 to 24.0	47.2	**19.9**
Document	10.8	14.6 to 17.4	19.2 to 22.7	25.1 to 26.5	46.9	**21.5**
Numeracy	15.7	19.7 to 21.4	25.0 to 27.0	27.6 to 32.0	55.7	**25.5**

Source: *International Adult Literacy and Skills Survey, 2003.*

Finally, over 73 percent of adult population in Nunavut performs below Level 3, likely in large part a reflection of the languages of the IALSS assessment.

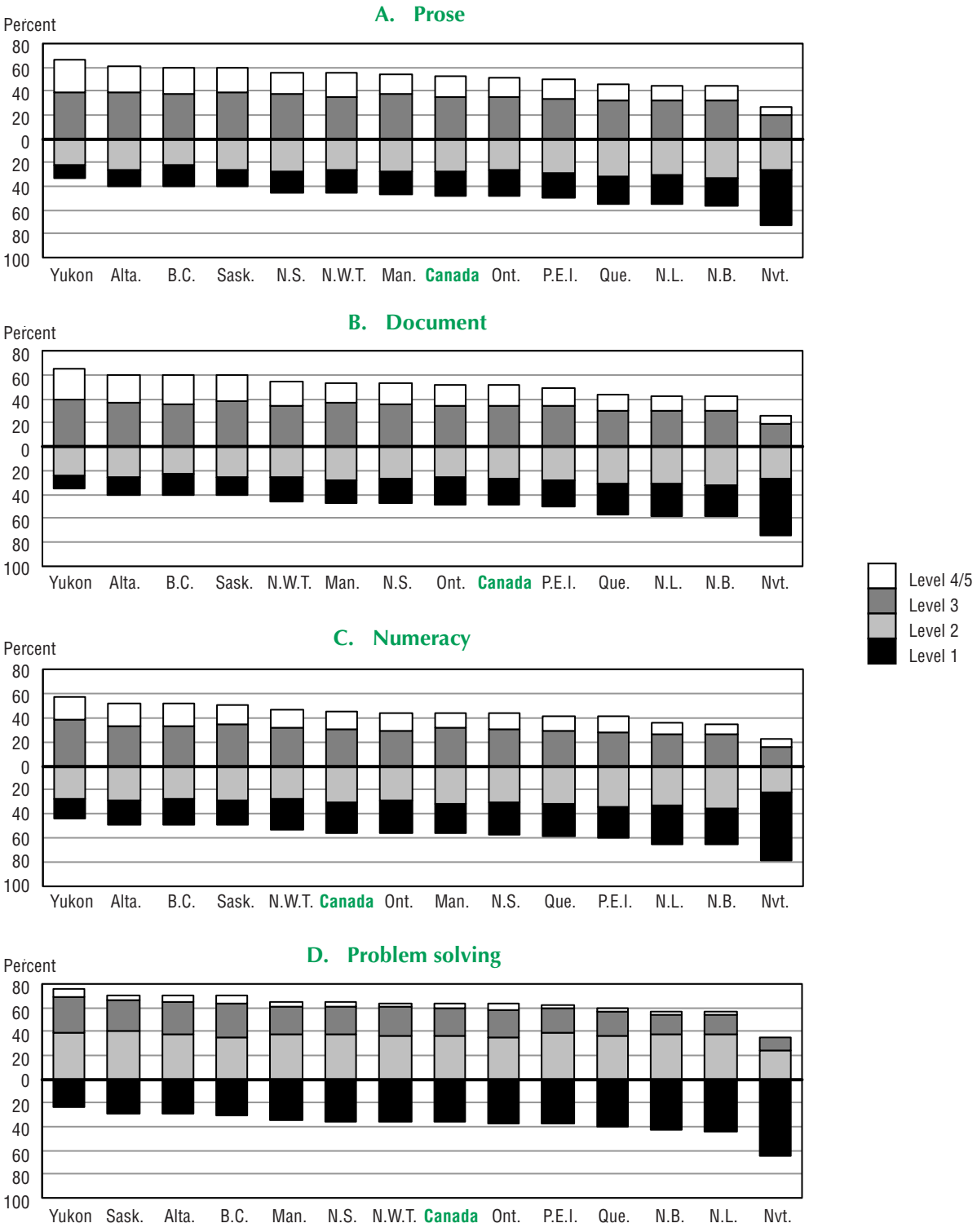
Individuals who score at Level 1 on the proficiency scales have very limited abilities to locate, understand and use information, or to do simple, one-step numerical operations. Overall, the proportion of Canadian adults who score at this level is about 20 percent on both the prose and document literacy scales, about 25 percent on the numeracy scale and about 36 percent on the problem solving scale (Table 1.3).

Again, the proportions are the lowest in the Yukon and the highest in Nunavut. British Columbia, Alberta and Saskatchewan had proportions lower than the Canadian average, and Quebec, New Brunswick and Newfoundland and Labrador had proportions above average.

The next chapters provide insight into the factors associated with these scores.

Figure 1.2 A to D

Percent of population at each proficiency level, Canada and jurisdictions, population, aged 16 and over, 2003



Notes: Figure 1.2D contains certain unreliable estimates. Consult the tables in Annex A for the standard error of each estimate.
Jurisdictions are ranked by percent of population at or above Level 3 for the prose, document and numeracy scales.
Jurisdictions are ranked by percent above Level 1 for the problem solving scale.

Source: *International Adult Literacy and Skills Survey, 2003.*

Canadian and international comparisons

Variation in the distribution of proficiencies between Canadian jurisdictions is mirrored by variation between countries (Figures 1.3 A to D). International comparisons allow us to assess the Canadian results against external benchmarks. Some provinces and territories perform as well as, or even better than, the best performing countries participating in the ALL study, while others perform less well.[2] The literacy performance of 16 to 65 year-olds in the Yukon, Saskatchewan, Alberta and British Columbia, for example, compares favourably with Bermuda and Norway, the best performing countries. The average literacy performance of the adult populations of most Canadian provinces and territories is significantly higher than that of the adult population in the United States.

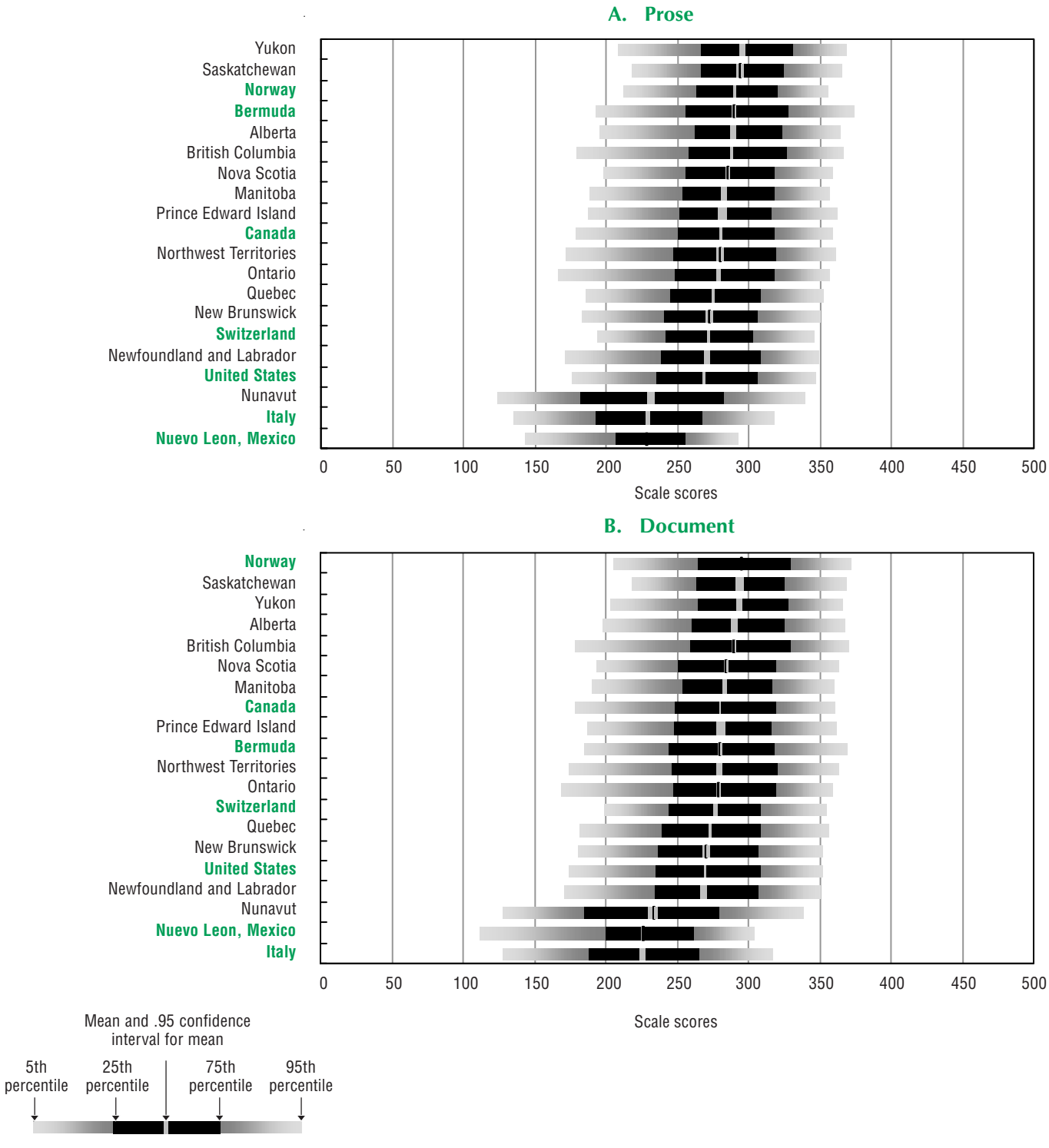
The length of the bar in Figures 1.3 A to D denotes the extent of inequality in performance within a jurisdiction with longer lines indicating greater inequality. On the prose literacy scale, British Columbia, the Northwest Territories and Ontario have a relatively large spread in scores, like Bermuda and Italy. In contrast, the shorter bar for Saskatchewan, like Switzerland, indicates a tighter distribution of scores.

These findings, taken as a whole, are useful because they also indicate the degree of inequality in the distribution of proficiency between each jurisdiction which "… is associated with the distribution of social, economic, health and educational outcomes."[3]

Figures 1.3 A to D show how the proficiency scores are distributed within populations by using percentiles. The extreme left of the bars shows the scores for the weakest performers in the population (known as the 5th percentile where 95 percent of the population scores above this level) while the extreme right provides the score for the strongest performers (known as the 95th percentile where only 5 percent of the population score higher). In between are the middle performers (the 25th and 75th percentiles) and in the centre of the bar is the mean or average score. When plotted along a line, these points provide a clear picture of the spread of literacy and numeracy performance within each jurisdiction. For instance, on the prose scale, the average score for both the Yukon and Saskatchewan is greater than the 75th percentile scores in Nunavut, Italy and the Mexican State of Nuevo Leon.

Figure 1.3 A and B

Provincial, territorial and international comparative distribution of average scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles on proficiency scales ranging from 0 to 500 points, population aged 16 to 65, 2003

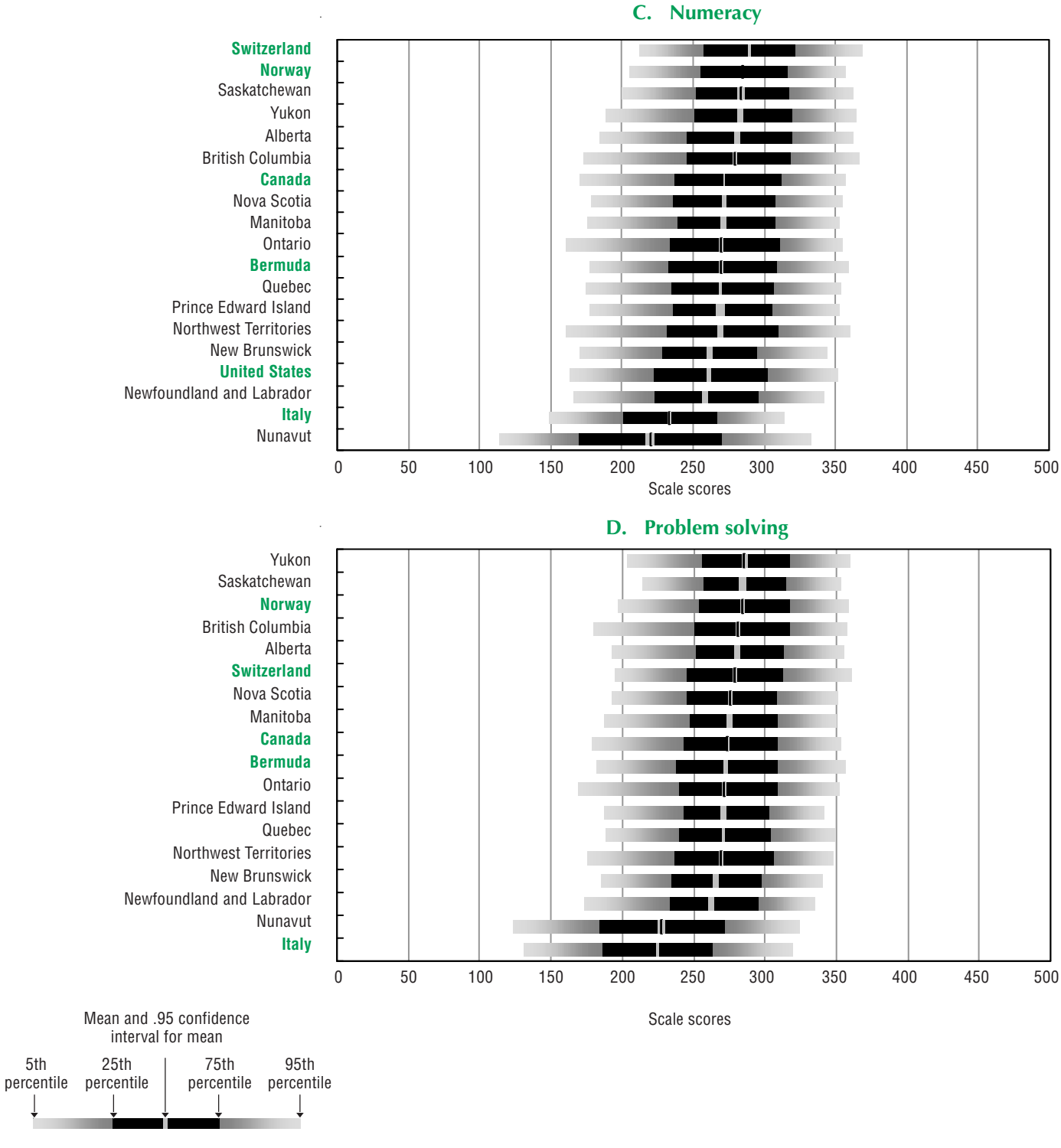


Notes: Countries, Canadian provinces and territories are ranked by average scores for each domain.
The province of Nuevo Leon in Mexico did not field the numeracy domain.
Switzerland (Italian), the United States, and the province of Nuevo Leon in Mexico did not field the problem solving domain.

Source: *Adult Literacy and Life Skills Survey, 2003; International Adult Literacy and Skills Survey, 2003.*

Figure 1.3 C and D (concluded)

Provincial, territorial and international comparative distribution of average scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles on proficiency scales ranging from 0 to 500 points, population aged 16 to 65, 2003



Notes: Countries, Canadian provinces and territories are ranked by average scores for each domain.
The province of Nuevo Leon in Mexico did not field the numeracy domain.
Switzerland (Italian), the United States, and the province of Nuevo Leon in Mexico did not field the problem solving domain.

Source: *Adult Literacy and Life Skills Survey, 2003; International Adult Literacy and Skills Survey, 2003.*

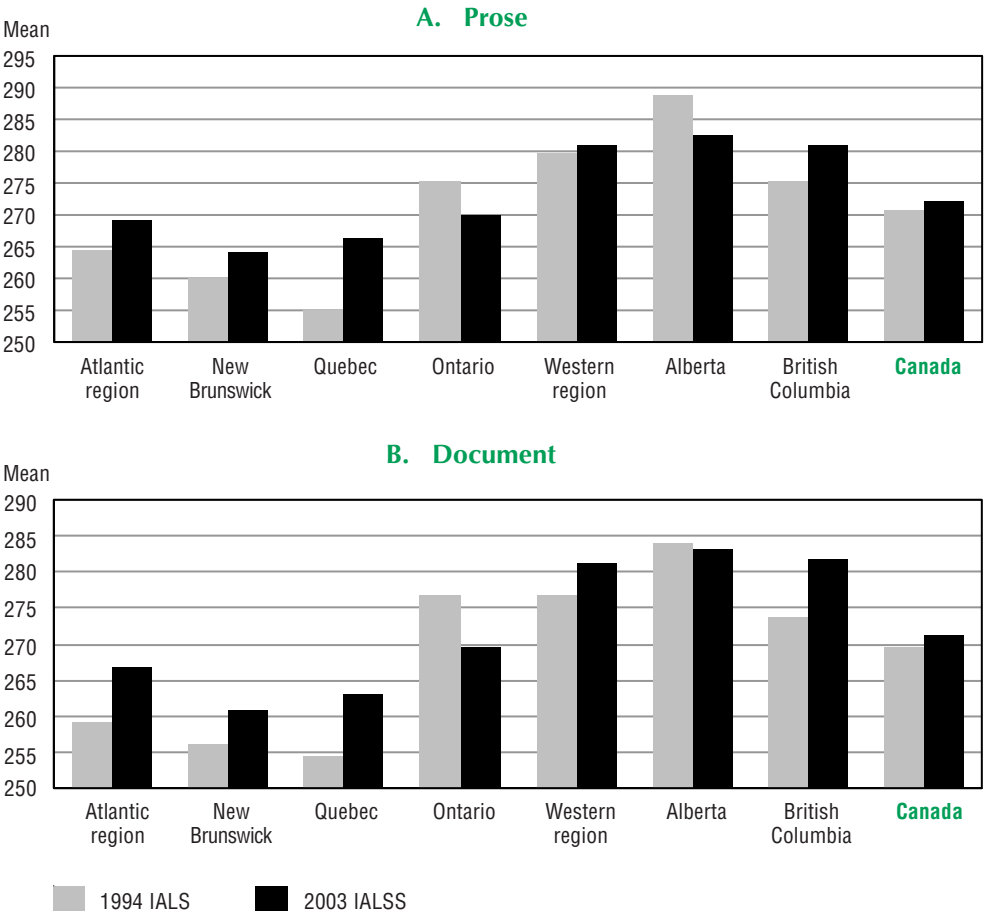
Change in literacy between 1994 and 2003

Overall, there has been little change in the distribution of literacy between 1994 and 2003. For Canada, the average prose literacy score for adults aged 16 and over was 270 in 1994 and 272 in 2003. On the document literacy scale, the change was equally slight, from 270 to 271, over the same time period. The Canadian experience was not unique – very little change in literacy proficiency was observed in any of the countries who participated in both international surveys.

Similarly, the average literacy scores of the provinces and regions[4] show only small variations over this same period. Generally, the literacy profiles appear to have improved somewhat, with the exception of Ontario and Alberta. However, the only statistically significant changes between 1994 and 2003 were seen in Quebec, where there was an increase in the average prose literacy score from 255 to 266, and in the Atlantic region where there was an increase in the document literacy score from 259 to 267 (Figure 1.4 A and B).

Figure 1.4 A and B

Average literacy scores across selected regions and provinces, population aged 16 and over, 1994 and 2003



Notes: The Western region includes Manitoba, Saskatchewan, Alberta and British Columbia.

The Atlantic region includes Newfoundland and Labrador, Nova Scotia, New Brunswick and Prince Edward Island.

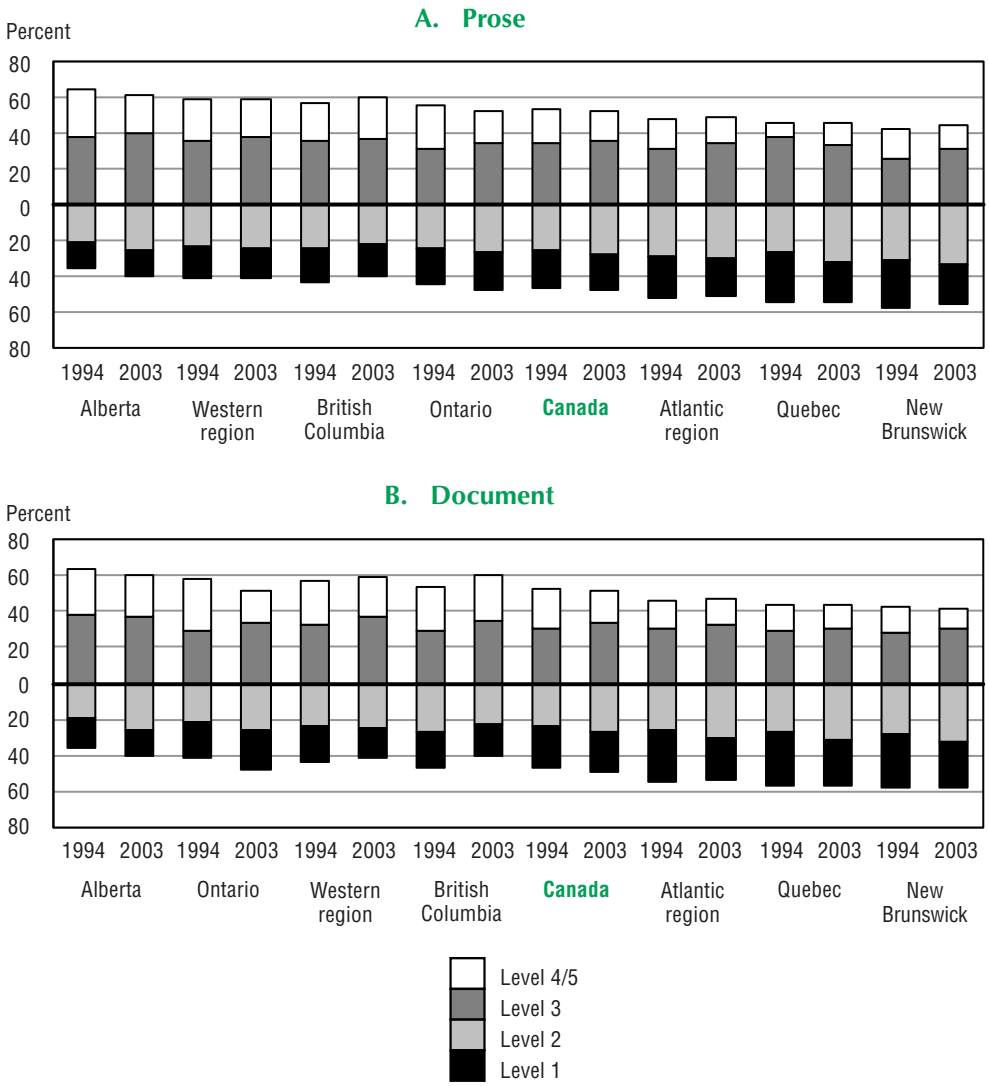
The northern territories are excluded from the Canadian average.

Source: *International Adult Literacy Survey, 1994; International Adult Literacy and Skills Survey, 2003.*

Figure 1.5 A and B shows that there have been some slight shifts in the distribution of proficiency between 1994 and 2003. In general, the proportions at the lowest and highest levels have diminished while the proportions in the middle have grown correspondingly. In other words, there appear to be fewer Canadians at the highest and lowest literacy levels in 2003 than in 1994 and more at Levels 2 and 3. Few of the observed changes are statistically significant, however. Accordingly, the cautious conclusion is that there has been little change in the literacy profiles of Canadians between 1994 and 2003.

Figure 1.5 A and B

Changes in distribution of literacy levels across selected regions and provinces, population aged 16 and over, 1994 and 2003



Notes: The Western region includes Manitoba, Saskatchewan, Alberta and British Columbia.
The Atlantic region includes Newfoundland and Labrador, Nova Scotia, New Brunswick and Prince Edward Island.
The northern territories are excluded from the Canadian average.
Regions and provinces are ranked in descending order according to the percentage above Level 2 in 1994.

Source: *International Adult Literacy Survey, 1994; International Adult Literacy and Skills Survey, 2003.*

While the findings are suggestive, the small variations observed in the literacy profiles of 1994 and 2003 in relation to the magnitude of the combined error associated with these estimates suggest the need to remain cautious in interpretation. That some improvement is observed for some geographic entities must be tempered with the knowledge that changes in the literacy profiles in Canada, if real statistically, were quite small on a macro level. For this reason, this report will re-examine the issue in subsequent chapters. Are there specific demographic groups that show more marked change than others? Could the small, observed change in the national average mask a larger, more important shift in the scores of specific sub-groups? These are questions that will be addressed in the remainder of this report.

Conclusions

This chapter presents a comparative perspective on the levels and distributions of adult proficiency in four domains – prose literacy, document literacy, numeracy and problem solving – for the provinces and territories, for Canada, and for other countries that participated in the 2003 ALL survey. In addition, prose and document literacy scores in 1994 and 2003 are compared.

The results show that literacy in Canada is not uniformly distributed. The average literacy, numeracy and problem solving scores of adults in the Yukon, Alberta, Saskatchewan and British Columbia are significantly higher than the national average. Scores in New Brunswick, Newfoundland and Labrador, and Nunavut are lower than the Canadian average across all four domains.

There are large numbers of adults aged 16 and over in all provinces and territories with low levels of literacy in 2003. Nationally, 48 percent of this adult population – 12 million Canadians over the age of 16 – perform below Level 3 on the prose and document literacy scales (about 9 million or 42 percent of Canadians aged 16 to 65). They are likely to face real challenges coping with the emerging skill demands of a knowledge-based economy.

The literacy scores show very little variation between 1994 and 2003. In most provinces and territories, the average literacy scores appear to be somewhat higher in 2003 than in 1994 but the differences are not statistically significant. The exceptions are Quebec, where a marked improvement in prose literacy is observed, and the Atlantic region, with a significant increase in document literacy.

Endnotes

1. OECD and Statistics Canada (2005), p. 35.
2. Note that the numbers presented in this section are somewhat different from those above, in order to make them internationally comparable. Unlike Canada, most countries participating in ALL did not include a sample of residents over 65 years. Thus, in order to maintain comparability, the provincial and territorial results have likewise been constrained to respondents aged 16 to 65.
3. OECD and Statistics Canada (2005), p. 33.
4. The analysis of change is limited because the relatively small sample sizes in the 1994 IALS do not support the reliable estimation of provincial level data. Instead, four regions can be compared: the Atlantic provinces, Quebec, Ontario and the Western provinces. Thanks to supplementary samples drawn for the 1994 survey, it is also possible to provide comparative data for New Brunswick, Alberta and British Columbia, though they are also included in their respective regional units. Comparative data for the northern territories are not available.

References

Jones, S. (1996), "Demographic distributions of literacy in Canada", in Statistics Canada, *Reading the future: A portrait of literacy in Canada.* Ottawa: Author.

OECD and Statistics Canada (2005), *Learning a living: First results of the Adult Literacy and Life Skills Survey*. Paris and Ottawa: Authors.

Chapter 2

Demographic characteristics and proficiencies

This chapter explores the relationships between age, gender, education level and proficiency in the four assessed domains. An understanding of these relationships is important as the level of competencies benefit both the individual and society. It can assist Canadians in making informed decisions whether they need employment, participate in civic activities or undertake financial decisions.

Prose literacy proficiency and age

The relationship between age and ability level is complex. Research suggests several mechanisms may be at play. On one hand, cognitive performance may diminish as individuals age (Smith and Marsiske, 1997). On the other hand, performance may be enhanced as individuals age and accumulate experience, knowledge and skills (Baltes, 1987; Horn and Hofer, 1992; Schaie, 1994; Marsiske and Smith, 1998).

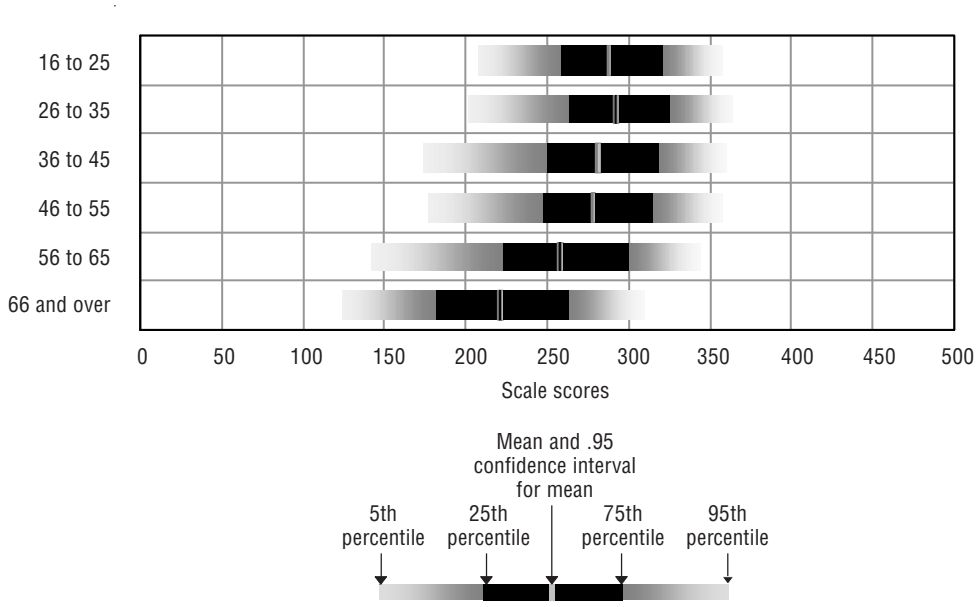
Figure 2.1 shows that proficiency in prose literacy tends to decrease with age, the largest observed decline occurring between the two oldest age groups – those aged 56 to 65 and those over age 65.

At 292, the average score for individuals aged 26 to 35 corresponds to Level 3 literacy, whereas the average score for those over 65, at 221, corresponds to the upper boundary of Level 1 literacy. This difference of 71 points and two proficiency levels is substantial.

With the exception of those over age 65, the largest proportion within each age group scores at Level 3 on the prose literacy scale (Figure 2.2). For those over 65, the largest proportion is found at Level 1. About 18 percent of those over 65 score at Level 3 or above. For the younger age groups, the proportion of persons with proficiency levels at or above Level 3 – the level considered as the desired threshold for coping well in a complex knowledge society - ranges from a high of 67 percent for persons aged 26 to 35 to 42 percent for those aged 56 to 65 years. The literacy performance of the youngest age group, many of whom are still enrolled in school, is close to that of the group aged 26 to 35 years.

Figure 2.1

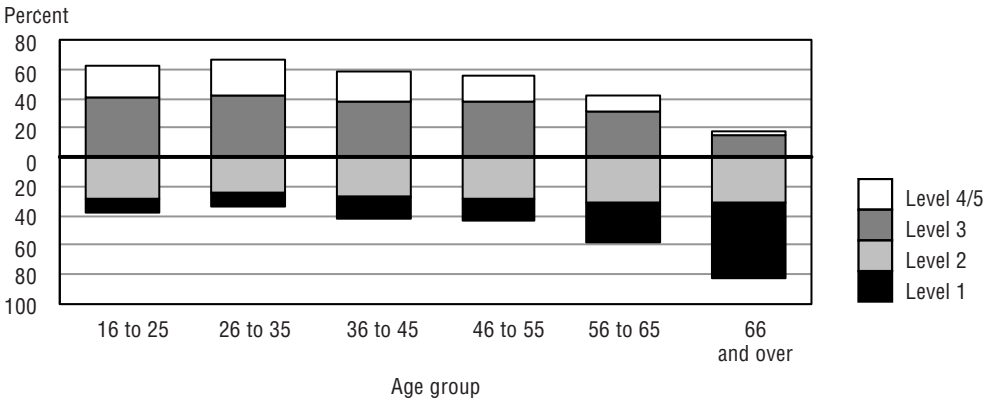
Average prose scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by age group, Canada, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 2.2

Distribution of prose proficiency level, by age group, Canada, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Significant proportions of all age groups are at proficiency Levels 1 and 2. An estimated seven million Canadians between the ages of 16 and 55 are at these levels. Just under two in five 16 to 25 year-olds, the prime age for attending postsecondary education, score at proficiency Levels 1 and 2.

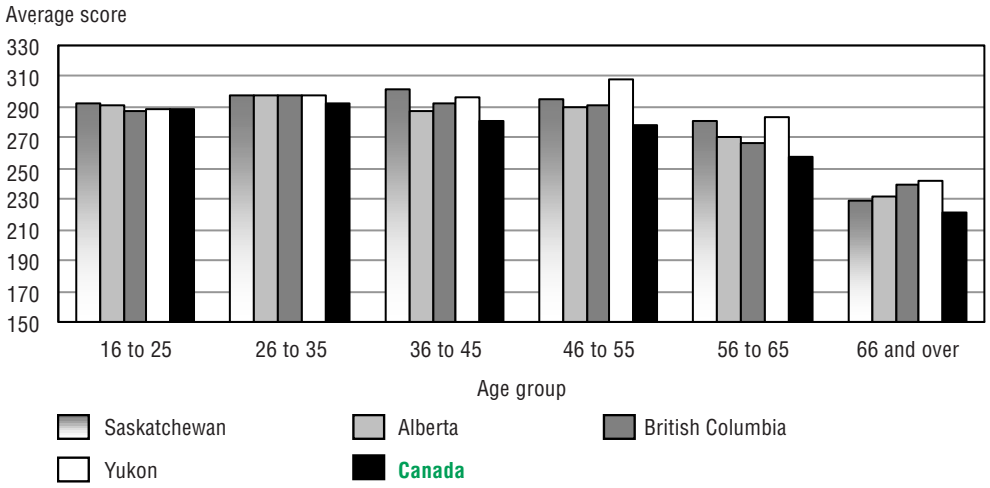
Provincial and territorial variations in proficiency by age group

Four jurisdictions, Saskatchewan, Alberta, British Columbia and the Yukon, have overall average scores above the Canadian average in prose literacy. This pattern of above average performance generally holds for the four oldest age groups; that is, those beyond age 35. For the two youngest age groups, however, their average scores are more similar to the Canadian average (Figure 2.3 A to C).

Compared to the Canadian average, large differences emerge for those aged 46 to 55 in the Yukon. The average score for 46 to 55 year-olds in the Yukon is 30 points higher than the Canadian average and 18 points higher than the same age group in Alberta. It would appear that the higher proficiency scores for this age group help to explain the difference in the overall average proficiency between the Yukon and the other provinces and territories.

Figure 2.3A

Average prose scores, by age group, provinces and territories with scores above the Canadian average, population aged 16 and over, 2003

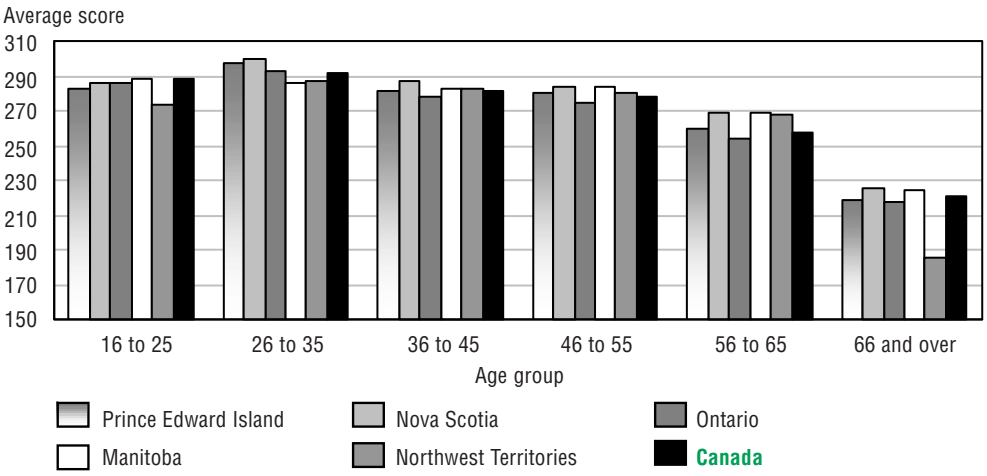


Source: *International Adult Literacy and Skills Survey, 2003.*

A second group of jurisdictions have average prose literacy scores similar to the Canadian average: Prince Edward Island, Nova Scotia, Ontario, Manitoba, and the Northwest Territories. This pattern, where the average prose literacy score does not differ much from the Canadian average, generally holds across individual age groups.

Figure 2.3B

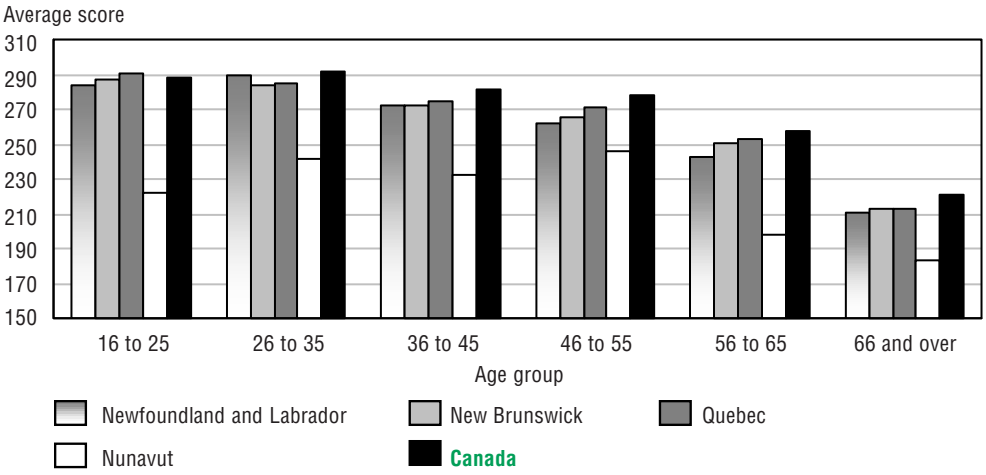
Average prose scores, by age group, provinces and territories with scores similar to the Canadian average, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 2.3C

Average prose scores, by age group, provinces and territories with scores below the Canadian average, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Four jurisdictions have overall average prose literacy scores below the Canadian average, including Newfoundland and Labrador, New Brunswick, Quebec and Nunavut. This general pattern holds across the age groups with a few notable observations. With the exception of Nunavut, the average performance of 16 to 25 year-olds is not much different from the Canadian average. Further, Figure 2.3C shows that for all age groups the average prose literacy scores for Nunavut are much below the Canadian averages. Additionally, the decline in average prose literacy scores is more pronounced between the age groups of 46 to 55 and 56 to 65 in Nunavut than it is in Newfoundland and Labrador, New Brunswick and Quebec. As noted in

Chapter 1, prose literacy for a substantial portion of the population of Nunavut was assessed in a language that was not their mother tongue. The language of the test may have had a greater effect in older age groups.

Literacy proficiencies of age cohorts over time

The findings presented in the previous section describe the proficiency in prose literacy by age based on information available in one time period. In the absence of data that measure the performance of the same individuals over time, it is difficult to answer the question of how literacy proficiency changes with age. However, by comparing the prose literacy scores of a given age cohort at the two points currently available, 1994 and 2003, it is possible to approximate changes in the literacy proficiency of the age cohort.[1]

For this analysis there are five age cohorts. The youngest age cohort is composed of individuals born between 1968 and 1977, and hence, aged 17 to 26 in the 1994 survey and aged 26 to 35 in the 2003 survey. The oldest cohort is made up of individuals born between 1928 and 1937, and hence, aged 57 to 66 in 1994 and 66 to 75 in 2003.

Figure 2.4 presents the results of the comparison of prose literacy for the five age cohorts at two points in time. For each cohort, except the youngest, the average prose literacy scores declined slightly between 1994 and 2003 suggesting a possible ageing effect. The only group for which this difference is statistically significant is the cohort of individuals born between 1948 and 1957. The slight increase in the average proficiency score between 1994 and 2003 for the cohort of individuals born between 1968 and 1977 is not statistically significant.

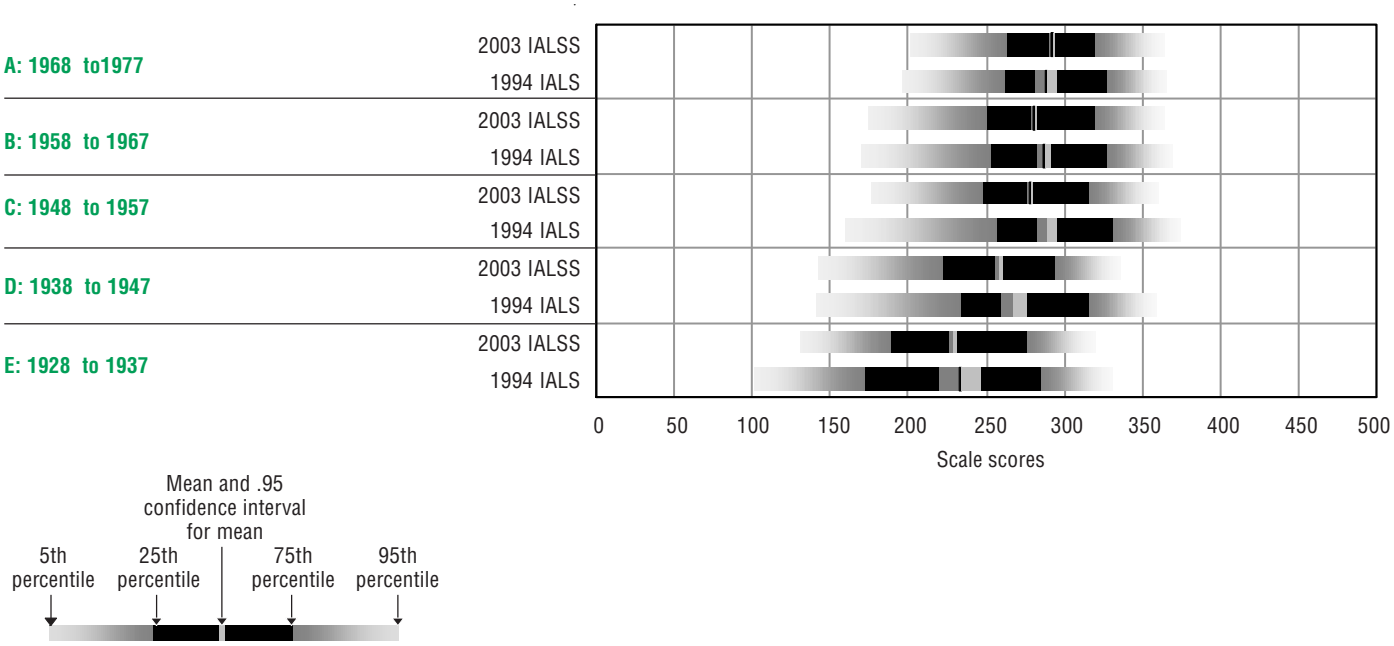
To explore the possibility that changes in literacy proficiency over time are associated with generational factors, a group of people in a given age range can be compared to those who were in a similar age range at a different point in time.

While the group who were 57 to 66 years of age in 1994 had an average prose literacy score of 233 points in 1994, those who were in that age group in 2003 had an average score of 258 points – an increase of 25 points over the nine year period. Similarly, the average prose literacy score for those aged 46 to 55 in 1994 and 47 to 56 in 2003 increased by 11 points over the same period. These improvements in performance suggest that a generational effect may be at play, i.e. that younger generations have higher literacy than those that preceded them.

It would appear that age differences in proficiency scores might be due both to generational differences and to the ageing process. The level of proficiency attained at the end of formal education may be an important determinant of the proficiency level observed throughout an individual's life. Future studies would be needed to disentangle the complex relationship between age and ageing and to understand any cumulative effects of ageing on literacy proficiency.

Figure 2.4

Differences in average prose scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by age cohort, Canada, population aged 17 to 66 years in 1994 and 26 to 75 in 2003



Cohort A: born between 1968 and 77: Aged 17 to 26 in 1994 and 26 to 35 in 2003;
Cohort B: born between 1958 and 67: Aged 27 to 36 in 1994, 36 to 45 in 2003;
Cohort C: born between 1948 and 57: Aged 37 to 46 in 1994; 46 to 55 in 2003;
Cohort D: born between 1938 and 47: Aged 47 to 56 in 1994; 56 to 65 in 2003; and
Cohort E: born between 1928 and 37: Aged 57 to 66 in 1994; 66 to 75 in 2003.

Source: *International Adult Literacy Survey, 1994; International Adult Literacy and Skills Survey, 2003.*

Literacy proficiencies of youth

Youth performance matters because this group has potentially the most time to contribute their knowledge and skills to their communities, their families, and to the labour market. While having a high average level of proficiency among youth is important, so too is having an equal spread of competencies among youth living in various regions, economic and social circumstances.

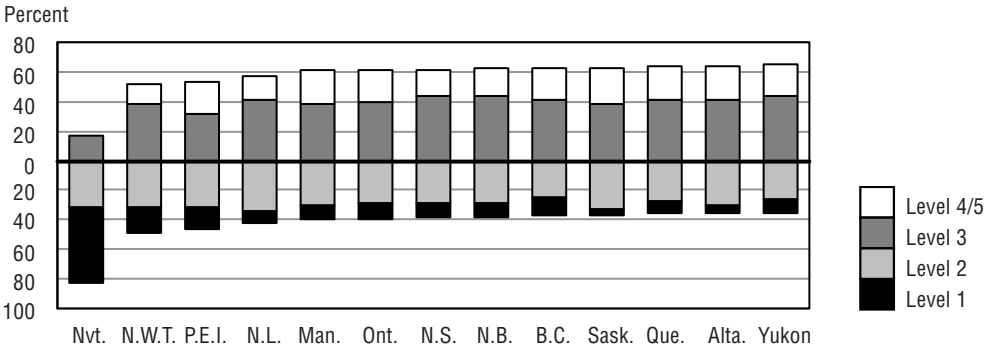
The distribution of prose literacy of youth

Youth, defined as those aged 16 to 25, account for between 16 and 19 percent of the population in most jurisdictions. The exceptions are the Northwest Territories, where youth account for 21 percent of the population, and Nunavut, where youth make up as much as 28 percent of the population (see Annex A Table 2.12).

In most provinces and territories, the proportion of youth with prose literacy proficiency at Level 3 or above is greater than the proportion of youth at Levels 1 and 2 (Figure 2.5). Across all jurisdictions, however, more than one-third of 16 to 25 year-olds are at Levels 1 and 2.

Figure 2.5

Distribution of prose proficiency levels, by jurisdiction, population aged 16 to 25 years, 2003



Notes: This figure contains certain unreliable estimates. Consult the table 2.5 in Annex A for the standard error of each estimate.

Due to confidentiality issues, Nunavut respondents aged 16 to 25 at level 4 and 5 have been included in Level 3.

Source: *International Adult Literacy and Skills Survey, 2003.*

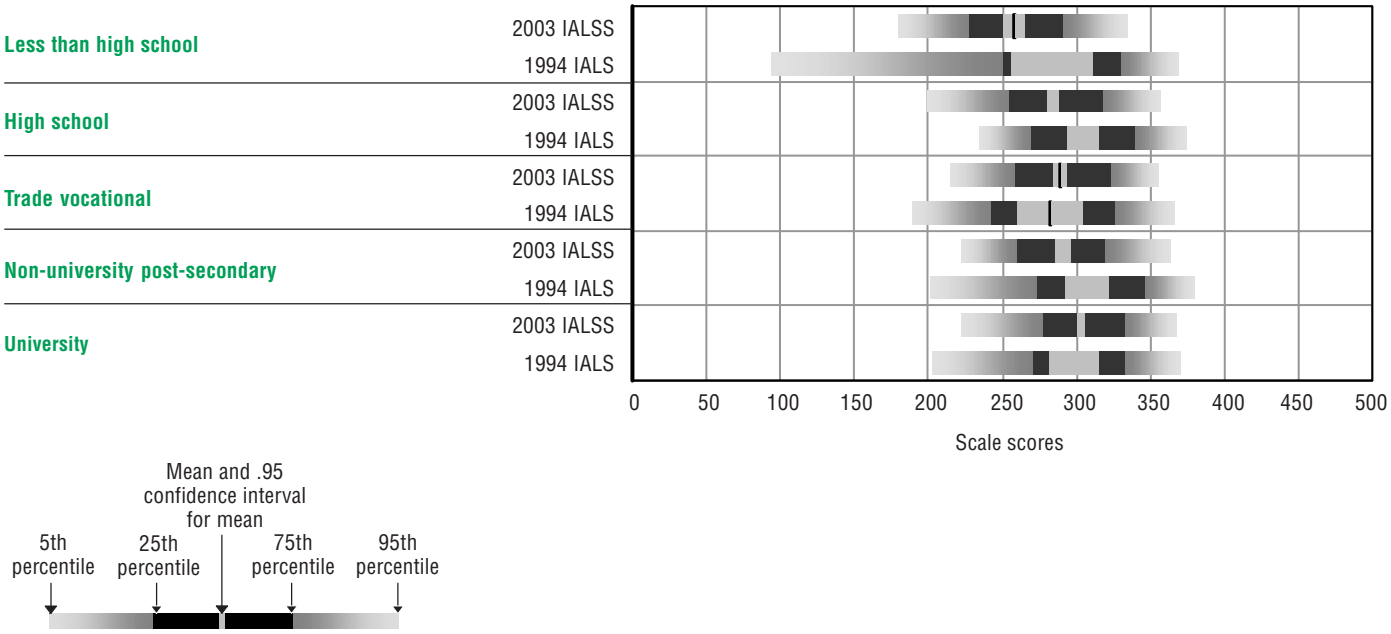
Youth literacy and parental educational attainment

As can be seen in Figure 2.6, the prose literacy scores of youth vary with their parents' level of education. Youth whose parents have not completed a high school education have the lowest prose literacy scores in 2003.

Between 1994 and 2003, there were some changes in prose literacy scores among youth from particular educational backgrounds. The highest score achieved by the lowest five percent of youth whose parents had not completed high school is about 84 points higher in 2003 than in 1994 - a significant improvement. While the average prose literacy score for youth with lower educated parents declined, the shift was not significant.

Figure 2.6

Average prose scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by parental education level, Canada, population aged 16 to 25 years, 1994 and 2003



Source: *International Adult Literacy Survey, 1994; International Adult Literacy and Skills Survey, 2003.*

Literacy proficiency of seniors

Though much of the research on adult competencies has focussed on the working age population, such competencies influence quality of life throughout the adult life cycle. Seniors are better able to make informed decisions regarding their health care, housing, and financial affairs if their level of literacy proficiency enables them to seek, understand and apply information.

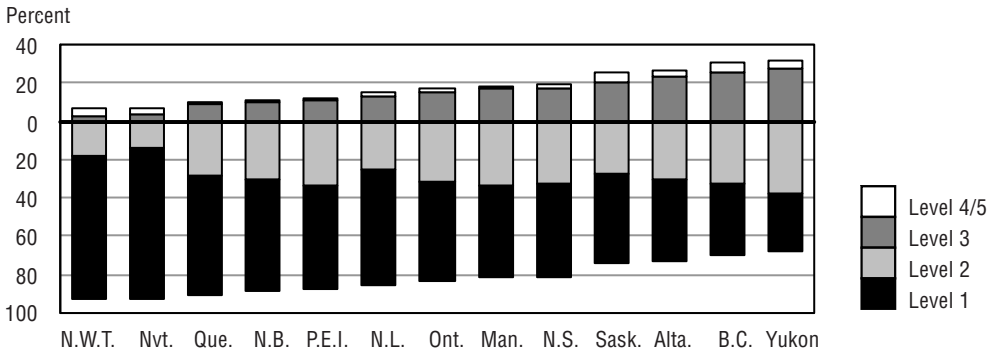
The distribution of prose literacy levels for seniors

Seniors, defined as those older than 65 years of age, account for between 12 and 17 percent of the population in all provinces. At between four and seven percent, the proportion of seniors is much smaller in all three territories (see Annex A Table 2.12).

The majority of seniors have relatively low literacy skills, which may constrain their participation in society. In every province and territory, at least two-thirds of seniors are at literacy Levels 1 and 2 (Figure 2.7). The proportion of seniors with scores below Level 3 is the lowest in the Western jurisdictions (the Yukon, British Columbia, Alberta and Saskatchewan).

Figure 2.7

Distribution of prose proficiency level, by jurisdiction, population aged 65 and over, 2003



Note: This figure contains certain unreliable estimates. Consult the table 2.7 in Annex A for the standard error of each estimate.

Source: *International Adult Literacy and Skills Survey, 2003.*

Gender differences in proficiency across the four domains

The average scores for males and females across the four assessed domains are presented in Figure 2.8 and differences by jurisdiction are shown in Annex A Tables 2.14 A to D. For Canada, significant gender differences in average scores are evident for document literacy and for numeracy with males scoring higher than females. With one exception, there was no notable difference in the highest and lowest scores by gender for all of the domains. In numeracy, both the lowest and the highest scores are higher for males than for females.

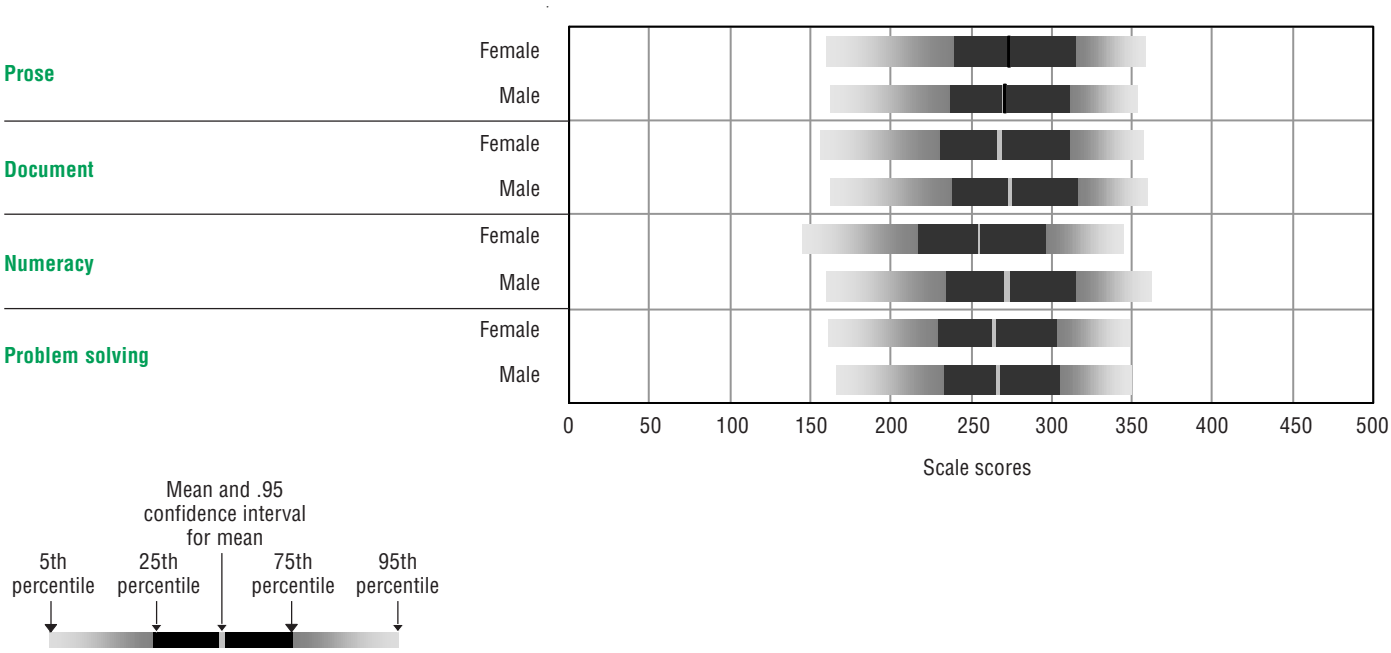
Although females have higher average scores on the prose literacy scale than males, the difference is small, and at only three scale points for the Canadian population as a whole is not significant (see Annex A Table 2.13). Females perform as well or better than males in prose literacy in all jurisdictions, though the difference is significant in only two jurisdictions. This difference is most pronounced in Prince Edward Island (18 score points) and Newfoundland and Labrador (15 score points).

For document literacy, males tend to have somewhat higher average scores. For Canada as a whole, males outperform females by seven score points. Gender differences in document literacy are only significant in Quebec, Ontario and British Columbia, where males out perform females (see Annex A Table 2.14 B). In the remaining provinces no significant gender differences in average document literacy scores are observed.

Gender differences are most pronounced for the numeracy domain. Males outperform females by 18 score points for the Canadian population. Males have average scores on the numeracy scale that are equal to or higher than females in all provinces and territories and the difference between males and females is significant in all jurisdictions except Newfoundland and Labrador and Prince Edward Island. In Quebec the gender difference in numeracy scores is relatively large - the average score for males is 22 points higher.

Figure 2.8

Average proficiency with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by gender, Canada, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

No gender difference exists for problem solving at the national level and with the exception of Newfoundland and Labrador, where females score higher than males, and Quebec, where males score higher than females, gender differences by jurisdiction are not significant.

Educational attainment and proficiency in the four domains

The value of a strong foundation in literacy and numeracy, to educational success is shown consistently in research studies (Postlethwaite and Ross, 1992; OECD, 2003; Gonzales et al., 2004). At the same time, high levels of education should be expected to lead to higher levels of proficiency in both literacy and numeracy.

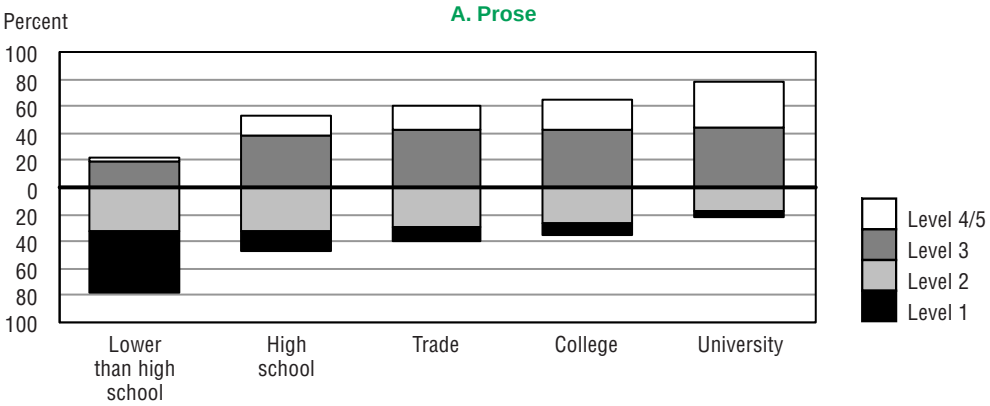
Across all four domains, higher levels of education are associated with higher levels of proficiency (Figures 2.9 A to D). For prose and document literacy as well as for numeracy, approximately one-third of the population aged 16 and over with a university degree is at the highest levels of proficiency compared to four percent of the population without a high school diploma. On the problem solving scale, less than one percent of those without a high school diploma achieved Level 4 or 5 compared to 12 percent among those with a university degree.

Higher levels of education do not necessarily guarantee higher levels of proficiency however. Overall, twenty-two percent or about one in five university graduates do not attain Level 3 in prose literacy (Figure 2.9 A). The proportion of

university graduates below Level 3 is reduced if age and immigration status are taken into account. Across four age groups, 26 to 30, 31 to 35, 36 to 45 and 46 to 55, between 11 and 14 percent of Canadian-born university graduates are below Level 3. The relationship between literacy, immigration status and educational attainment is explored further in the next chapter.

Figure 2.9A

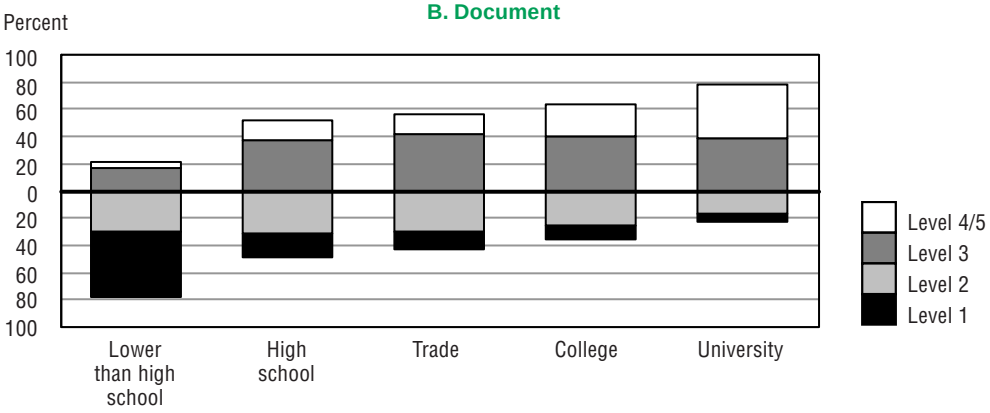
Distribution of proficiency levels, by educational attainment, Canada, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 2.9B

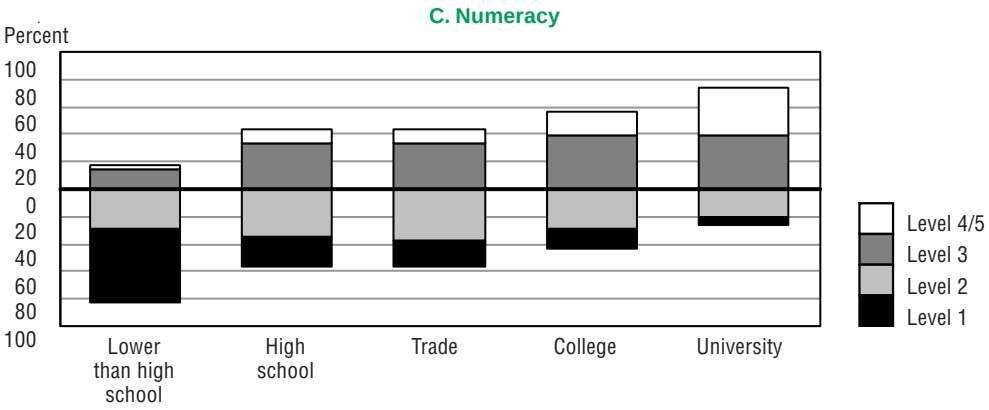
Distribution of proficiency levels, by educational attainment, Canada, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 2.9C

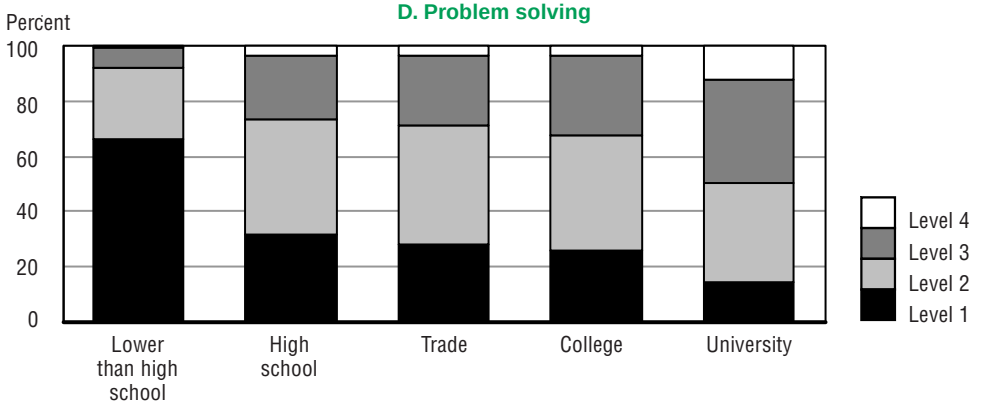
Distribution of proficiency levels, by educational attainment, Canada, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 2.9D

Distribution of proficiency levels, by educational attainment, Canada, population aged 16 and over, 2003



Note: This figure contains certain unreliable estimates. Consult the table 2.9D in Annex A for the standard error of each estimate.

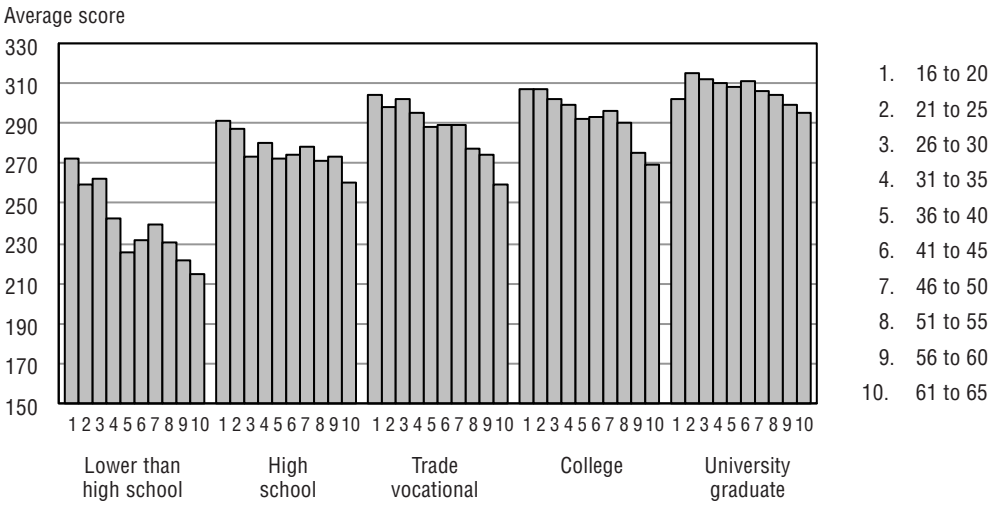
Source: *International Adult Literacy and Skills Survey, 2003.*

Literacy proficiency by age and educational attainment

As shown in Figure 2.10, education appears to moderate the relationship between literacy proficiency scores and age. The decrease in prose literacy proficiency among higher age groups, noted at the beginning of the chapter, is much more pronounced for individuals with less than a high school education than for those with higher levels of education. For example, for those with less than high school there is a 48 point difference in the average prose literacy score between those aged 26 to 30 years and those aged 61 to 65 years. For these same age groups, the difference is 17 points for individuals with a university education.

Figure 2.10

Average prose scores, by educational attainment, age group, Canada, population aged 16 to 65 years, 2003



Note: This figure contains certain unreliable estimates. Consult the table 2.10 in Annex A for the standard error of each estimate.

Source: *International Adult Literacy and Skills Survey, 2003.*

Text table 2.1

Average prose proficiency scores, by education level, Canada and jurisdictions, population aged 16 and over, 2003

	High school not completed		High school		Trade vocational		Non-university post-secondary		University	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Newfoundland and Labrador	219	(3.3)	274	(3.9)	277	(4.2)	290	(4.4)	314	(3.0)
Prince Edward Island	230	(4.3)	279	(4.3)	276	(5.3)	294	(6.2)	318	(5.4)
Nova Scotia	237	(3.5)	280	(2.8)	290	(4.3)	289	(5.7)	317	(3.8)
New Brunswick	225	(4.2)	267	(3.7)	272	(5.7)	292	(5.5)	308	(6.0)
Quebec	223	(2.1)	267	(1.8)	285	(2.9)	283	(2.6)	303	(2.5)
Ontario	225	(2.6)	271	(2.5)	279	(4.8)	289	(3.6)	302	(2.5)
Manitoba	235	(3.4)	280	(2.4)	287	(4.9)	293	(4.8)	306	(3.4)
Saskatchewan	242	(5.1)	287	(4.7)	292	(4.9)	302	(5.3)	321	(4.8)
Alberta	242	(4.3)	285	(3.0)	287	(5.8)	293	(3.8)	316	(3.7)
British Columbia	238	(3.5)	282	(2.6)	291	(4.7)	298	(3.5)	312	(3.9)
Yukon	247	(4.7)	294	(3.6)	297	(5.4)	302	(7.2)	322	(4.4)
Northwest	229	(5.1)	285	(6.1)	277	(6.9)	295	(4.7)	321	(4.7)
Nunavut	197	(3.9)	266	(5.2)	245	(12.5)	268	(16.1)	310	(5.8)
Canada	**229**	**(1.1)**	**274**	**(1.3)**	**284**	**(2.0)**	**290**	**(2.0)**	**306**	**(1.5)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Prose literacy proficiency by educational attainment in the provinces and territories

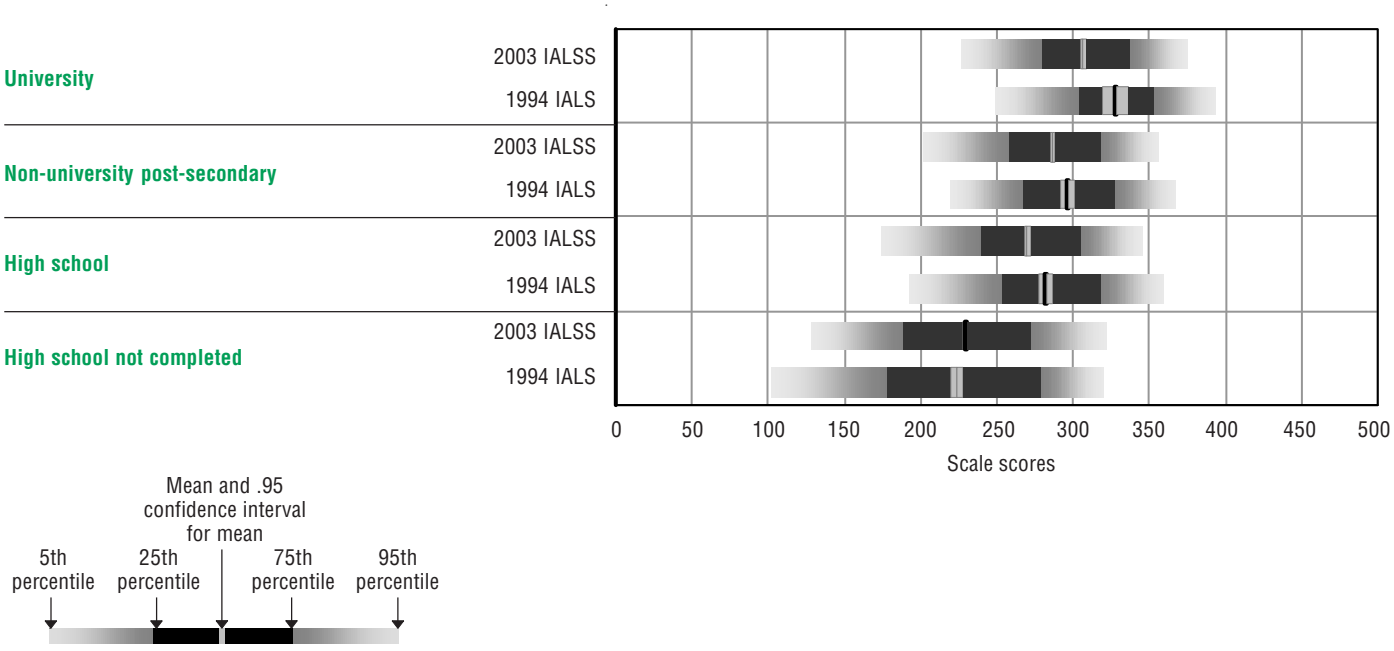
The relationship between educational attainment and literacy proficiency is also evident in the provinces and territories with some variation observed in individual jurisdictions. At the national level, individuals with a university degree score on average 77 points higher than those with less than a high school education. Compared to the national average, this difference is less pronounced in Manitoba and more pronounced in Newfoundland and Labrador, Prince Edward Island, New Brunswick, the Northwest Territories and in Nunavut.

Changes in prose literacy by level of education

As noted in Chapter 1, there has been no significant change in the Canadian average prose literacy score between 1994 and 2003. When average literacy scores over this period are observed by level of education, the prose literacy score is slightly higher in 2003 compared to 1994 for those with less than a high school education. In contrast, there is an apparent decline in the prose literacy score among adults with higher levels of education during the same time period. Only at the university level is the decline significant, however (Figure 2.11).

Figure 2.11

Average prose scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by level of educational attainment, Canada, population aged 16 and over, 1994 and 2003



Note: Non-university post-secondary includes those matriculating from a trade/vocational school.

Source: *International Adult Literacy Survey, 1994; International Adult Literacy and Skills Survey, 2003.*

Conclusions

The established patterns of literacy proficiency continue to prevail, with higher performance among the young and the educated. But, there are variations in literacy performance among the provinces and territories, with residents of Western provinces generally scoring higher than the Canadian average in the four domains. This pattern tends to hold, even when variation in age and education is held constant. Men tend to have higher proficiency than women in numeracy and this is true in most jurisdictions.

Age, gender and education do not operate independently of each other. For example, the relationship between age and proficiency is moderated by educational attainment.

There are several demographic groups with low levels of literacy and numeracy. The majority of seniors have relatively low literacy, which may impact their quality of life by increasing their dependency, and posing health and safety risks. More than one-third of youth also have low literacy skills. This could well impact adversely on participation in postsecondary education and success in the labour market. While a strong relationship exists between education levels and literacy and numeracy performance, one-fifth of university graduates are below the desired threshold for coping with the increasing skill demands of a knowledge society. Furthermore, the average prose literacy proficiency of university graduates has decreased between 1994 and 2003.

Given that an unequal distribution of competencies could well translate into economic and social inequalities, it is of importance to Canadian society to ask what factors are underlying the varying performance of particular demographic groups.

Endnote

1. Both the 1994 and 2003 surveys drew representative samples of individuals from each age cohort. Between surveys, however, the population changed, due to migration and mortality. These population changes affect the comparisons over time but, by and large, the differences in proficiency scores between 1994 and 2003, if they exist, would be due to gains or losses associated with ageing.

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Chapter 3

Proficiencies of selected groups

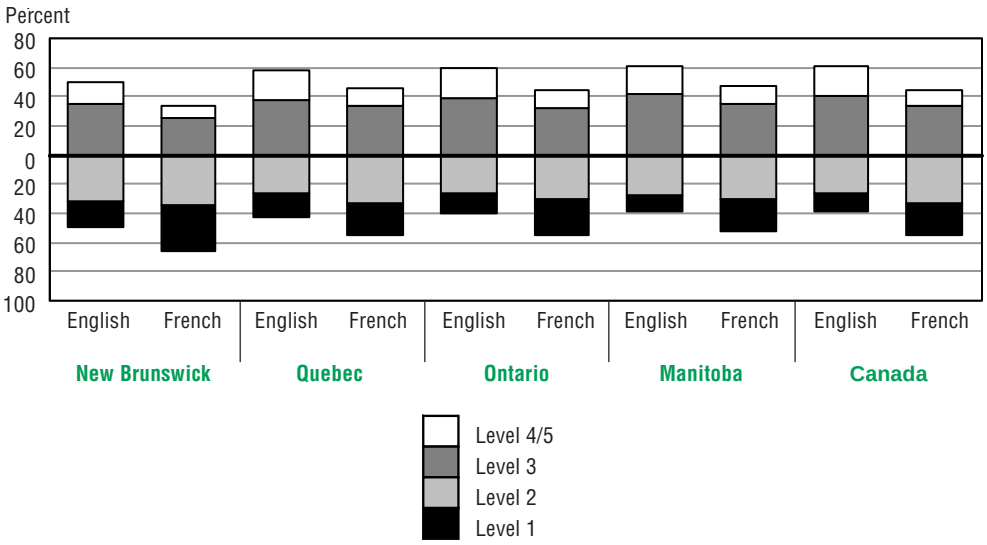
Canada's overall average scores for 16 to 65 year-olds for both prose and document literacy correspond to Level 3 proficiency – the desired threshold for coping with an emerging knowledge economy and society. Averages, however, hide variations in performance across groups within the population. If one goal is to achieve a high level of performance then another is to achieve an equitable distribution of literacy outcomes. IALSS 2003 allows us to examine the relative literacy performance of three selected groups in Canada: linguistic minorities, Aboriginal populations, and immigrants. The purpose of this chapter is to examine the literacy, numeracy and problem solving proficiencies among linguistic minorities, Aboriginal populations, and immigrants.

Official language minority groups

Linguistic duality is a fundamental characteristic of Canada. Both official languages, English and French, are spoken by a significant proportion of the populations in Quebec, New Brunswick, Ontario, and Manitoba. The results of the 1994 IALS showed that adults whose mother tongue was French (Francophones) had lower literacy proficiency than adults whose mother tongue was English (Anglophones). This difference in literacy performance is also observed in 2003. Francophones have lower average prose literacy scores than Anglophones and the proportion of Francophones scoring below Level 3 is higher than the proportion of Anglophones in each of the provinces. The difference between the two groups in the proportion below Level 3 ranges from 17 percentage points in New Brunswick to 13 in Quebec (See Annex A Table 3.30 and Figure 3.1).

Figure 3.1

Distribution of prose proficiency level, by mother tongue, Canada, Quebec, New Brunswick, Ontario and Manitoba, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Language of the test

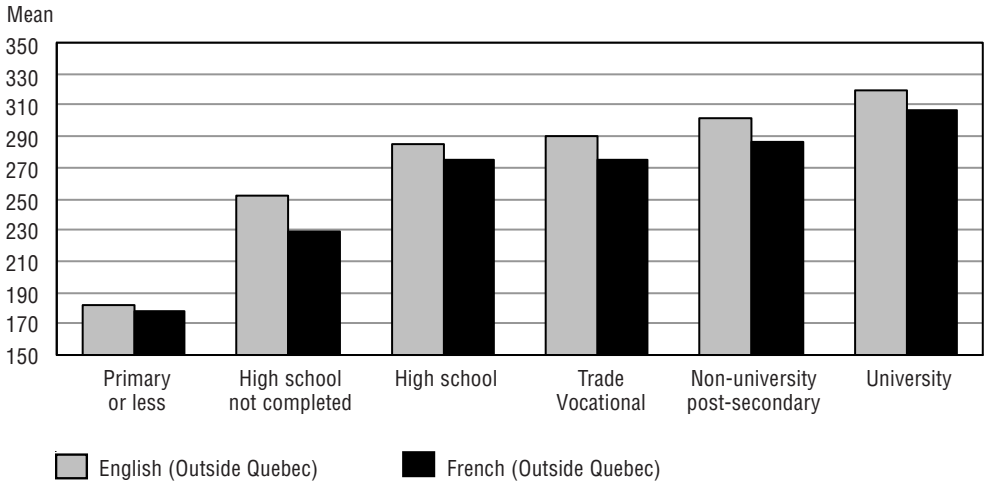
Outside Quebec, approximately 65 percent of Francophones chose to take the test in English. In New Brunswick, Ontario and Manitoba, the proportions are 33, 64 and 84 percent respectively (See Annex A Table 3.23). Francophones who were assessed in English have higher average scores in prose literacy than those who were assessed in French (See Annex A Table 3.31). Half of the Francophones living outside Quebec who took the test in English score below Level 3 on the prose literacy scale compared to 62 percent of those who took the test in French (See Annex A Table 3.17).

For the 65 percent of Francophones outside Quebec who were tested in English, about three out of five reported speaking English most often at home. Among this group of Francophones, those who speak English most often at home perform significantly better in prose literacy than those who speak French at home. About 17 percent of the Francophones speaking English at home place at Level 1 on the prose literacy scale, compared to 29 percent speaking French as their main language at home (See Annex A Table 3.18).

Because of the close relationship between proficiency and educational attainment, part of the explanation for literacy proficiency differences between language groups may be related to relative differences in their educational attainment. Indeed, in Quebec, there are no significant differences in prose literacy proficiency between Francophones and Anglophones at the same level of educational attainment (See Annex A Table 3.21).

Figure 3.2

Average prose scores, by mother tongue, highest level of educational attainment, Canada without Quebec, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Outside Quebec, however, the situation is different (Figure 3.2). There are significant differences in the prose literacy performance of Francophones compared to Anglophones with the same level of educational attainment. With the exception of those with elementary education or less, significant differences are observed at each level of educational attainment. Further investigation of this issue will be the subject of future research.[1]

Proficiency of Aboriginal populations

Reliable data on the literacy performance of Aboriginal people have been scarce until now. While IALSS data are not representative of the total Aboriginal population in Canada, the IALSS survey presents a unique opportunity to examine the literacy, numeracy and problem solving proficiency of a portion of the Aboriginal population.

The IALSS targeted Aboriginal people living in urban areas in Manitoba and Saskatchewan, and Aboriginal people living in selected communities in the territories (covering a majority of the populated areas). In all other areas, Aboriginal people were not specially targeted. Thus, this section describes the literacy, numeracy and problem solving scores of the Aboriginal population aged 16 and over living in urban Manitoba and urban Saskatchewan, in the Northwest Territories and the Yukon Territory, as well as the Inuit population in Nunavut (See Text Box A3).

Text box A3

A profile of Aboriginal people

Census data for 2001 show that an estimated 73,000 Aboriginal people lived in urban areas in Manitoba, accounting for nine percent of the total urban population in that province. In Saskatchewan, the urban Aboriginal population exceeded 60,000 people, representing 10 percent of the province's urban population. The Aboriginal population is substantially younger than the non-Aboriginal population – in 2001, over half (55 percent) of the urban Aboriginal population in Manitoba and Saskatchewan was under 25 years of age, compared to 32 percent of the non-Aboriginal population in these provinces.

Educational attainment tends to be lower among the urban Aboriginal population compared to the non-Aboriginal population. In 2001, 53 percent of Aboriginal adults in urban Manitoba and Saskatchewan had high school or higher, compared to 63 percent of the total non-Aboriginal population.

The unemployment rate for the urban Aboriginal populations of Manitoba and Saskatchewan was substantially higher than the non-Aboriginal population at 17 percent, compared to five percent for the total non-Aboriginal populations in these provinces.

In the territories, the Aboriginal population makes up a much larger proportion of the total population. In 2001, Aboriginal persons living off-reserve in the Yukon made up about 18 percent of the population, and in the Northwest Territories, over one-quarter of the off-reserve population was Aboriginal. In Nunavut, Inuit accounted for the vast majority (85 percent) of the population.

The Aboriginal population in the territories is considerably younger than the non-Aboriginal population. In 2001, over half (57 percent) of the Aboriginal population was under the age of 25, compared to 33 percent of the non-Aboriginal population. Aboriginal people in the territories have lower levels of educational attainment than their non-Aboriginal counterparts. In 2001, just under half (45 percent) of Aboriginal people 15 years and over had completed high school or higher, compared to 81 percent of the non-Aboriginal population. In 2001, the unemployment rate for the Aboriginal population in the territories was more than three times higher than the non-Aboriginal population at 22 percent.

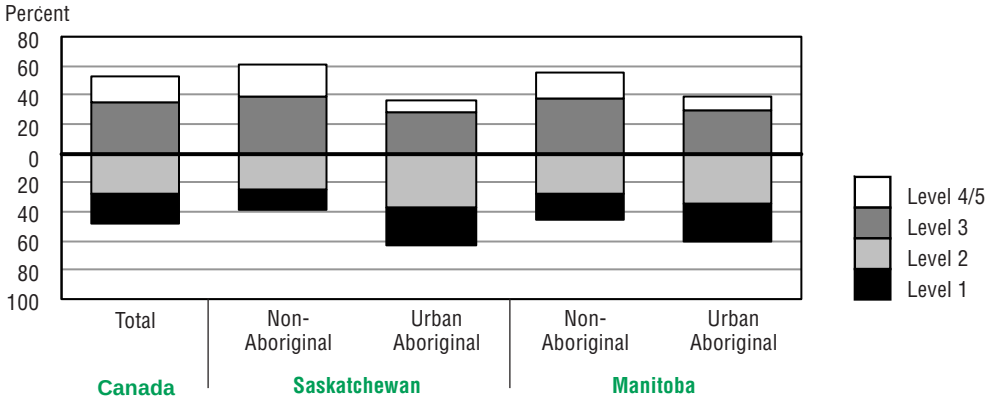
The prose literacy performance of the Aboriginal populations surveyed is lower than that of the total Canadian population reflecting, at least in part, differing levels of formal education and use of a mother tongue other than English or French.

Just over 60 percent of the urban Aboriginal populations in both Manitoba and Saskatchewan score below Level 3 on the prose literacy scale. In comparison, 45 percent of the non-Aboriginal population of Manitoba, 39 percent of the non-Aboriginal population of Saskatchewan and 48 percent of the overall Canadian population (aged 16 and over) score below Level 3 (Figure 3.3).[2]

Over half of the Aboriginal people living in the Yukon, approximately 69 percent of the Aboriginal population in the Northwest Territories and 88 percent of Inuit in Nunavut scored below Level 3 on the prose literacy scale (Figure 3.4). As mentioned earlier, it is important to view these findings in context (See Note to reader).

Figure 3.3

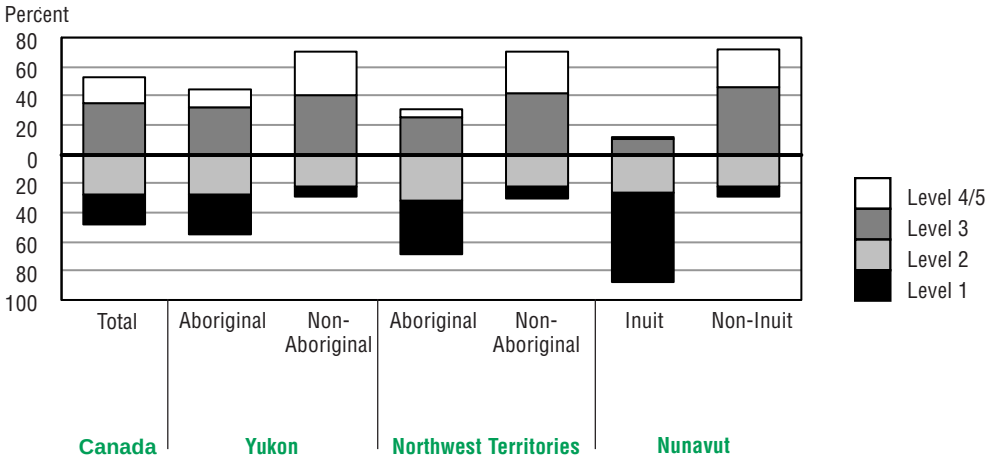
Distribution of prose proficiency level, by urban Aboriginal and non-Aboriginal populations in Manitoba and Saskatchewan, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 3.4

Distribution of prose proficiency level, by Aboriginal and non-Aboriginal, Canada, Yukon, Northwest Territories and Nunavut, population aged 16 and over, 2003



Note: This figure contains certain unreliable estimates. Consult the table 3.4 in Annex A for the standard error of each estimate.

Source: *International Adult Literacy and Skills Survey, 2003.*

Note to reader

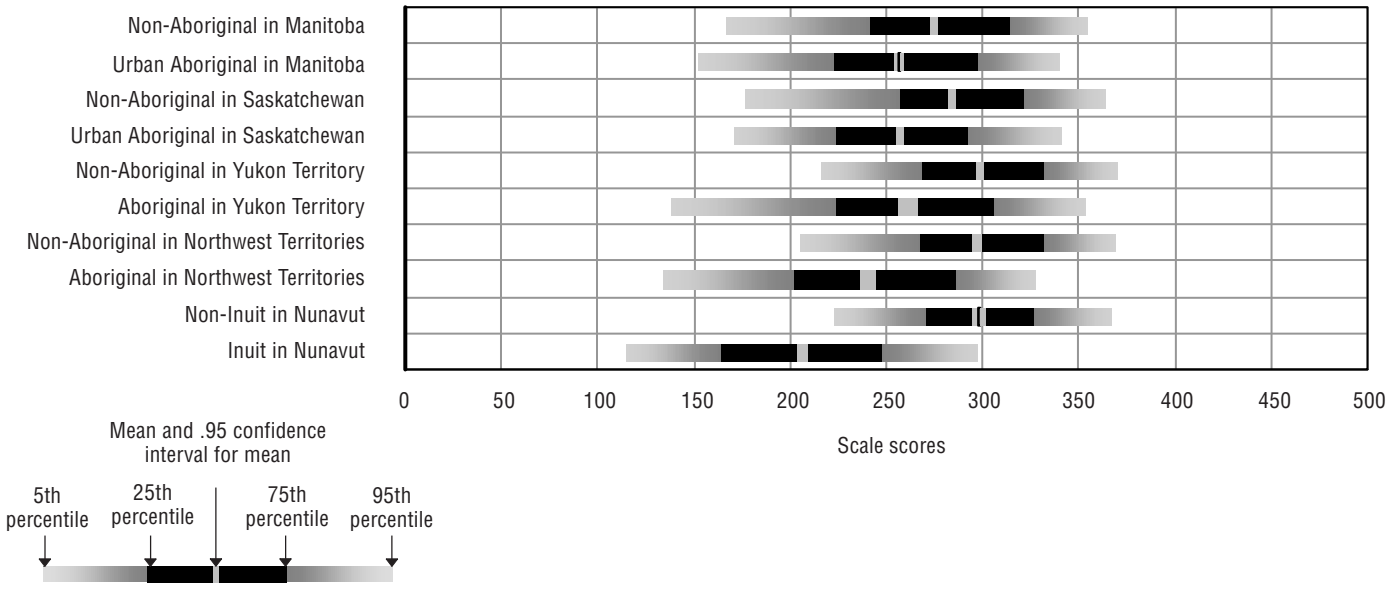
Findings on the socio-economic characteristics of any population are affected by its demographic composition. The age distribution in particular is a key factor affecting such indicators. As the Aboriginal population is much younger than the non-Aboriginal population, readers are cautioned that the analysis of differences in results for the Aboriginal and non-Aboriginal populations has not been age standardized to remove the effect of age differences.

Note to reader

As mentioned in Chapter 1, it is also important to view these findings in context. The survey was designed to measure literacy, numeracy and problem solving in one of the national official languages (French or English). However, in Nunavut, a high proportion of Inuit who responded to the IALSS reported that they function on a daily basis in an Aboriginal language – over 60 percent of respondents in Nunavut indicated a mother tongue of Inuktitut and over half of the population reported using this language for work, leisure and information on an everyday basis. So, while the survey does indeed measure the competencies in each domain in French or English, it probably does not provide an accurate overall picture of the effective proficiency of this population.

Figure 3.5

Average prose proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by Aboriginal and non-Aboriginal, Manitoba, Saskatchewan, Yukon Territory, Northwest Territories, and Nunavut, population aged 16 and over, 2003



Note: Populations have been ranked by the mean of prose scores.

Source: *International Adult Literacy and Skills Survey, 2003.*

Among the Aboriginal people surveyed, there is little difference in the average scores of those living in the Yukon Territory, urban Saskatchewan and urban Manitoba (Figure 3.5).

The Inuit population in Nunavut performs at a significantly lower level of literacy proficiency than the other Aboriginal populations surveyed. The average prose literacy score for Inuit in Nunavut was 207 – 54 points less than Aboriginal people living in the Yukon Territory and 34 points less than Aboriginal people living in the Northwest Territories. The literacy gap between the Inuit population in Nunavut and the Aboriginal population living in the Yukon is equivalent to one proficiency level. Readers are reminded that a high proportion of the Inuit population

in Nunavut function on a daily basis in an Aboriginal language. The literacy proficiencies that are being measured in this survey are only in French or English.

Significant differences in performance are also evident in the other three domains – document literacy, numeracy and problem solving (See Annex A Table 3.5 B to D).

Proficiencies and age

Figures 3.6 and 3.7 show the relationship between age and prose literacy scores for the Aboriginal populations in the regions studied (See Annex A Tables 3.6 B to D and Tables 3.7 B to D for similar results for the document, numeracy and problem solving domains).

In Manitoba and Saskatchewan, the average prose literacy scores for all age groups of the urban Aboriginal populations are lower than those for the non-Aboriginal populations. Across all ages, average prose literacy scores for urban Aboriginal people correspond to Level 2 proficiency. By comparison, with the exception of the 46 and over age group, the average scores for the non-Aboriginal population correspond to Level 3.

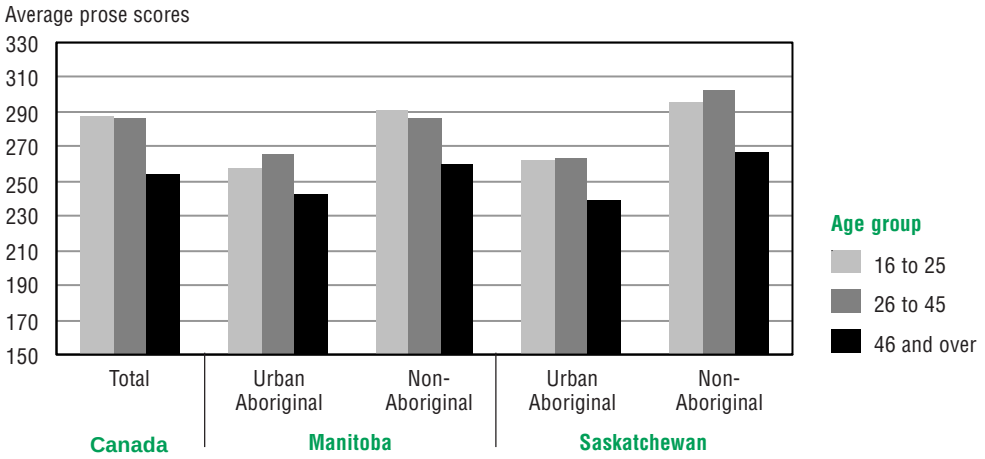
Literacy proficiency among Aboriginal people living in the territories is quite varied. The differences in average prose literacy scores between Inuit and non-Inuit groups in Nunavut are particularly large. The average scores for Inuit across all age groups in Nunavut correspond to Level 1 proficiency whereas the non-Inuit groups have an average score at Level 3.

In the Yukon, the average scores for both Aboriginal and non-Aboriginal 16 to 25 year-olds correspond to Level 3 proficiency. For all other age groups in Yukon, and across all age groups in the Northwest Territories, average prose literacy scores are much lower for the Aboriginal populations.

As was seen in Chapter 2, the average prose literacy score tends to be lower for older age groups than for younger in Canada. Interestingly this age pattern does not appear to hold for non-Aboriginal people living in the territories due to the relatively high average literacy performance of the 46 and over age group. As a result, in each of the territories, average prose literacy performance is notably higher for non-Aboriginal people aged 46 and over than for Aboriginal people. This having been said, among this oldest age group, average prose literacy for the Aboriginal population living in the Yukon corresponds to Level 2 proficiency whereas performance is at Level 1 for the Aboriginal and Inuit populations living in the Northwest Territories and Nunavut.

Figure 3.6

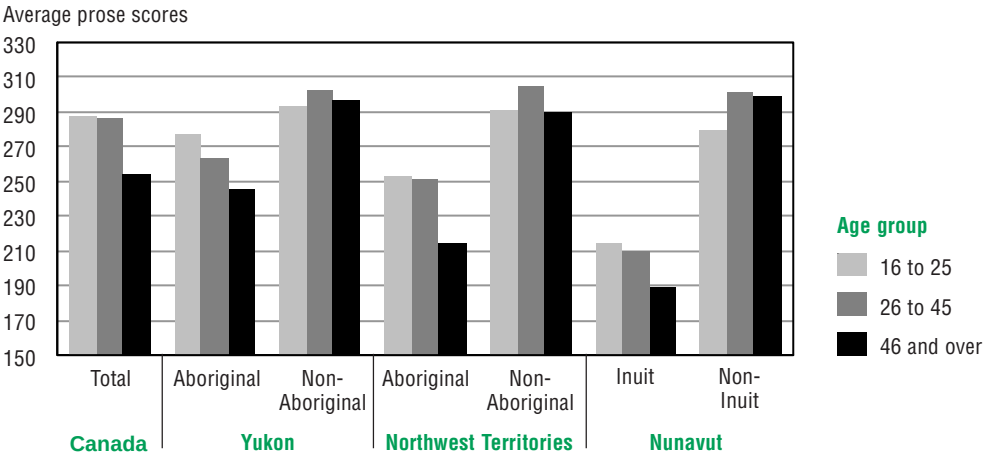
Average prose proficiency scores, by age groups, Canada, urban Aboriginal and non-Aboriginal populations in Manitoba and Saskatchewan, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 3.7

Average prose proficiency scores, by age groups, Aboriginal and non-Aboriginal, Canada, Territories, population aged 16 and over, 2003



Note: This figure contains certain unreliable estimates. Consult the table 3.7 in Annex A for the standard error of each estimate.

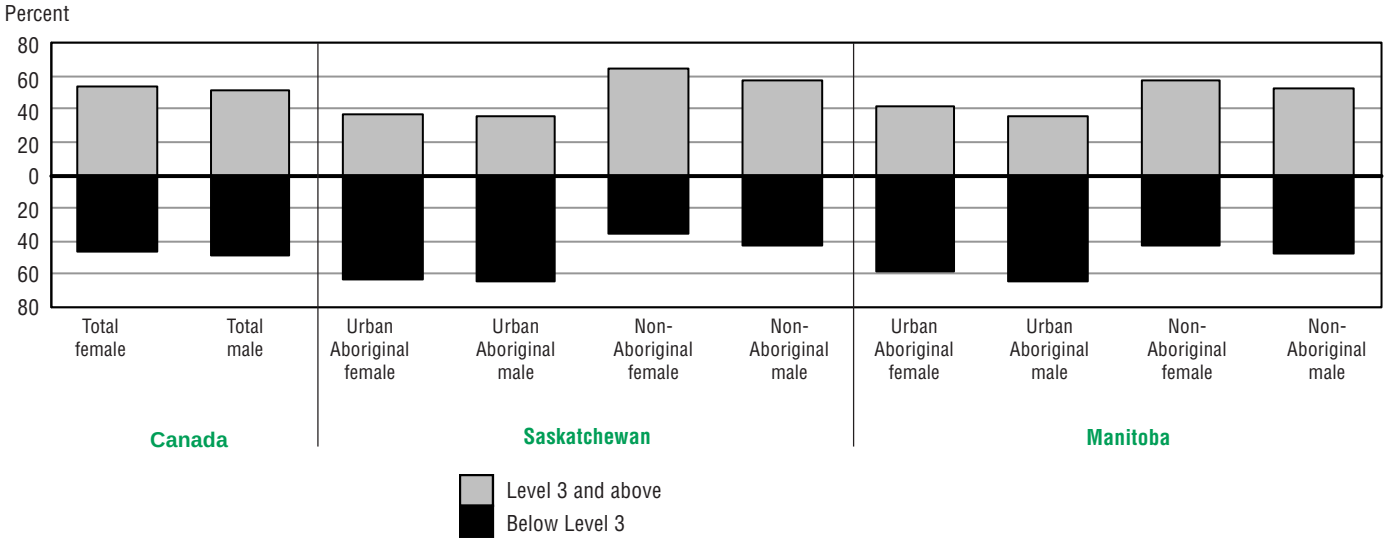
Source: *International Adult Literacy and Skills Survey, 2003.*

Proficiencies and gender

For the Aboriginal populations surveyed, there are few differences between females and males in either the proportion scoring below Level 3 prose literacy proficiency or in their average prose literacy scores (Figures 3.8 to 3.11).

Figure 3.8

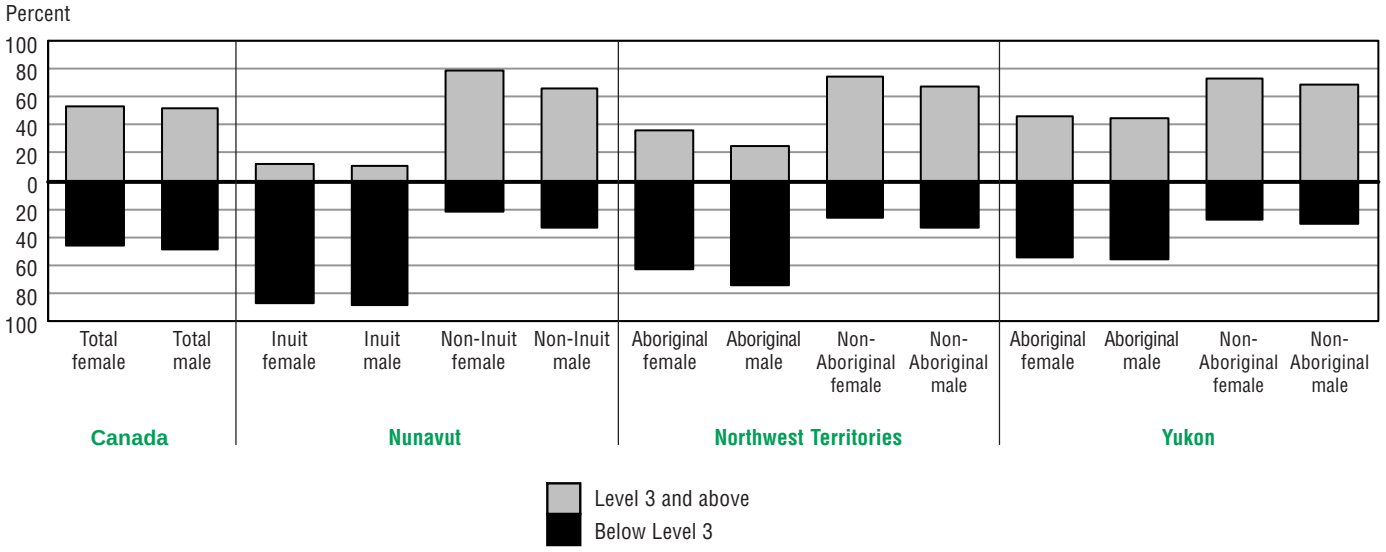
Distribution of prose proficiency, by percentage below Level 3, at or above Level 3, by gender, urban Aboriginal and non-Aboriginal populations, Canada, Saskatchewan and Manitoba, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 3.9

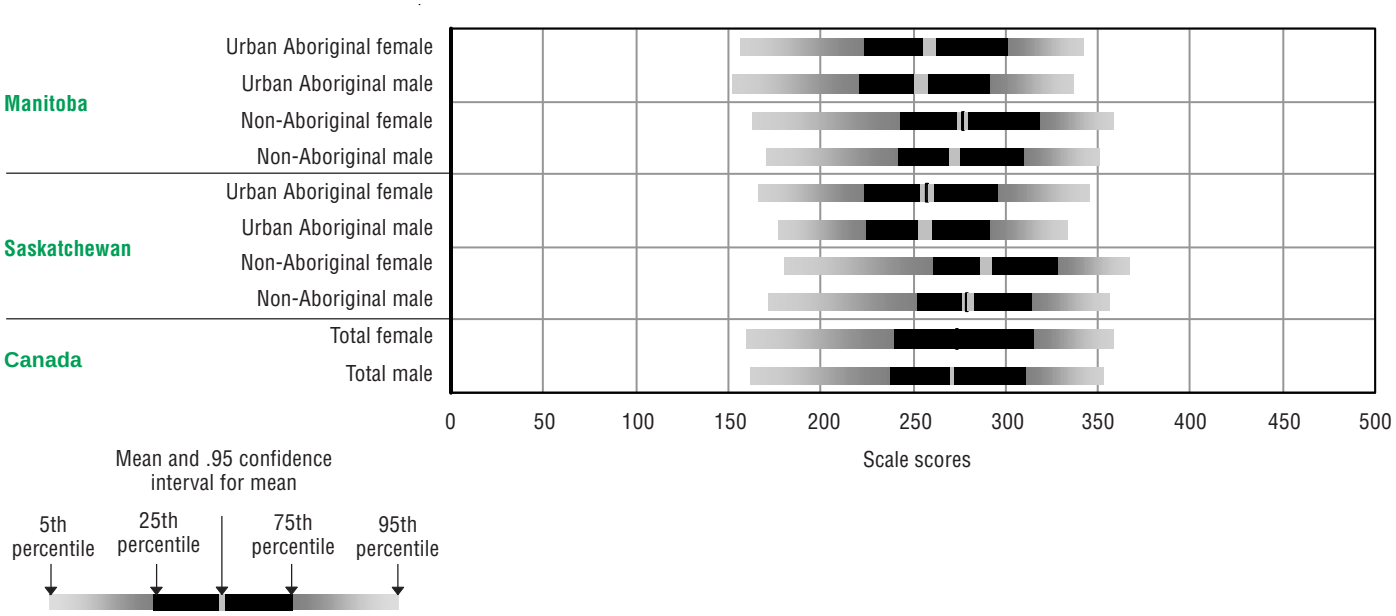
Distribution of prose proficiency, by percentage below Level 3, at or above Level 3, by gender, urban Aboriginal and non-Aboriginal populations, Canada and Northern Territories, population aged 16 and over, 2003



Note: This figure contains certain unreliable estimates. Consult the table 3.9 in Annex A for the standard error of each estimate.
Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 3.10

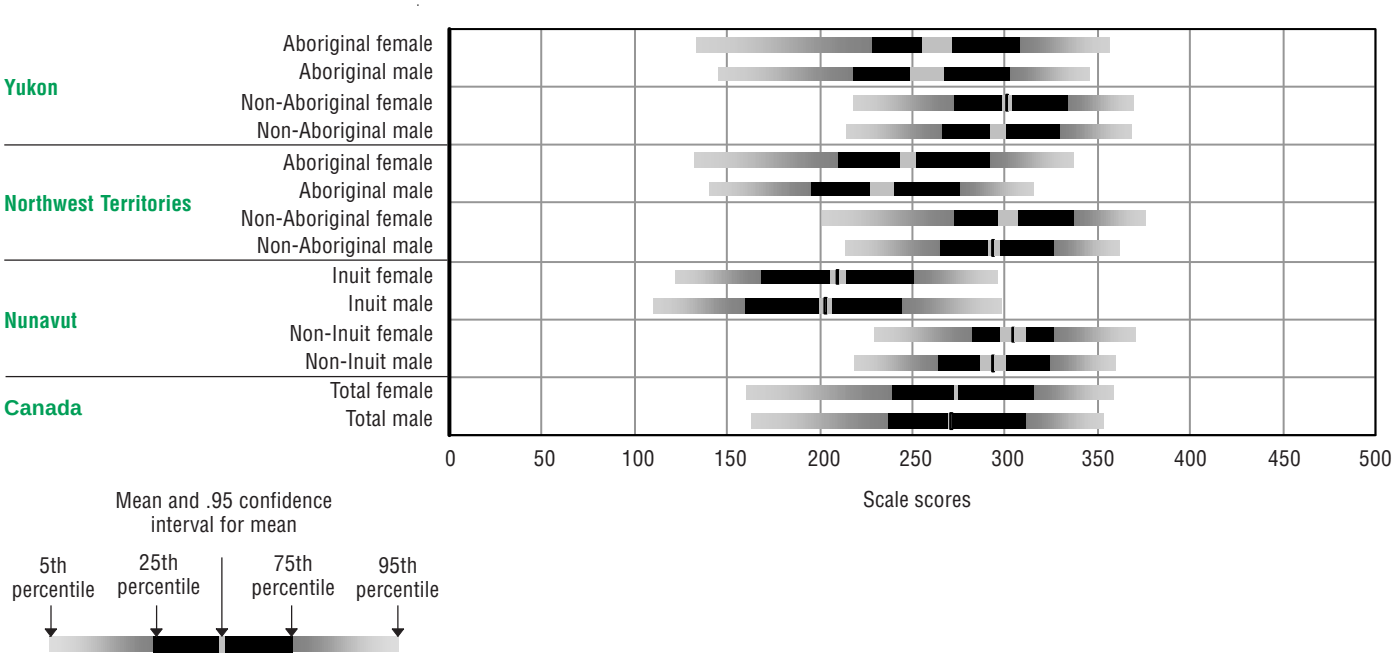
Average prose proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles by gender, Canada, urban Aboriginal and non-Aboriginal populations in Manitoba and Saskatchewan, 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 3.11

Average prose proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by gender, Aboriginal and non-Aboriginal populations, Canada, Yukon, Northwest Territories and Nunavut, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Proficiencies and education

As seen in chapter 2, literacy is a foundation for the acquisition of knowledge and skills over the life course and thus, literacy performance is positively related to educational attainment. This section looks at the relationship between literacy proficiency and educational attainment among the Aboriginal populations surveyed.

Overall, the positive relationship between literacy proficiency and educational attainment holds for Aboriginal populations. Those with the least education have the lowest average prose literacy scores. This relationship between higher levels of educational attainment and higher proficiency also holds for the other three domains assessed (See Annex A Table 3.12 B and D and Table 3.13 B and D).

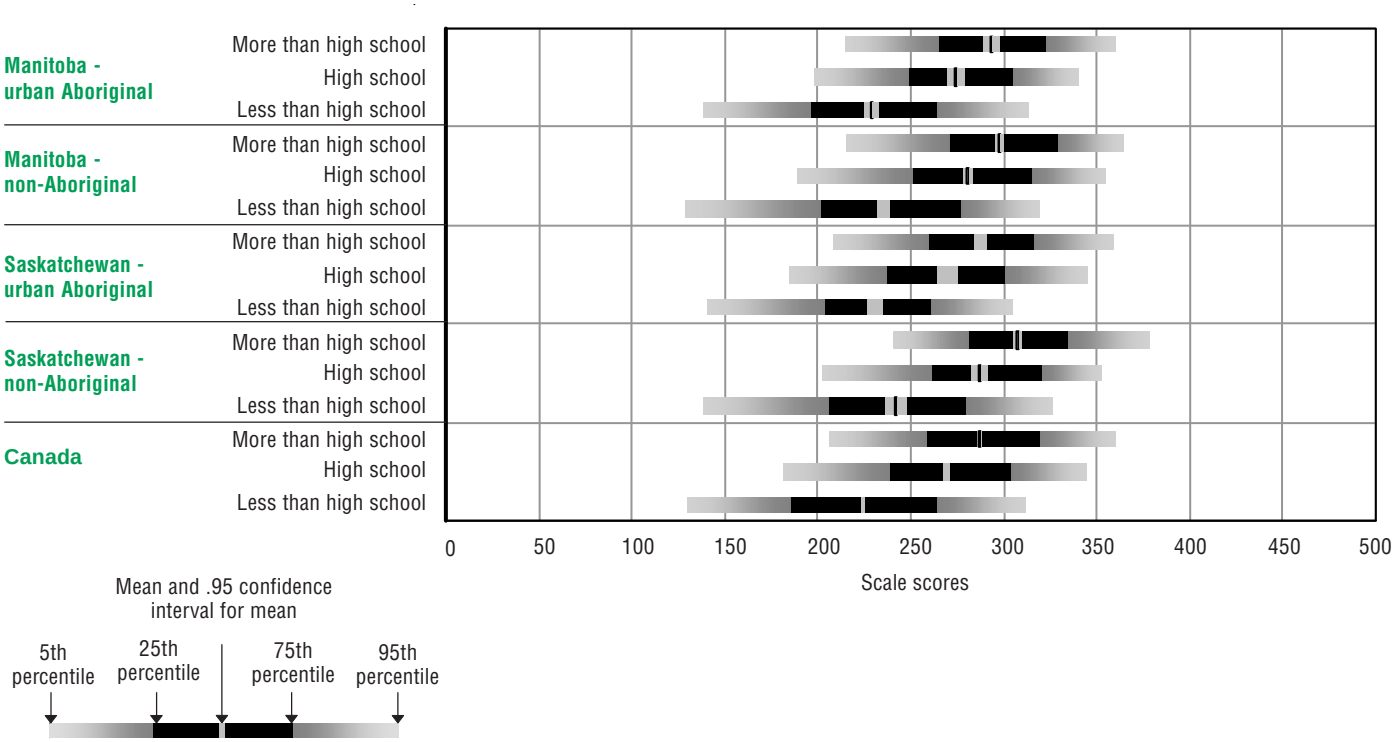
In some of the jurisdictions surveyed, large differences in literacy performance between Aboriginal and non-Aboriginal populations remain once education is accounted for while in others the difference is greatly reduced. This suggests that in some jurisdictions, differences in education levels may help to explain differences in the literacy performance of Aboriginal and non-Aboriginal populations while in others, there are other factors at play.[3]

Figure 3.12 shows that there is little difference in the average prose literacy scores of urban Aboriginal and non-Aboriginal persons in Manitoba once education is taken into account. The average prose literacy score of urban Aboriginal people with more than high school education, for example, is 294 compared to 298 for non-Aboriginal people. In Saskatchewan, among the urban Aboriginal population, those with more than high school education have the highest average prose literacy score - corresponding to Level 3 proficiency. This average score, however, remains somewhat lower than that for the same group in the non-Aboriginal population. In the Yukon, the difference in prose literacy performance for Aboriginal and non-Aboriginal persons is greatly reduced for those with more than high school education (Figure 3.13).

In the three territories, there are notable differences in prose literacy performance between Aboriginal and non-Aboriginal persons with less than high school education. In the territories, the average score for the Aboriginal populations corresponds to Level 1 proficiency while the average score is at Level 2 for the non-Aboriginal populations.

Figure 3.12

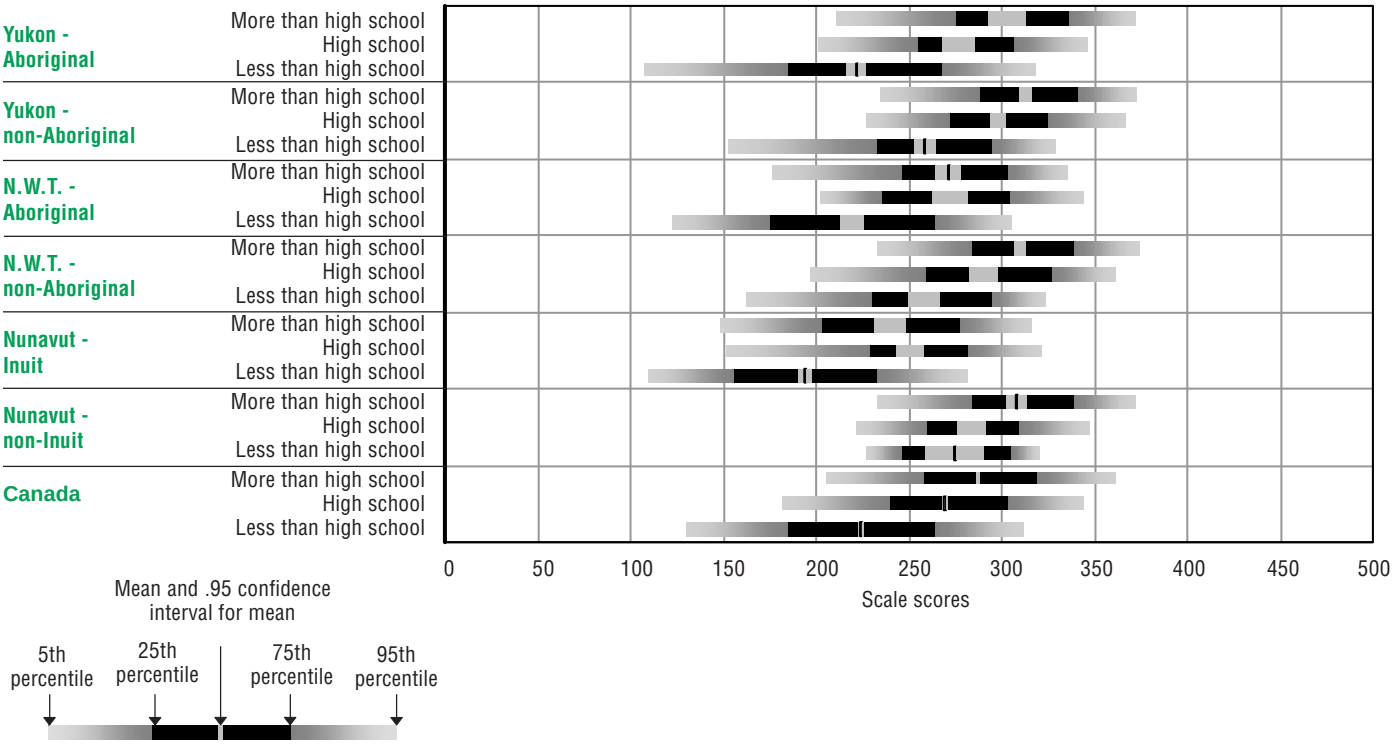
Average prose proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by educational attainment, urban Aboriginal and non-Aboriginal populations, Canada, Manitoba and Saskatchewan, population aged 16 and over, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 3.13

Average prose proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by educational attainment, Aboriginal and non-Aboriginal, Canada, Yukon, Northwest Territories and Nunavut, population aged 16 and over, 2003



Note: This figure contains certain unreliable estimates. Consult the table 3.13 in Annex A for the standard error of each estimate.
Source: *International Adult Literacy and Skills Survey, 2003.*

Proficiency of immigrants to Canada

Immigration has long been integral to Canada's social, cultural and economic development. With time, both the character of immigration and its role in Canadian society have evolved to reflect new domestic and global realities.

While data on the characteristics of recent immigrants and their economic performance in Canada have been collected and analyzed extensively, no comprehensive data on the literacy level of recent immigrants have been previously available. The 2003 IALSS, has large enough samples of recent and established immigrants to answer key questions about the literacy levels of these two groups.

In this section, analysis is presented for three groups – the Canadian-born, recent immigrants (those who have been in Canada for 10 years or less) and established immigrants (those who have been in Canada for more than 10 years). Because sample sizes of immigrants in the 1994 IALS were too small to produce reliable estimates, no comparisons with the 1994 IALS are possible.

Text box B3

A brief overview of changes to immigration to Canada

Today, one measurable change to immigration to Canada is the sizeable and increasing proportion of labour force growth that immigration represents in Canada. Immigrants who arrived during the 1990s accounted for 70 percent of net labour force growth between 1991 and 2001 – a proportion set to increase to 100 percent over the next decade (Denton et al., 1999). At the same time, the economic performance of immigrants relative to the Canadian-born population has declined, raising questions about the factors that can explain diminished economic returns (Green and Worswick, 2002).

Concomitant with the changing economic role and fortunes of Canada's immigrants, have been changes in the characteristics of new immigrants. Immigrants are more educated than in the past and are twice as likely as the Canadian-born population to have a university education (Citizenship and Immigration Canada, 2005a). Many go to school at institutions outside Canada in a language other than English or French and are much less likely to speak English or French as their mother tongue than previous immigrants (Citizenship and Immigration Canada, 2005b).

Proficiency among immigrants aged 16 to 65

Immigrants aged 16 to 65 perform significantly below the average for the Canadian-born population in all four domains. The average prose literacy score for recent immigrants is 252 points, whereas the average score for those born in Canada is 288 points (See Annex A Table 3.25). This means that the average score for the Canadian-born population corresponds to Level 3 proficiency, while for recent immigrants the average score is at Level 2. Differences in performance between Canadian-born and recent as well as established immigrants are largest for prose literacy and smallest for numeracy.

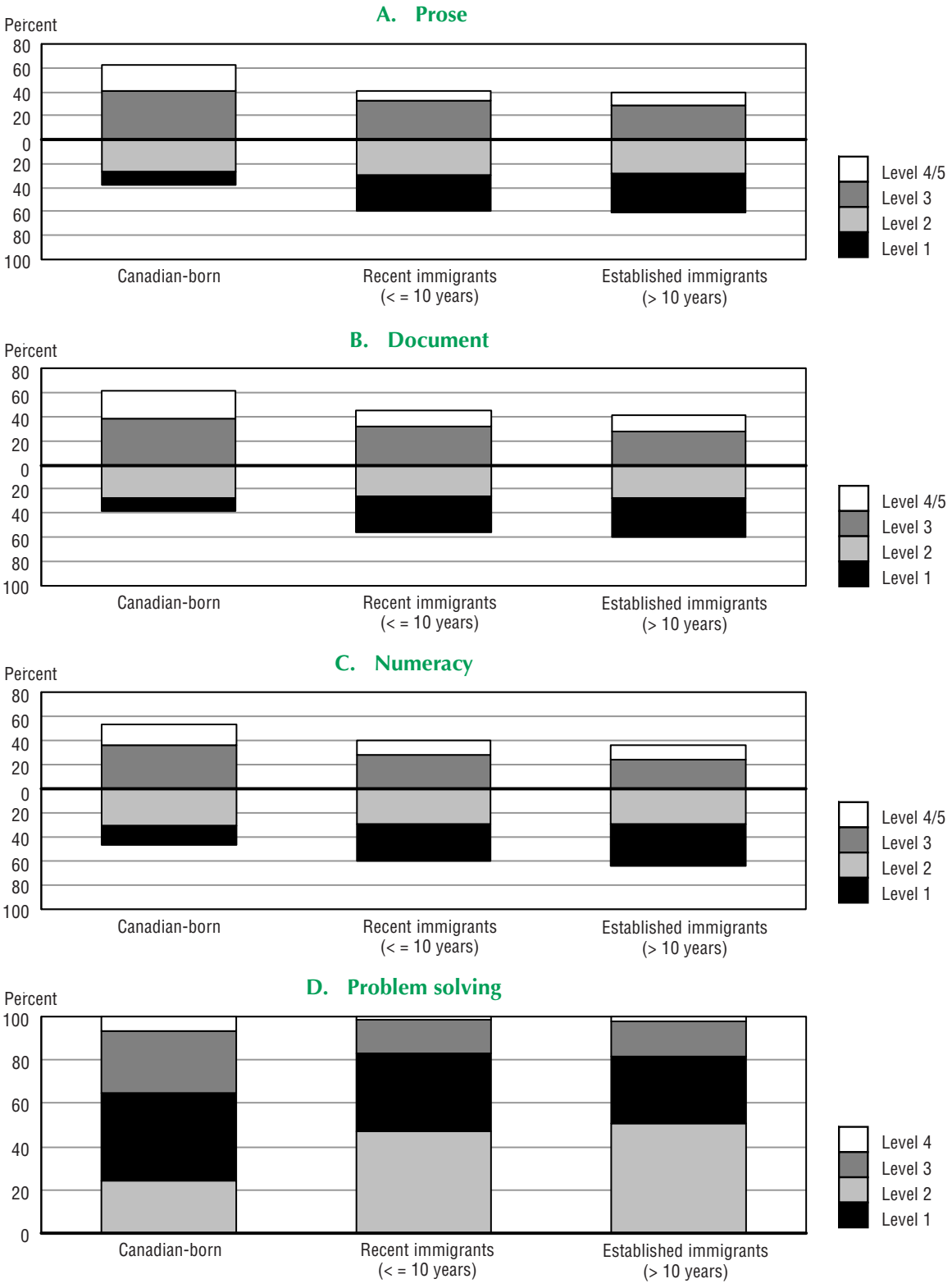
Perhaps contrary to expectation, overall, duration of residence in Canada appears to have no significant impact on the average performance of immigrants in any of the four domains. While one might expect immigrants to perform better the longer they are in Canada, cohort differences may account for the results. Since recent immigrants are generally better educated than established immigrants, literacy levels may be higher for recent immigrants despite the short time they have been in Canada. Additional analysis is needed to better understand the lack of impact length of residence appears to have on proficiency in the four domains.

In all four domains, a higher percentage of recent and established immigrants perform at Levels 1 and 2 than the Canadian-born population. Sixty percent of recent and established immigrants, compared to 37 percent of the Canadian-born population, are at Levels 1 and 2 in prose literacy. Indeed, compared to the Canadian-born population, both groups of immigrants have a higher proportion performing at the lowest two levels for the prose and document literacy scales and for numeracy.

There are no significant differences between the proportion of recent and established immigrants at Levels 1 and 2 in any of the four domains. At the highest level of prose literacy, twelve percent of established and eight percent of recent immigrants performed at Level 4/5. This compares to 22 percent of the Canadian-born population indicating larger differences between Canadian-born and immigrant groups than among immigrant groups.

Figure 3.14

Distribution of proficiency levels, by immigrant status, Canada, population aged 16 to 65, 2003



Note: Figure 3.14D contains certain unreliable estimates. Consult the table 3.14 in Annex A for the standard error of each estimate.

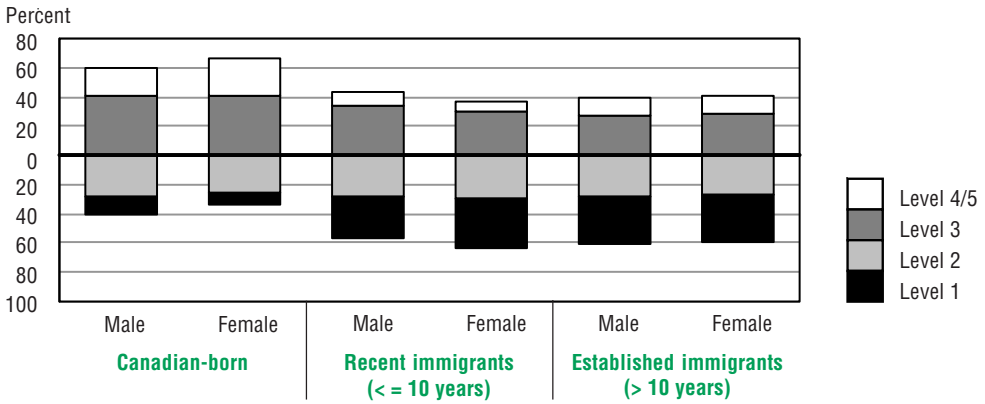
Source: *International Adult Literacy and Skills Survey, 2003.*

Proficiencies and gender

Figure 3.15 allows one to take a look at the distribution of prose literacy scores for immigrant and Canadian-born males and females. Thirty-four percent of recent female immigrants are at Level 1 – compared to nine percent for Canadian-born females. Similarly, a smaller proportion of recent immigrant females attain the highest levels of literacy, with only seven percent at Level 4/5 compared to 25 percent of Canadian-born women. Similarly, some 28 percent of recent male immigrants are at Level 1 literacy, a proportion more than double that of Canadian-born men. About nine percent of recent immigrant males compared to 19 percent of Canadian-born men are at Levels 4/5.

Figure 3.15

Distribution of prose proficiency levels, by immigrant status, gender, Canada, population aged 16 to 65, 2003



Source: International Adult Literacy and Skills Survey, 2003.

Proficiencies and mother tongue

As the source countries from which immigrants come to Canada have changed in the recent decades, fewer immigrants report having English or French as their mother tongue than those who arrived earlier. In 2003, one in ten immigrants spoke English or French as a mother tongue, compared to almost one in three in 1980 (CIC, 2004). A key question is whether having a language other than English or French as a mother tongue is associated with literacy performance.

While the number of immigrants surveyed does not support an analysis of recent and established immigrants separately with respect to mother tongue, it is possible to examine all immigrant groups together in order to determine whether mother tongue affects literacy scores. Indeed, immigrants whose mother tongue is a language other than English or French have lower scores in all four domains (See Annex A Table 3.26).

Though immigrants whose mother tongue is English or French have lower average prose literacy scores than their Canadian-born counterparts, their performance is significantly higher than immigrants whose mother tongues are neither English nor French.

The proportion of immigrants whose mother tongue is neither English nor French at Level 1 on the prose literacy scale (37 percent) is about twice that of immigrants with a mother tongue of English or French (17 percent) and over three times that of the Canadian-born population (10 percent).

About one-third of immigrants with a mother tongue other than English or French are at or above Level 3 prose literacy proficiency compared with just over half of immigrants whose mother tongue is English or French and 63 percent of the Canadian-born.

Low literacy scores in the test language in IALSS is not necessarily a reflection of low literacy in the respondent's mother tongue. More research is required to learn how mother tongue and official language acquisition affect literacy performance in Canada's two official languages.

Proficiencies and age

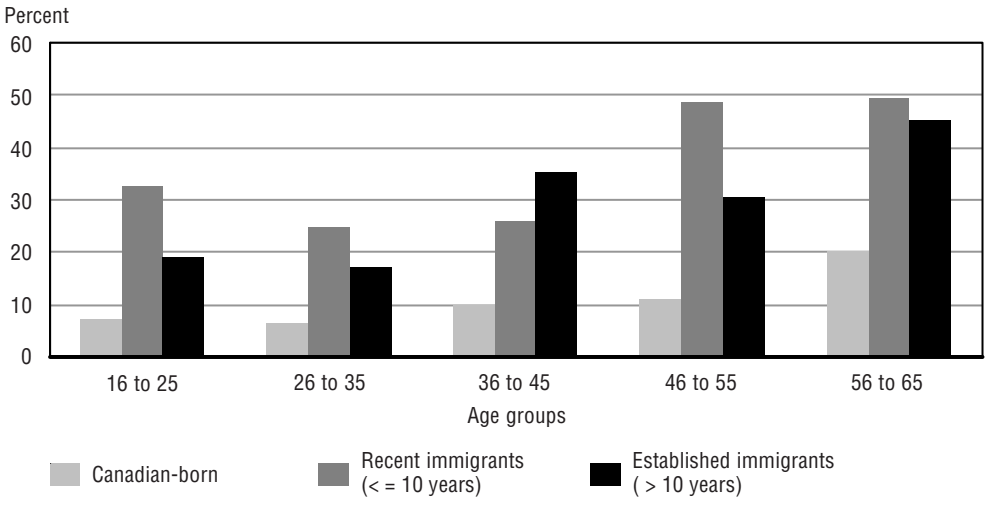
That younger age cohorts tend to score higher than older cohorts in all domains is a fact well established by previous IALS findings and confirmed in Chapter 2 (OECD and Statistics Canada, 1995). The 2003 IALSS data allow one to examine the relationship between age and prose literacy for each of three populations: recent and established immigrants and Canadian-born.

In prose literacy, younger age cohorts generally perform at a higher level than older cohorts for immigrant and the Canadian-born populations. This difference in prose literacy performance between the younger and older cohorts is more pronounced for established immigrants than for recent immigrants.

The difference in prose literacy proficiency between immigrants and the Canadian-born population remains once age is taken into account. Across the age cohorts, there are higher proportions of recent and established immigrants than Canadian-born at Level 1 proficiency. This difference in the proportions at Level 1 prose literacy is most pronounced for recent immigrants but the proportion of established immigrants at Level 1 is at least double that of the Canadian-born in each age group.

Figure 3.16

Percentage of the population at prose literacy Level 1, by age group, by immigrant status, Canada, population aged 16 to 65, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Proficiencies and education

Among those at the same level of educational attainment, there are large differences in literacy performance between immigrants and the Canadian-born. About two percent of the university-educated Canadian-born score at Level 1 prose literacy proficiency. In comparison, 14 percent of university-educated established immigrants and 18 percent of recent immigrants score at this level. At the other end of the scale, 37 percent of university-educated Canadian-born compared to 21 percent of university-educated established immigrants and 11 percent of university-educated recent immigrants score at Levels 4/5 (See Annex A Table 3.28).

Comparing those who are at the lowest level of prose literacy (Level 1), the Canadian-born and the established immigrants have lower educational attainment than the recent immigrants. At Level 1 proficiency, 59 percent of the Canadian-born, 46 percent of established immigrants and 26 percent of recent immigrants have less than upper secondary education. Given the higher educational attainment of recent immigrants, it is possible that many of them have higher literacy proficiency in their mother tongue. More research is needed to determine the extent to which low literacy scores of recent immigrants reflect a lack of proficiency in English or French, rather than low literacy in their mother tongue.

Conclusions

This chapter has examined the literacy performance of groups of special interest to Canadians, including linguistic minorities, Aboriginal populations and immigrants. A wealth of data and analytical results are presented for each population group. These results should be considered exploratory, since many questions remain unanswered while new issues are also raised.

The findings indicate that literacy proficiency is not equally distributed across various groups in Canada. In each of the four provinces where significant proportions of the population speak both official languages, New Brunswick, Quebec, Ontario and Manitoba, the proportion of Francophones that score below Level 3 prose literacy proficiency is higher than the proportion of Anglophones.

In part a reflection of differing levels of formal education and use of a mother tongue other than English or French, the literacy performance of the Aboriginal and immigrant populations surveyed is lower than that of the total Canadian population.

Equal opportunities and equitable outcomes remain important goals in Canada. The IALSS provides important data for further research to assess the extent to which the observed differences in measured literacy, numeracy and problem solving proficiency among particular groups lead to different economic and social outcomes.

Endnotes

1. A thematic report devoted to official language minorities will examine in detail the factors that may explain these differences.
2. References made to the non-Aboriginal population of Manitoba and Saskatchewan includes respondents from urban and non-urban areas.
3. The data discussed in this section have not been age standardized to remove the effect of age differences.

References

Citizenship and Immigration Canada, *Recent Immigrants in Metropolitan Areas: Canada – A comparative profile based on the 2001 Census. April 2005, p.23.*

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Denton, F., Feaver, F., and Spencer, B. *Immigration and Population Aging.* Canadian Business Economics, February 1999.

Green, D., and Christopher Worswick, *Earnings of Immigrant Men in Canada: The Roles of Labour Market Entry Effects and Returns to Foreign Experience.* Citizenship and Immigration Canada, December 2002.

Chapter 4

Proficiency and economic outcomes

It is widely believed that individuals with greater knowledge, skills and desirable personal attributes have a higher likelihood of experiencing labour market success than those with less. The knowledge and skills of workers are known to be a major factor in productivity, innovation and technological change (Green and Riddell, 2001; Desjardins, 2004; Coulombe, Tremblay and Marchand, 2004). Furthermore, a workforce involved in continuous learning is an advantage in a global economy characterised by rapid change. A strong foundation in literacy and numeracy is the basis for the acquisition of further knowledge.

In the first part of this chapter several labour force outcomes and their relation to proficiency in the four domains measured - prose and document literacy, numeracy and problem solving - are examined. The second part of the chapter looks at participation in adult education and learning activities and its relationship to proficiency.

Proficiency and employment

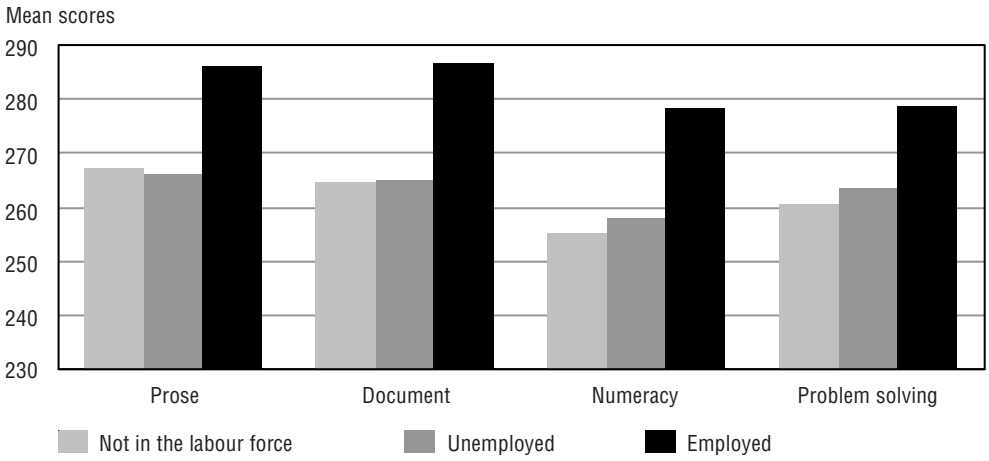
This section presents the employment outcomes of Canadians 16 to 65 years of age in six regions of the country: Atlantic, Quebec, Ontario, Prairies, British Columbia and the Territories. Due to small sample sizes for certain categories, it is necessary to limit our observations to regional rather than provincial statistics. Overall results for Canada are also shown.

At the Canada level, irrespective of the domain assessed, those who are employed have average proficiency scores higher than those who are either unemployed or who are not in the labour force (Figure 4.1).[1] Those who are unemployed or out of the labour force have average scores corresponding to Level 2 proficiency in prose and document literacy and in numeracy while those employed have average scores at Level 3.

There is clearly a relationship between literacy proficiency and employability. About 62 percent of employed Canadians have average document literacy scores at Level 3 or above (Figure 4.2). In contrast, over half of unemployed Canadians have document literacy scores below Level 3 – the desired threshold for coping with the rapidly changing skill demands of a knowledge-based economy and society.

Figure 4.1

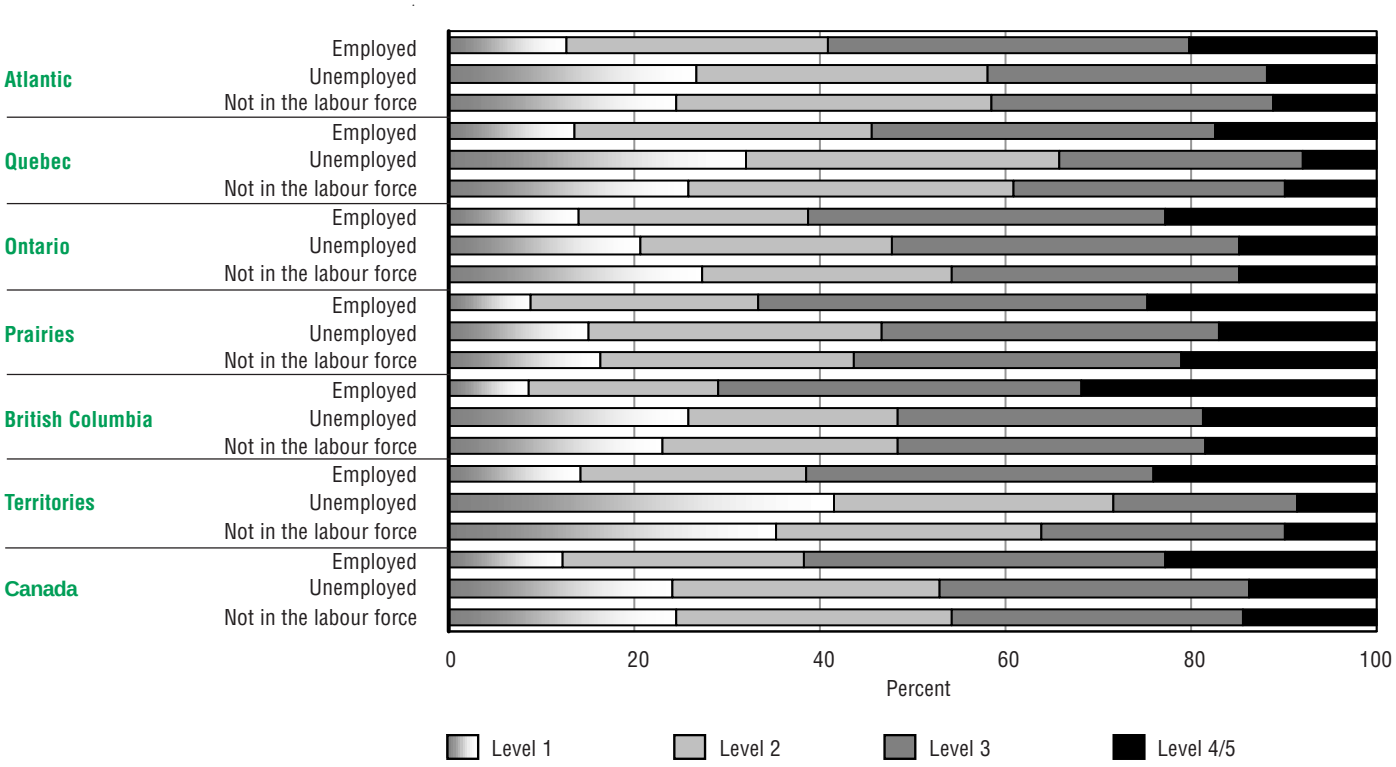
Average proficiency scores, by labour force status, Canada, population aged 16 to 65, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 4.2

Distribution of labour force population,[1] by document proficiency level, Canada and regions, population aged 16 to 65, 2003



1. The labour force population is defined as respondents who are either employed or unemployed (looking for work).

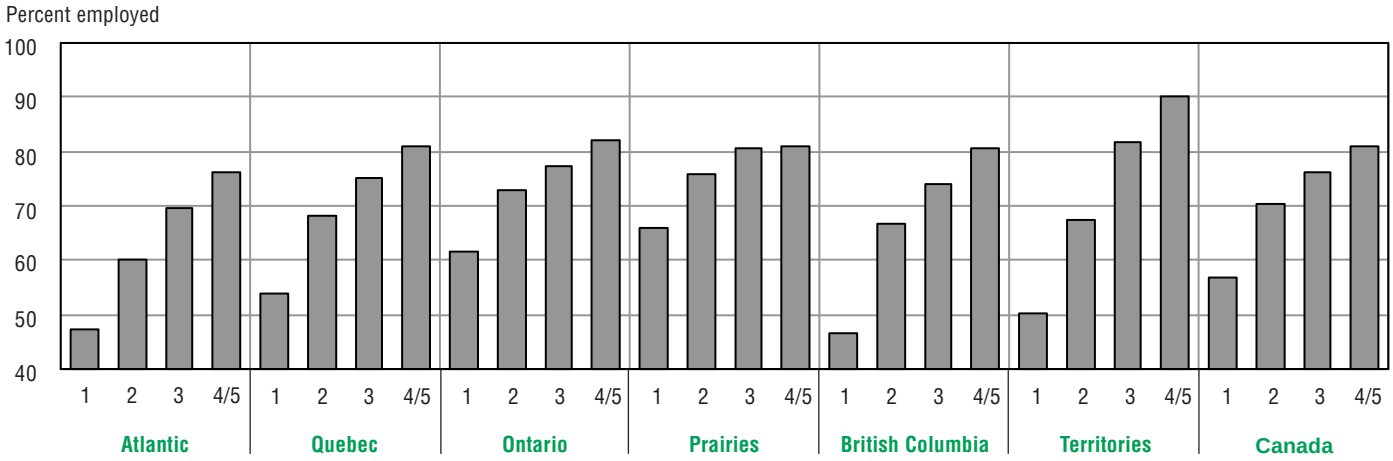
Note: This figure contains certain unreliable estimates. Consult the table 4.2 in Annex A for the standard error of each estimate.

Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 4.3 further illustrates the relationship between document literacy proficiency and employment. In Canada, individuals who have document literacy scores at Level 1 – the lowest level of proficiency – have a much lower employment rate[2] than do those at higher levels of proficiency. About 57 percent of those at Level 1 are employed compared to over 80 percent of those who scored at Levels 4/5. At the national level, there is a notable increase in the employment rate between proficiency Levels 1 and 2.

Figure 4.3

Employment rate by document proficiency levels,[1] Canada and regions, population aged 16 to 65, 2003



1. The reference period for the IALSS employment status was the date of the interview. Respondents were asked the question: "What is your current work situation?".

Source: *International Adult Literacy and Skills Survey, 2003.*

The relationship between document literacy proficiency and employability is also observed across the Canadian regions although the relationship appears stronger in some regions than in others. With the exception of the Prairies, the unemployed in all regions have average document literacy scores corresponding to Level 2 proficiency whereas the employed have average scores at Level 3. In the Prairies, the average score for the unemployed, 276, is at the lowest end of Level 3 literacy – a likely reflection of the fact that Alberta and Saskatchewan are among the highest scoring jurisdictions in Canada. The difference in average document literacy scores between the employed and the unemployed is smaller in Ontario (14 points) and the Prairies (16 points) and larger in the Territories (48 points).

In the Territories and Quebec, around 70 percent of the unemployed have literacy proficiency below Level 3 compared to 39 percent and 46 percent of the employed population in these regions respectively. The proportions of the employed and unemployed populations below Level 3 are more similar in Ontario and the Prairies (See Annex A, Table 4.2).

Figure 4.3 shows the regional variation in employment rates by document literacy level. As at the national level, employment rates increase as literacy levels increase in all the regions. Again, there are regional differences apparent. In the Territories and British Columbia, for example, there is a large difference in employment rates by literacy level. Over 90 percent of those at Level 4/5 are employed in the Territories compared to 50 percent of those at Level 1 and in British Columbia the rates are 81 percent and 47 percent respectively. The difference in employment rates between those at Level 1 and Level 4/5 is smaller in Ontario and the Prairies.

While literacy proficiency is one contributing factor to finding employment, there are many others, and these factors are likely to interact. For example, in a tight labour market, those with low literacy proficiency may face more challenges in finding and retaining jobs than those with high levels of proficiency. Similarly, the types of skills in demand in various labour markets and by various occupations are likely to be a factor in finding employment.

Proficiencies among occupational groups

Knowledge intensive occupations increasingly demand the application of higher levels of competencies. Further, the interaction of technology and production is such that the nature of these jobs is continually changing. Proficiency in the four domains, prose and document literacy, numeracy and problem solving, is important for the acquisition and application of new knowledge and skills.

Text box A4

Measuring knowledge-based occupations

Recent efforts to reclassify the International Standard Classification of Occupations (ISCO) into fewer occupational groups (e.g., Osberg, Wolff and Baumol, 1989; Lavoie and Roy, 1998; Boothby, 1999) categorize types of occupations on the basis of knowledge content and common skills including cognitive, communication, management and motor skills. Evidence suggests that occupations tend to cluster according to relatively few mixes of skill requirements and few occupational types (Béjaoui, 2000). Note that IALSS measures only some components of cognitive skills.

In this section, all ISCO occupations are classified into six large groups: knowledge expert, management, information high-skill, information low-skill, services low-skill, and goods-related occupations.

Knowledge expert types of occupations require the most use of cognitive skills, more than average management and communication skills as well as fine motor skills. Although managers are required to use cognitive skills slightly less intensively than experts, they are required to use management and communication skills most often, making their required skills set the most balanced. Similar to experts, high and low-skill information occupations require the use of cognitive, management and communication skills more than the average, with higher use by the former. Low-skill services and goods-related occupations require the use of these types of skills comparatively less often. See Boothby (1999) and Béjaoui (2000) for a more detailed description.

This section presents the average scores in the four domains for six groups of occupations: knowledge expert, management, information high-skill, information low-skill, services low-skill, and goods-related (See Text Box A4 and also Annex A, Table 4.15).

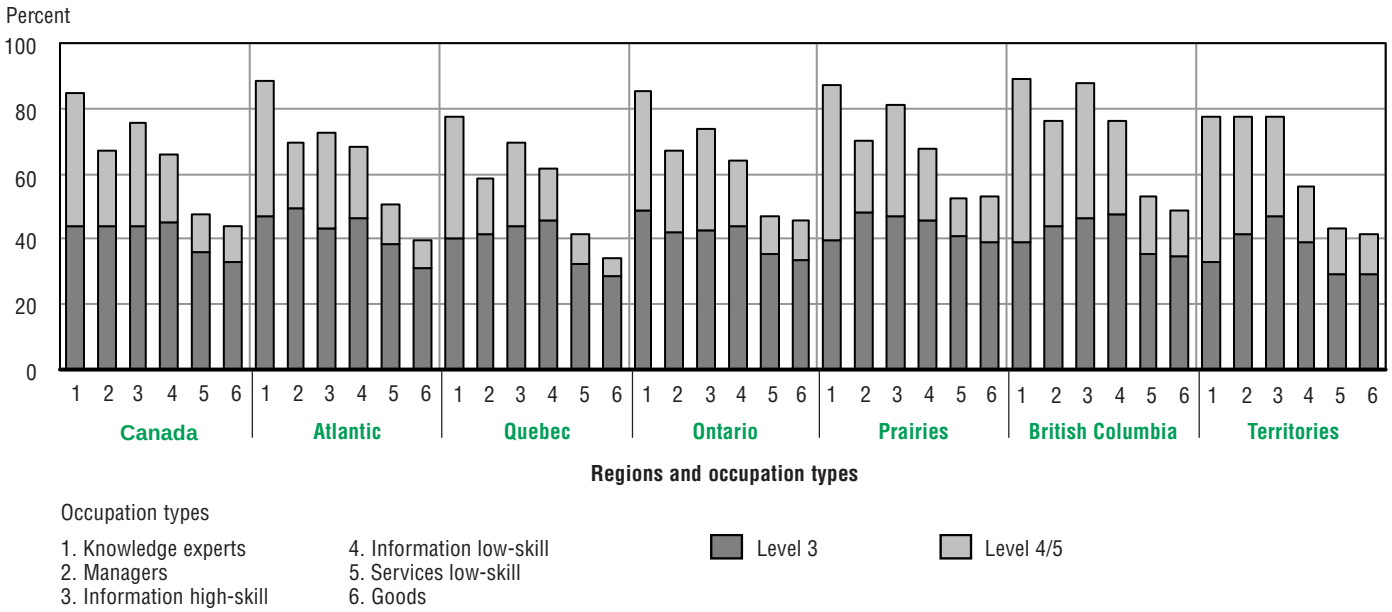
Nationally, as well as in most of the regions, the average scores of knowledge experts, managers, and information skills professionals correspond to Level 3 proficiency in prose literacy, document literacy and numeracy. The average scores of workers in services and goods-related occupations across these three domains are generally at Level 2. For example, in Canada, the average document literacy score of knowledge experts is 53 points higher than the average score of workers in the goods production occupations.

The relative composition of occupations in regional labour markets can vary due to the importance of certain economic sectors. Occupations requiring higher use of cognitive knowledge and skills tend to feature higher proportions of workers with high literacy proficiency (Levels 3 and 4/5) in the four domains assessed.

Figure 4.4 shows that, for the nation and the six regions, the majority of knowledge experts score at Level 3 or above in prose literacy proficiency. In fact, the proportion of knowledge experts at the highest level of literacy, Level 4/5, ranges from 36 percent to 50 percent. In contrast, in all regions around half or fewer of workers in services and goods production occupations are at or above Level 3 in prose literacy.

Figure 4.4

Percent of labour force population at prose levels 3 and 4/5, by type of occupations, Canada and regions, population aged 16 to 65, 2003

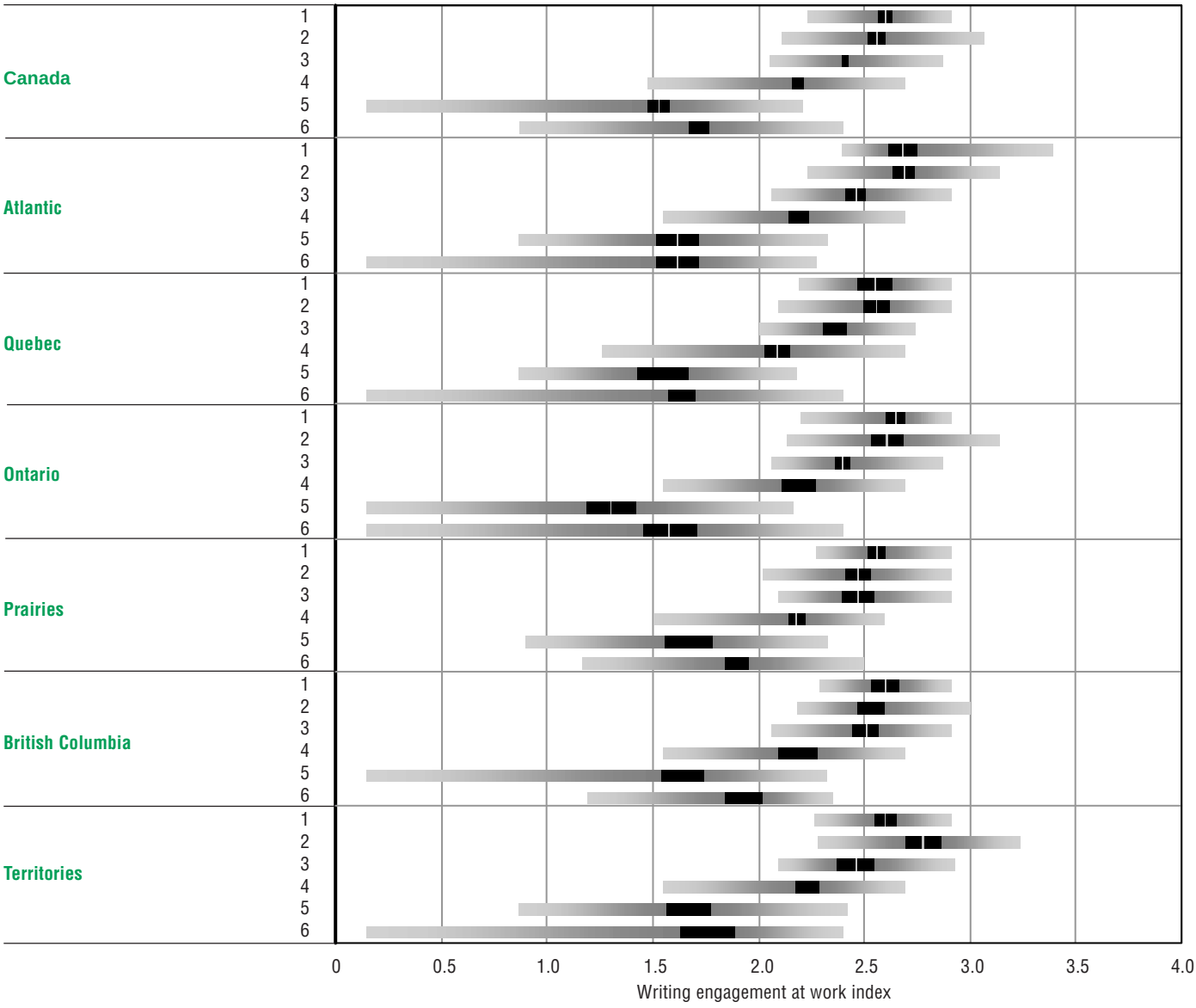


Source: *International Adult Literacy and Skills Survey, 2003.*

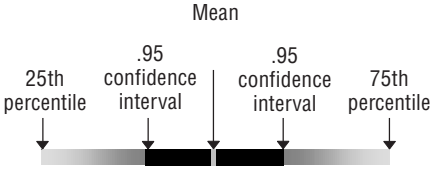
Many occupations in the knowledge economy require frequent processing of information not only through reading and numeracy practices but also through writing. Figure 4.5 shows that the extent of writing engagement at work is strongly associated with the occupation of workers. The pattern is similar in all regions and suggests that workers in knowledge-related occupations, including knowledge experts, managers and high-skill information professionals, tend to engage more often in writing at work than do low-skill information, services and goods production workers.

Figure 4.5

Index scores of writing engagement at work with .95 confidence intervals and 25th and 75th percentile scores, by aggregated occupational types, Canada and regions, population aged 16 to 65, 2003



1. Knowledge experts
2. Managers
3. Information high-skill
4. Information low-skill
5. Services low-skill
6. Goods



Source: *International Adult Literacy and Skills Survey, 2003.*

Text box B4

Measuring engagement in literacy and numeracy related tasks at work

The IALSS survey gathered information on select reading, writing and numeracy related activities at work. This includes 17 items as follows:

- Six items regarding the frequency of reading or using information from each of the following as part of the respondent's main job: letters, memos or e-mails; reports, articles, magazines or journals; manuals or reference books including catalogues; diagrams or schematics; directions or instructions; bills, invoices, spreadsheets or budget tables.
- Five items regarding the frequency of writing or filling out each of the following as part of the respondent's main job: letters, memos or emails; reports, articles, magazines or journals; manuals or reference books including catalogues; directions or instructions; bills, invoices, spreadsheets or budget tables.
- Six items regarding the frequency of doing each of the following as part of the respondent's main job: measure or estimate the size or weight of objects; calculate prices, costs or budgets; count or read numbers to keep track of things; manage time or prepare timetables; give or follow directions or use maps or street directories; use statistical data to reach conclusions.

Using these items, reading, writing and numeracy indices were created. This involved a three step process. First, Exploratory Factor Analysis (EFA) was used to explore and model the data. Second, Confirmatory Factor Analysis (CFA) was used to validate the models chosen and hence the indices. Third, items were selected and scaled according to the CFA using the Rasch item response model. The scale score is a weighted maximum likelihood estimate, and countries were given equal weight in the scaling process. Indices are standardized so the mean of the index value for the combined sample of all participating countries is two and the standard deviation is one. But for the purpose of the analyses reported in Figure 4.5, the index scores are reported as ranging from zero to four in order to facilitate the interpretation of the scale. The scale values roughly correspond as follows: one is "never"; two is "rarely"; three is "less than once a week"; and four is "at least once a week".

Proficiency among industrial sectors

Knowledge intensive industries, by their very nature, are likely to have a greater demand for highly proficient workers. As the knowledge-based economy increases in size and importance, supporting this growth sector will require a sufficient supply of highly proficient workers. Table 4.1 provides a profile of the proficiency of the labour force in different industrial sectors (See Text Box C4).

At the national level, two industries stand out as having relatively high average proficiency scores in all four of the domains assessed - knowledge-intensive market service industries and public administration, defence, education and health. Workers in several other industrial sectors, including other community social and personal services, high and medium-high technology manufacturing industries, and transport and storage, also have average scores that correspond to Level 3 proficiency in prose and document literacy and in numeracy. Two industries, low and medium-low-technology manufacturing, and primary industries have workers with average scores at Level 2 in both literacy domains and in numeracy.

Text table 4.1

Average proficiency scores, by industry, Canada, population aged 16 to 65, 2003

	Prose	Document	Numeracy	Problem solving
	Average scores			
Knowledge-intensive market service activities	297	298	292	288
Public administration, defense, education and health	303	300	287	291
Other community, social and personal services	286	287	277	279
High and medium-high-techonology manufacturing industries	283	287	285	277
Low and medium-low-technology manufacturing industries	265	267	262	261
Utilities and Construction	274	278	274	269
Wholesale, retail, hotels and restaurants	276	277	267	271
Transport and storage	281	282	277	274
Primary industries	271	273	269	267

Note: Standard errors for this table can be found in Annex A Table 4.14.

Source: *International Adult Literacy and Skills Survey, 2003.*

Text box C4

Measuring technology- and knowledge intensive industries

Some industries are more dependent on technology and knowledge inputs than others. Recent work by the OECD categorizes industries according to their relative intensity of technology use in the case of manufacturing industries, and knowledge in the case of market service industries. (*Science, Technology and Industry Scoreboard* (OECD, 1999, pp. 18, 60, 137-140; and 2001, p. 124). This classification is used in this section.

All manufacturing industries are classified according to technology intensity into four categories: high technology manufacturing, medium-high technology manufacturing, medium-low technology manufacturing, and low technology manufacturing. Categories may be collapsed due to limited sample size.

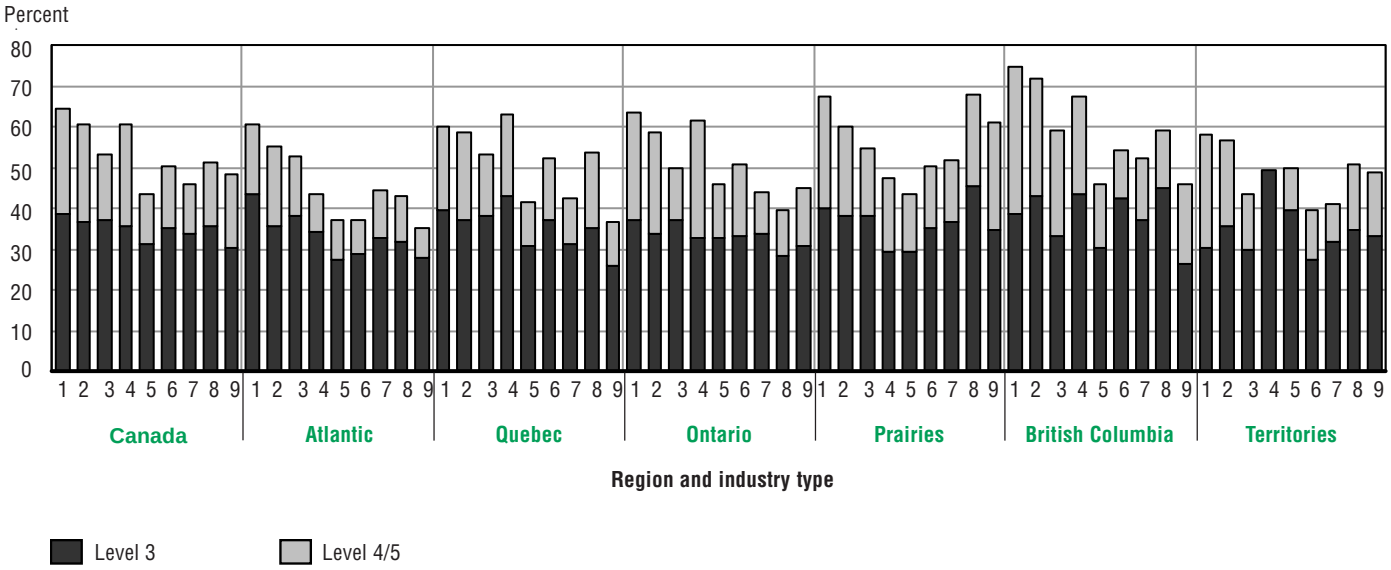
The knowledge-intensive market service activities category includes post and telecommunications (ISIC division 64), finance and insurance (ISIC divisions 65-67), and business activities excluding real estate (ISIC divisions 71-74).

In Canada, the same two industries having higher average scores across the four domains also show relatively high proportions of workers at the highest levels of proficiency - knowledge-intensive market service activities and public administration, defence, education and health. In these two sectors, at least one quarter of the workers score at Level 4/5 proficiency in prose and document literacy and in numeracy. The high and medium-high technology manufacturing sector also has more than one quarter of its workers scoring at Level 4/5 in document literacy and in numeracy (Figures 4.6 A and B).

Overall, at least one in ten workers in any industry sector scores at the highest level of prose, document and numeracy proficiency. In fact, about 50 percent of workers in low and medium-low-technology manufacturing industries; utilities and construction; transport and storage; wholesale, retail, hotels and restaurant industries; and primary industries score at Level 3 or above in prose, document,and numeracy proficiency.

Figure 4.6A

Percent of labour force population[1] at numeracy levels 3 and 4/5, by type of industry, Canada and regions, population aged 16 to 65, 2003



1. Knowledge-intensive market service activities
2. Public administration, defense, education and health
3. Other community, social and personal services
4. High and medium-high-technology manufacturing industries
5. Low and medium-low-technology manufacturing industries
6. Utilities and Construction
7. Wholesale, retail, hotels and restaurants
8. Transport and storage
9. Primary industries

1. The labour force population is defined as respondents who are either employed or unemployed (looking for work).

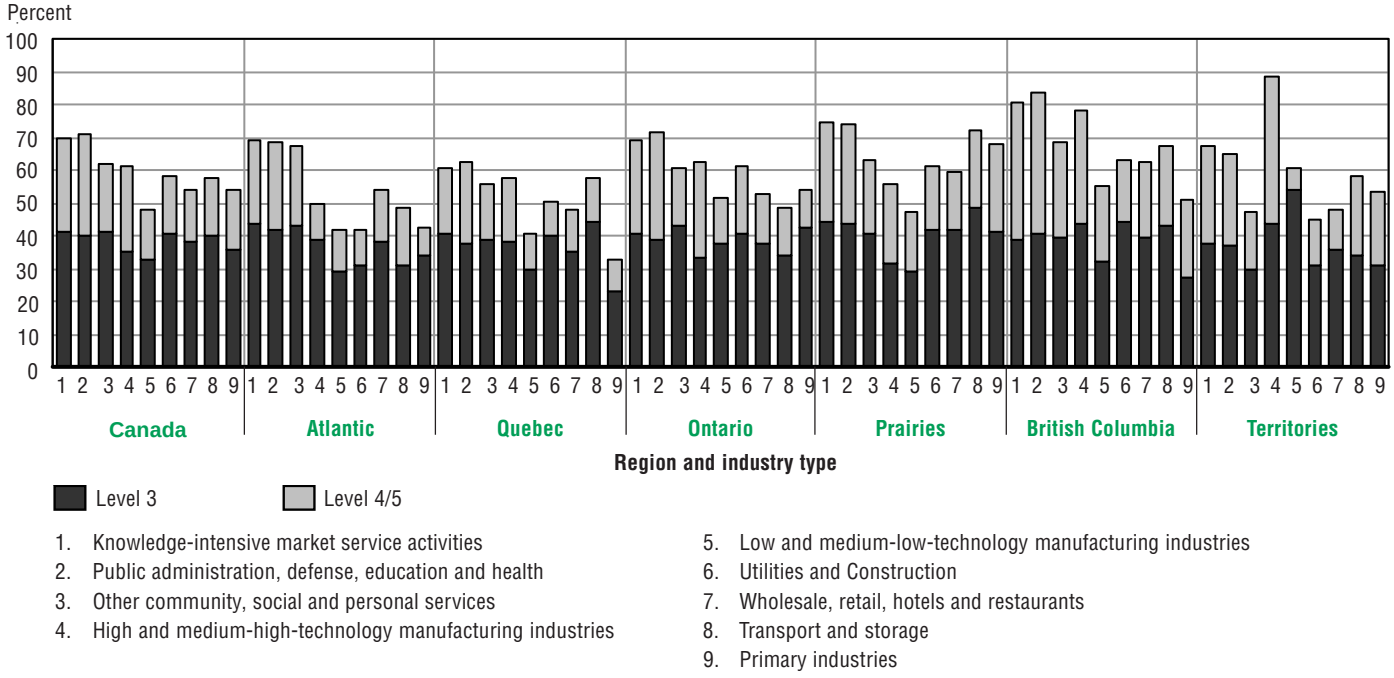
Note: This figure contains certain unreliable estimates. Consult the table 4.6 in Annex A for the standard error of each estimate.

Source: *International Adult Literacy and Skills Survey, 2003.*

In all regions, knowledge-intensive market services and public administration, defence and education industries have high proportions of highly proficient workers. There are, however, some notable regional differences. In the Atlantic region, Quebec, and Ontario about one in ten workers in the primary industries are at Level 4/5 prose, document and numeracy proficiency. In contrast, in the Prairies, British Columbia, and the Territories, about one in five workers in the primary industries are at this highest level of proficiency. This difference in worker profile is likely a reflection of the nature of the primary industries in these regions.

Figure 4.6B

Percent of labour force population[1] at document levels 3 and 4/5, by type of industry, Canada and regions, population aged 16 to 65, 2003



1. Knowledge-intensive market service activities
2. Public administration, defense, education and health
3. Other community, social and personal services
4. High and medium-high-technology manufacturing industries
5. Low and medium-low-technology manufacturing industries
6. Utilities and Construction
7. Wholesale, retail, hotels and restaurants
8. Transport and storage
9. Primary industries

1. The labour force population is defined as respondents who are either employed or unemployed (looking for work).

Note: This figure contains certain unreliable estimates. Consult the table 4.6 in Annex A for the standard error of each estimate.

Source: *International Adult Literacy and Skills Survey, 2003.*

Proficiencies and wages

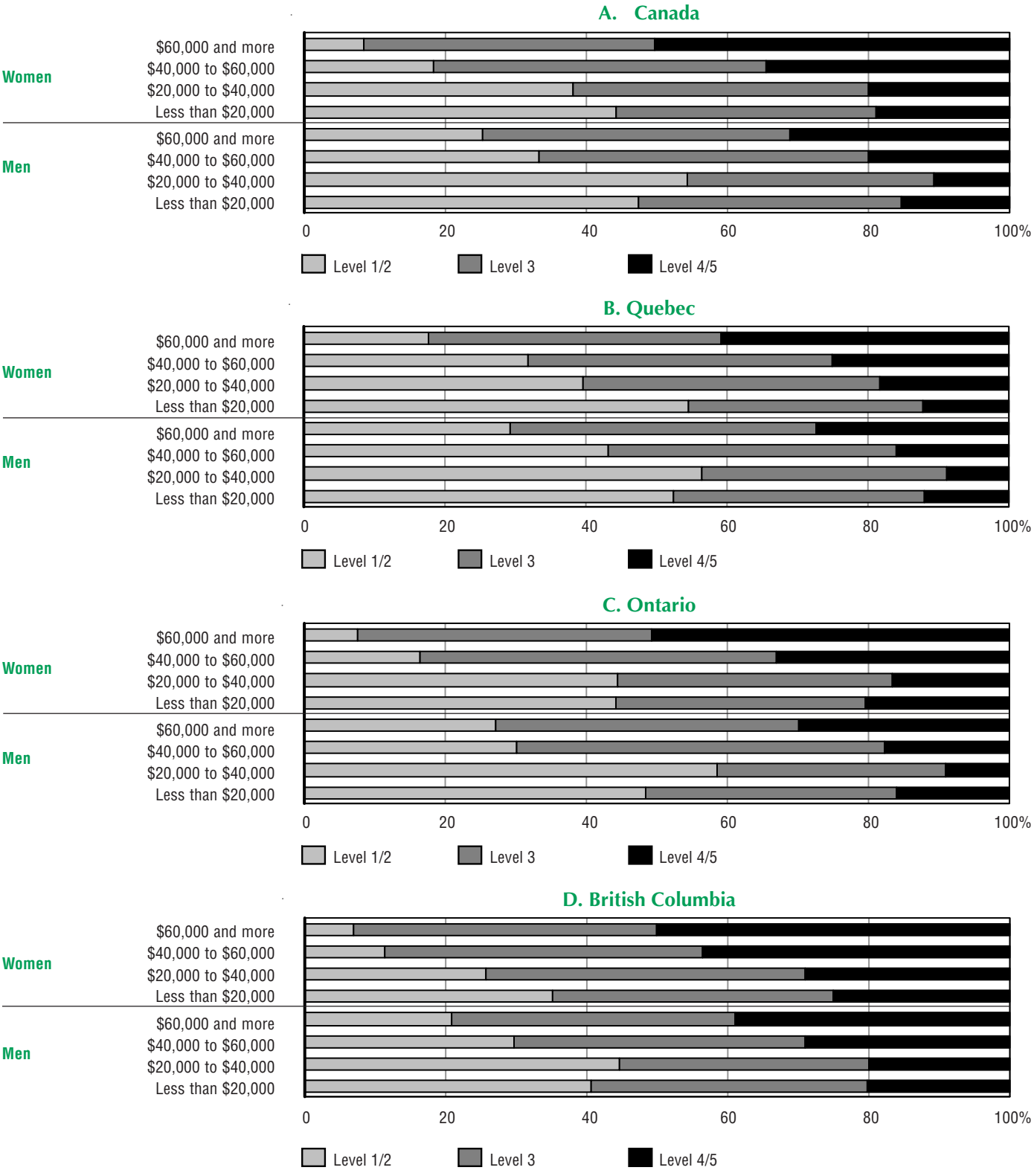
Being employed, the type of job held, and the industry in which one works are all associated with literacy and numeracy proficiency. Previous research has also established that employment earnings are related to literacy proficiency along with many other factors such as education and gender. Green and Riddell (2001) demonstrate that literacy has a large effect on earnings, equivalent to about one-third of the estimated "wage return on education." They find that an increase in an individual's position on the distribution of literacy scores of ten percentiles results in a three percent increase in earnings (Green and Riddell, 2001). Previous research has also established that earnings differ for men and women, though the gap in earnings has narrowed slightly over the past decade (Drolet, 2001).

Figures 4.7 A to D show a clear relationship between high prose literacy proficiency and high earnings. However, the relationship between prose literacy and earnings is generally stronger for women than for men both at the national and regional levels. Just under one-third of men earning $60,000 a year were at the highest level of prose literacy (Level 4/5), compared to 15 percent among those earning less than $20,000. The difference is even greater for women – 50 percent of women with annual earnings of $60,000 or above are at prose literacy Level 4/5 compared with 19 percent who earned less than $20,000.

A much higher percentage of men than women earning at least $60,000 a year are at the lowest levels of literacy - one in four men and fewer than one in ten women nationally. Similarly, in the next highest earnings category, $40,000 up to $60,000, about one in three men compared with less than one in five women are at the lowest levels of prose literacy.

Figure 4.7 A to D

Distribution of prose proficiency levels, by annual earnings, gender, Canada, Quebec, Ontario and British Columbia, population aged 16 to 65, 2003



Note: This figure contains certain unreliable estimates. Consult the table 4.7 in Annex A for the standard error of each estimate.

Source: *International Adult Literacy and Skills Survey, 2003.*

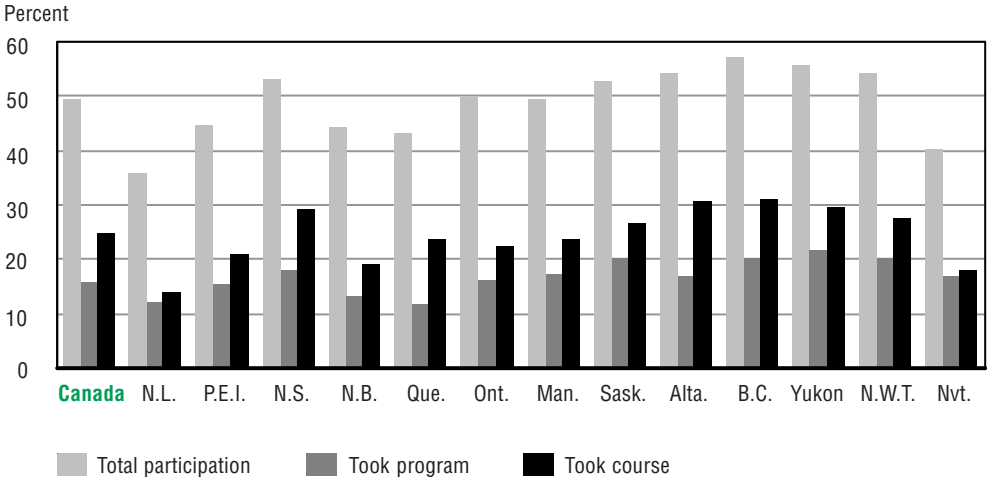
Proficiency and adult learning

A lifelong learning culture implies continuous learning throughout the working life and the years beyond. Such involvement in learning is likely to help maintain competencies and to help acquire additional knowledge and skills. The 2003 IALSS collected data on participation in various forms of adult education and learning during the twelve months preceding the interview.

In Canada, almost 50 percent of the population aged 16 to 65 participates in some form of adult education and learning activities. The IALSS differentiated between participation in programs of study, defined as a collection of courses that leads to a credential, and participation in organized courses that were not part of a program. The proportion enrolling in organized courses is higher than the proportion participating in programs of study - 25 percent compared to 16 percent. For the most part, participation rates in the jurisdictions are close to the national rate. The rate is significantly below the national average in Newfoundland and Labrador, Quebec and Nunavut and above the national average in British Columbia (Figure 4.8).

Figure 4.8

Percent of population receiving adult education and training the year preceding the interview, by type of participation, Canada and jurisdictions, population aged 16 to 65, 2003



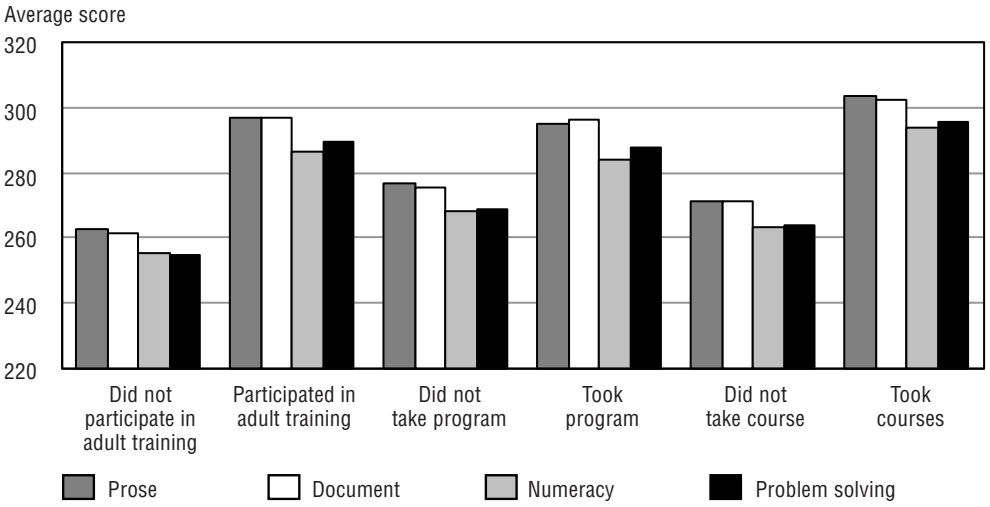
Source: *International Adult Literacy and Skills Survey, 2003.*

Proficiency in literacy, numeracy and problem solving provides the foundation for the acquisition of new knowledge and skills. Across all regions, those who participate in adult learning activities have higher average scores in all domains (Figure 4.9).

In all regions, as proficiency levels increase, so too does participation in adult learning. In all provinces and territories there is a substantial difference between the participation rates of those with the lowest and highest levels of literacy. Participation rates among those with Level 1 proficiency in document literacy are at about 20 percent compared to about 70 percent among those at Level 4/5 (Figure 4.10).

Figure 4.9

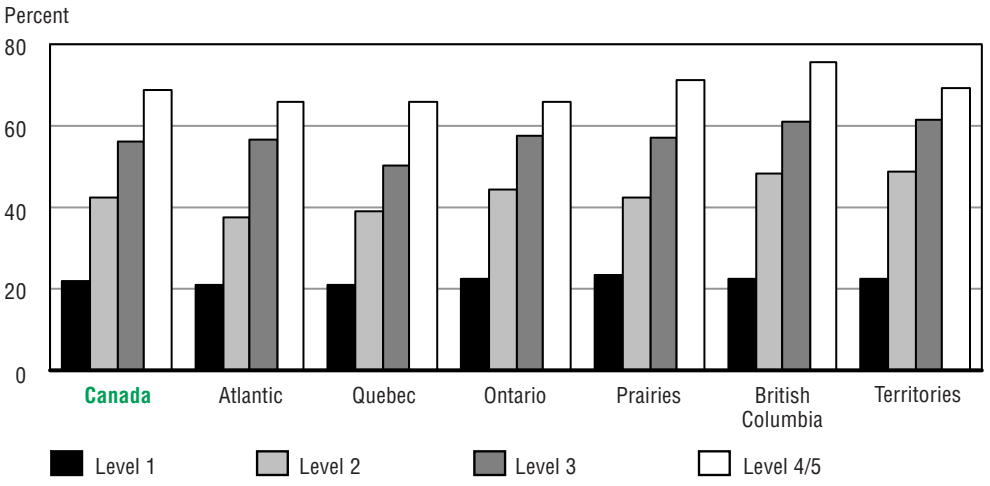
Average proficiency scores of population receiving adult education and training in the year preceding the interview, Canada, population aged 16 to 65, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 4.10

Percent of population receiving adult education and training during the year preceding the interview, by document proficiency levels, Canada and regions, population aged 16 to 65, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Adults can take part in a range of learning activities, some of which are relatively informal and take place outside the traditional education system. The IALSS measured participation in a variety of such activities, and distinguishes between those that are "active" and those that are "passive". Active modes of informal learning include, for example, going on guided tours, attending trade fairs and short lectures or seminars while passive modes include using video and tapes to learn, reading manuals and reference books and learning by trying things out (See Text Box D4).

Text box D4

Measuring informal learning

Informal learning occurs outside the formal education system through daily activities at home, at work and in the community. The IALSS study collected information on participation in a range of informal learning activities, including: visits to trade fairs, professional conferences or congresses; attending short lectures, seminars, workshops or special talks that are not part of a course; reading manuals, reference books, journals or other written materials but not as part of a course; going on guided tours such as museums, art galleries, or other locations; using computers or the internet to learn but not as part of a course; using video, television, or tapes to learn, but not as part of a course; learning by watching, getting help from or advice from others but not from course instructors; learning by themselves by trying things out, doing things for practice, trying different approaches to doing things; learning by being sent around an organization to learn different aspects of that organization.

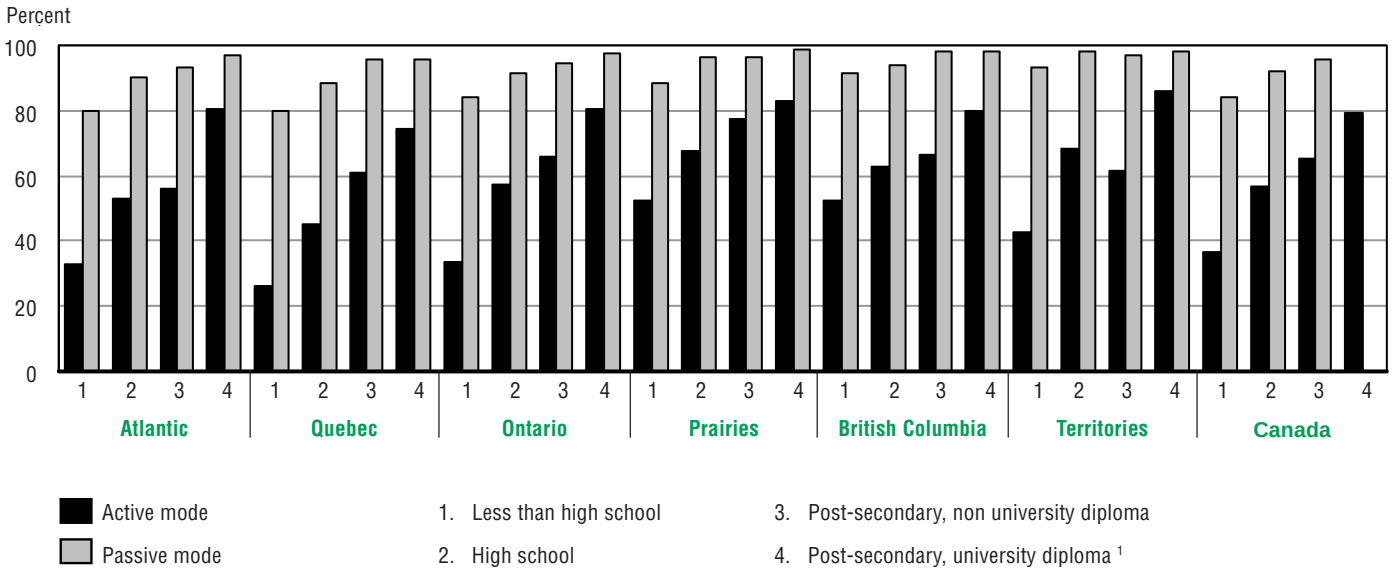
Informal learning is more or less a universal activity for Canadians aged 16 to 65. Over 90 percent of respondents engage in informal learning, particularly in passive modes of informal learning. Engagement in active learning is far less frequent and also varies more among jurisdictions, with fewer participating in Quebec (54 percent) and the Atlantic regions (56 percent) compared to the Prairies (72 percent) (Figure 4.11).

Previous research has shown that there is a strong relationship between educational attainment and participation in adult learning. Several factors, including education and literacy proficiency levels, may influence participation in active informal learning. As can been seen in Figure 4.12, Canadians with post-secondary education participate more in active modes of learning than do Canadians with a high school diploma or less. About 80 percent of Canadians with a university degree participate in active modes of training compared to 57 percent of Canadians with an upper secondary diploma. The difference is smaller for passive modes of learning. For instance, 97 percent of Canadians with a university degree participate in passive learning modes, compared to 84 percent among those with less than upper secondary education.

Figure 4.13 shows that there are also large differences in participation in active informal learning by level of document literacy proficiency in all regions. Those with lower literacy levels have much lower participation rates in active informal learning than do those at higher levels. In each of the regions, the participation rate in active modes of informal learning for those at document literacy Level 4/5 is about twice the rate or more for those at literacy Level 1.

Figure 4.11

Percent of population participating in active and passive modes of learning in the year preceding the interview, by education level, Canada and regions, population aged 16 to 65, 2003

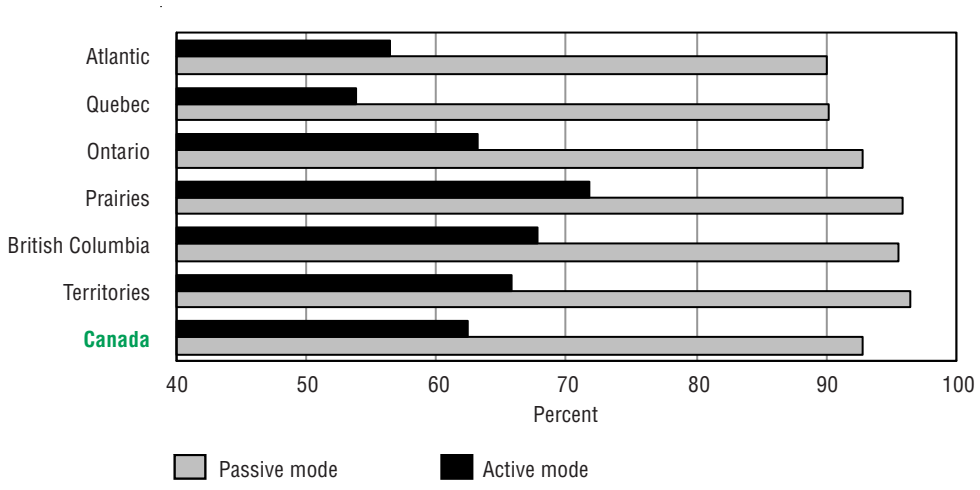


1. Including technical DEC diploma in Quebec province.

Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 4.12

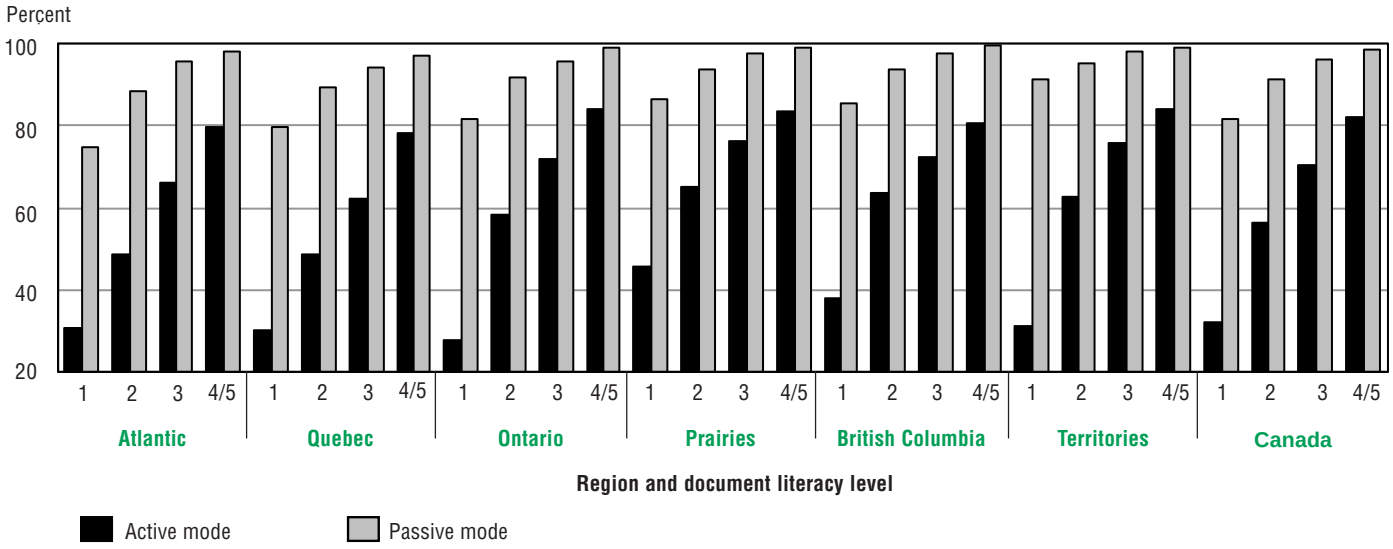
Percent of population participating in informal learning activities during the year preceding the interview, by mode of engagement, Canada and regions, population aged 16 to 65, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 4.13

Percent of population participating in active and passive modes of informal learning in the year preceding the interview, by document proficiency level, Canada and regions, population aged 16 to 65, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Conclusions

Proficiency of Canadians, aged 16 to 65, in literacy, numeracy and problem solving is clearly linked to their labour market outcomes. The average proficiency scores of those employed are higher than those who are either unemployed or not in the labour force. The employment rates are also higher for those with higher proficiency levels. Those who work in more knowledge intensive jobs tend to have higher literacy and numeracy proficiencies. In addition, higher earnings of Canadians are associated with higher proficiency, particularly for women. The findings highlight the importance of building and maintaining human capital amongst Canadians of working age.

The demand for high literacy and numeracy proficiency is likely to increase further as Canada moves more and more towards a knowledge-based economy. In every industry group except one, low and medium low technology, at least 50 percent of the labour force is proficient at Level 3 or above in document literacy. And, the proportion is just under 50 percent in low and medium low technology industries.

Continuous learning assists in maintaining competencies and acquiring new ones. Participation in adult learning is consistently related to proficiency in literacy and numeracy. Those with higher levels of proficiency have higher participation rates in learning activities overall and in active modes of informal learning.

Endnotes

1. According to the standard definition employed by Statistics Canada, the employed are persons having a job or business, whereas the unemployed are without work, available for work, and actively seeking work. Together the unemployed and the employed constitute the labour force. The employment rate for a particular group is the number of employed in that group expressed as a percentage of the population for that group.
2. The employment rate for a particular group is the number of employed in that group expressed as a percentage of the population for that group.

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Chapter 5

Proficiency and society

While it is relatively straightforward to measure success in economic outcomes, it is less obvious how to quantify the effect of literacy on social outcomes, such as individual and societal health and welfare. The IALSS is used in the first part of this chapter to shed light on these relationships, drawing on a series of questions related to individual health and well–being. The chapter employs an additional set of IALSS questions to explore the effects of literacy proficiency on key social indicators generally related to the concept of civic engagement: volunteering and civic participation.

The final part of this chapter looks at the use of Information and Communications Technologies (ICTs) and the factors related to their use. ICTs have become more pervasive in Canada and thus, access to and the ability to use them has important implications for daily living whether at work or at home.

Health and literacy

The link between health outcomes and years of schooling has long been recognised (Furu, 1985; Schwartzberg, Van Geest and Wang, 2005). More recently, the availability of national literacy data has allowed this link to be explored more fully. The findings suggest that literacy is a significant factor in explaining disparities in health care received by adults in advanced economies (Kirsch and von Davier, 2005).

Health limitations such as visual problems not corrected by aids such as eyeglasses have an obvious connection to the ability to read and understand printed material. The scope and severity of the condition have a direct impact on proficiency. Whereas a slight visual problem present but uncorrected since grade school can slow the acquisition of certain key competencies needed for effective literacy, complete blindness may arrest this development altogether and, while one may be proficient in alternate communication mediums (e.g. Braille or books on tape), the amount of information readily accessible is limited.

The IALSS data support research into more general aspects of the link between respondents' perceived health and their literacy scores. The IALSS measures health using a widely recognized set of questions on physical and mental health. The responses to these questions are used to estimate four groups of physical and mental health: "poor", "fair", "good" and "excellent" (See Text Box A5).

Text box A5

Measuring Physical and Mental Health in the IALSS

Health in the IALSS is measured using responses to a series of questions designed to estimate two scales: the Physical Component Summary (PCS) and the Mental Component Summary (MCS). These scales are internationally validated indicators of self-reported physical and mental health. In the IALSS they are measured on the basis of responses to 12 questions known as the SF-12. These 12 questions capture over 90 percent of the variance in a much larger 36-item instrument known as the SF-36. The abbreviated version reduces the burden on respondents and offers a practical way of measuring respondents' health. By applying weights to each response, the 12 questions can be used to calculate the PCS and MCS scales (for more information about these physical and mental health measures, please visit www.sf-36.org).

For the analysis in this chapter, the resulting PCS and MCS scale scores were grouped into national quartiles. This procedure assigned the boundaries for four analytical groups, each comprising 25 percent of the population, and labelled "poor", "fair", "good" and "excellent". Thus, the group with poor health is composed of the lowest scoring 25 percent of the population, measured nationally, while those in the group with excellent health are part of the highest scoring 25 percent.

The analysis of health and literacy focuses on the document literacy domain. Health care instructions and directions for taking medicines typically correspond to the general competencies measured by document literacy.

Analysis of the average document literacy score for each mental health grouping provides no support for a connection between mental health and document literacy. Indeed, in all provinces and territories, the distribution of literacy scores either does not vary significantly with differences in the respondents' perceived mental health, whether poor, fair, good or excellent, or the average scores fluctuate unpredictably.

In contrast, the results of an analysis of the physical health groupings suggest the existence of a relationship between physical health and literacy proficiency. Given the relationship between aging and physical health, with those over 65 having a much higher proportion reporting poor health, the analysis is presented for two age groups: 16 to 65 year-olds and over 65.

At the Canada level, for both age groups, literacy scores are lower for those who report being in poor physical health. The average document literacy score of those aged 16 to 65 who reported being in poor health is 267 – corresponding to Level 2 proficiency. For those in fair, good or excellent health, the average score is 284 – corresponding to Level 3 proficiency (Table 5.1).

In most jurisdictions, 16 to 65 year-olds in poor health have lower average document literacy scores than those reporting better health. Table 5.1 orders the provinces and territories by the size of the difference in average document literacy between those in poor health and those in fair, good or excellent health. For 16 to 65 year-olds, this difference is smallest in the Yukon and Northwest Territories.

Text table 5.1

Average document proficiency scores by Physical Component Summary (PCS) and age groups, Canada and jurisdictions, population 16 and over, 2003

Province or territory	Poor	Fair, good or excellent	Difference[1]
	Average		
Yukon			
16 to 65	287	296	9
66 and older	210	255	45
Total	**278**	**293**	**15**
Northwest Territories			
16 to 65	275	281	6
66 and older	176	200E	24
Total	**257**	**279**	**23**
Nunavut			
16 to 65	220	238	18
66 and older	174E	x	x
Total	**213**	**238**	**24**
Alberta			
16 to 65	278	293	16
66 and older	225	232	6
Total	**264**	**289**	**25**
New Brunswick			
16 to 65	254	276	21
66 and older	202	204	2
Total	**241**	**269**	**28**
Canada			
16 to 65	**267**	**284**	**17**
66 and older	**206**	**224**	**18**
Total	**248**	**279**	**31**
Ontario			
16 to 65	268	282	14
66 and older	204	225	21
Total	**247**	**278**	**31**
Saskatchewan			
16 to 65	285	297	12
66 and older	212	232	20
Total	**258**	**290**	**32**
Manitoba			
16 to 65	269	287	18
66 and older	211	230	20
Total	**249**	**281**	**32**
British Columbia			
16 to 65	274	294	20
66 and older	223	248	26
Total	**258**	**290**	**32**

Text table 5.1 (concluded)

Average document proficiency scores by Physical Component Summary (PCS) and age groups, Canada and jurisdictions, population 16 and over, 2003

Province or territory	Poor	Fair, good or excellent	Difference[1]
	Average		
Newfoundland and Labrador			
16 to 65	251	274	23
66 and older	192	216	24
Total	**237**	**269**	**32**
Quebec			
16 to 65	256	277	21
66 and older	192	211	19
Total	**237**	**271**	**33**
Prince Edward Island			
16 to 65	263	285	22
66 and older	208	216	7
Total	**245**	**279**	**33**
Nova Scotia			
16 to 65	268	290	22
66 and older	212	230	18
Total	**251**	**284**	**33**

1. The difference reported in the last column is the difference between the average document literacy scores of respondents receiving poor physical health scores and the average document literacy score for those receiving fair, good or excellent health scores. Jurisdictions have been ranked according to the difference of their total adult populations 16 and over.

E. Use with caution.

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

Source: *International Adult Literacy and Skills Survey, 2003.*

More than half of the over 65 population reports being in poor health compared to 20 percent of 16 to 65 year-olds. For Canada, those over 65 who report poor health have an average document literacy score of 206 – corresponding to Level 1 proficiency. At 224, the score is higher for those in fair, good or excellent health. The proportion of seniors reporting poor health is either close to or over 50 percent in each of the provinces and territories, with the exception of the Yukon. In each jurisdiction, the average document literacy score among seniors in poor health corresponds to Level 1 proficiency. The fact that about half of all seniors are in poor physical health and they score at the lowest level of proficiency may have serious implications for their overall quality of life.

While the existence in Canada of a link between reported physical health and document literacy is apparent, further studies are needed to disentangle the web of relationships that may underlie this phenomenon. The literacy demands placed on Canadians responsible for managing their own health and well-being are likely to grow in complexity as the Canadian health care system evolves. The link between literacy and health may become even more important in future years.

Civic engagement

The inclusion of measures of civic engagement in the IALSS makes it possible to explore the link between community involvement, literacy, numeracy and problem-solving. However, it is not possible to establish a cause and effect relationship. If those who are more proficient in literacy, numeracy and problem solving are more likely to participate in their community, they may also be more likely to develop strong community ties (See Healy and Côté, 2001).

The IALSS measured several aspects of engagement in community and society including participation in various groups and organizations and participation in volunteer activities. The analysis in this section focuses on a summary measure of these two types of participation. This summary measure is called civic engagement. The civic engagement summary index differentiates those who participate a great deal from those who participate a little or not at all (See Text Box B5).

Text box B5

Measuring civic engagement in the IALSS

The IALSS asked a series of questions relating to participation in community groups and organizations, and in volunteer activities. From these questions, two indicators – civic participation and social engagement - and one summary index were created.

The civic participation indicator was built by placing the seven measures of participation in various groups and organizations on a common scale, with a score of zero signifying no participation and a score of seven signifying participation in all possible civic groups and organizations. In order to facilitate the interpretation of results, a simple two-category variable was created separating those who participate in civic activities from those who do not.

Similarly, the social engagement indicator was built by placing the five measures of participation in volunteer activities on a common scale, where a score of zero signifies no volunteer activity and a score of five signifies volunteering in all the measured areas. Again, for the purpose of reporting, this index was then transformed into a simple variable with two categories, separating those who volunteer from those who do not.

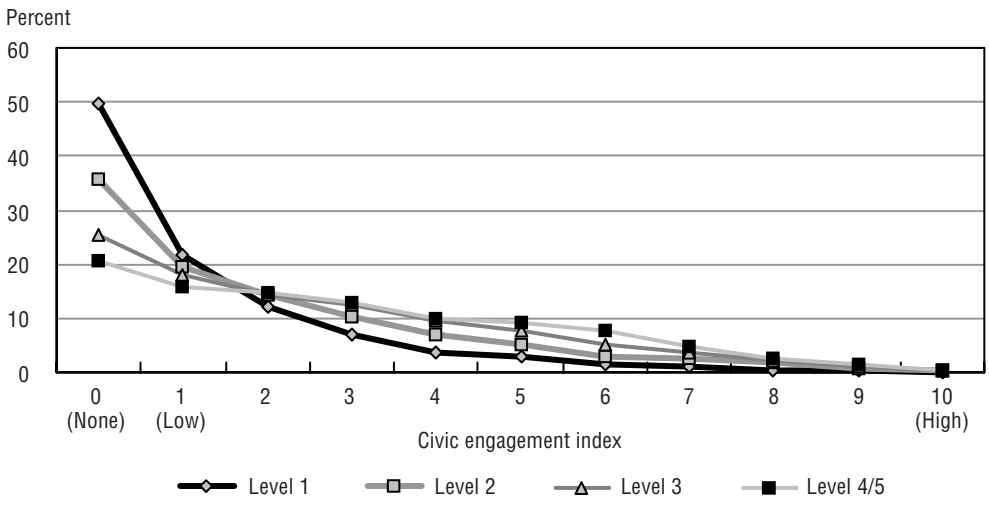
Finally, a composite index of civic engagement using all 12 of the measures was developed to identify respondents who neither participate in civic activities nor volunteer in any of the measured areas.

An analysis of the relationships between civic participation, social engagement and the four competency domains measured in the IALSS shows that the distributions of proficiency by participation in civic and social activities are similar across the four domains. For these reasons, the data analysis presented below uses only the composite index of civic engagement and the prose literacy scale.

Figure 5.1 shows the distribution of prose literacy levels by the scores on the civic engagement index. The observed patterns suggest that the higher the prose literacy levels, the more likely it is that a respondent engaged in various forms of civic and social activities.

Figure 5.1

Distribution of prose literacy levels by civic engagement index score, Canada, population aged 16 and over, 2003



Note: This figure contains certain unreliable estimates. Consult the table 5.1 in Annex A for the standard error of each estimate.

Source: *International Adult Literacy and Skills Survey, 2003.*

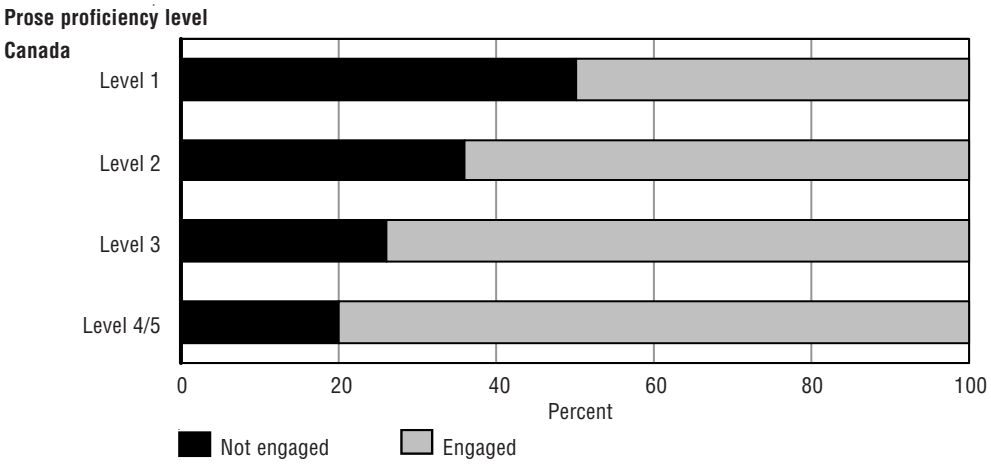
Half of all respondents at Level 1 on the prose literacy scale said they did not engage in any of the twelve types of participation and volunteer activities measured by the IALSS. Conversely, 21 percent of respondents at Level 4/5 never did so.

A second way of examining the same data is to look at the percentages of those engaged and those not engaged within each prose literacy level. The pattern displayed in Figure 5.2 also suggests that there is a positive relationship between prose literacy and civic engagement; higher levels of literacy proficiency are linked to higher levels of community involvement. About half of those with Level 1 prose literacy are engaged in civic activities. This proportion rises across each literacy level, and reaches 80 percent among those with Level 4/5 proficiency. It is worth noting that, in this simplified index, a person who is "not engaged" is one who neither volunteers nor participates in any of the measured group or organizational activities. Conversely, a person who is "engaged" participates or volunteers in at least one of the measured activities.

This association between literacy and civic engagement holds in all jurisdictions (See Annex A Table 5.2). As was the case at the national level, rates of civic engagement across the four levels of proficiency vary considerably by jurisdiction.

Figure 5.2

Civic engagement by prose proficiency levels, Canada, population aged 16 and over, 2003



Note: Provincial and territorial distributions with standards errors are provided in Annex A Table 5.2.
Source: *International Adult Literacy and Skills Survey, 2003.*

Proficiencies and the use of Information and Communication Technologies

Information and Communications Technologies (ICTs) have been a source of change for businesses, governments, and individuals. Within one generation, the means of transmitting information and interpersonal communication have changed dramatically. ICTs such as the personal computer and the Internet are so pervasive that they now mediate experience in many aspects of peoples' lives (Fanning, 2001). Whether preparing a presentation at work, using an Internet search engine or communicating with family and friends using email or chat programs, Canadians have learned new skills and adapted others to use these technologies. Because ICTs are so common, the ability to use them effectively is becoming increasingly important, both to nations and individuals (Kirsch and Lennon, 2005). Indeed, the ability to use ICTs has become a key competency.

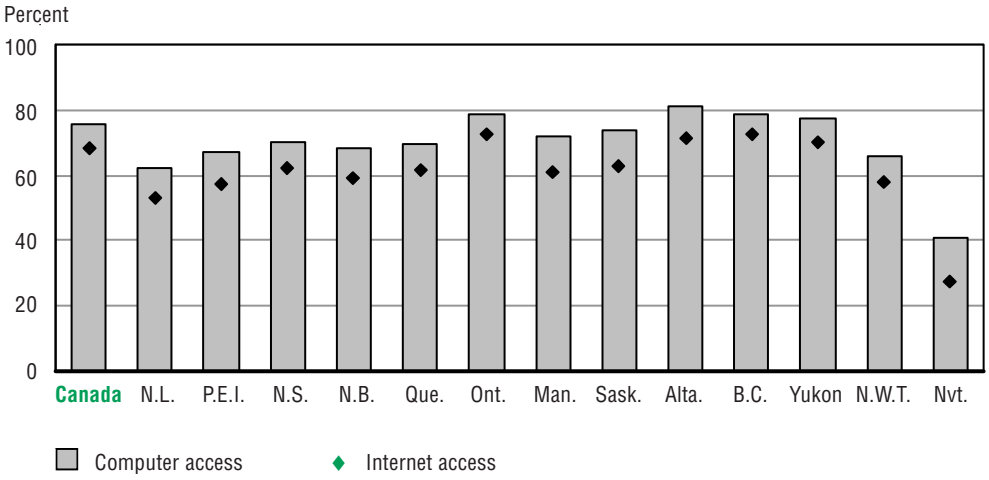
This section starts by briefly examining Canadians' access to computers and the Internet, and then proceeds to an investigation of some of the factors related to ICT use. This includes an exploration of the relationships between ICT use and variables such as education, literacy proficiency and income for the population aged 16 to 65. Results are presented for Canada and the provinces and territories where possible[1].

Access to personal computers and the Internet

According to the survey results, three in four Canadians (76 percent) aged 16 to 65 years have access to a computer at home. Among the six countries participating in the ALL survey,[2] access rates are slightly higher only in Norway (80 percent) and Switzerland (83 percent). A majority of Canadians (68 percent) also has an Internet connection at home. Internet connectivity is somewhat higher in Switzerland (75 percent) but similar in Norway (68 percent). Other studies have shown that the growth in home Internet connections stabilized in recent years partly because as penetration increased, the potential pool of new users became smaller (Statistics Canada, 2004).

Figure 5.3

Percent of population who report having access to a computer and the Internet at home, Canada and jurisdictions, population aged 16 to 65, 2003



Source: International Adult Literacy and Skills Survey, 2003.

Figure 5.3 indicates that Ontario, Alberta, British Columbia and the Yukon lead the provinces and territories, with computer access rates close to 80 percent and Internet access rates at or slightly above the national average of 68 percent. The Western provinces have traditionally been leaders in the penetration of high-speed Internet by cable (Veenhof, Neogi and van Tol, 2003). The Atlantic provinces of Newfoundland and Labrador, Prince Edward Island and New Brunswick, along with the Northwest Territories, have Internet penetration rates below 60 percent, while Nunavut trails with just over one-quarter of its population (28 percent) connected to the Internet at home. This partly reflects the fact that many Internet access technologies are not yet available to certain rural or geographically remote communities (Veenhof et al., 2003).

Most computer users also have access to the Internet. Indeed, the survey results show, for most Canadian jurisdictions, that 85 to 90 percent of computer users also have Internet access at home. Nunavut has the lowest access rate among computer users, but still over two-thirds of computer users in that territory have Internet access at home.

Although it is clear that connectivity has increased in Canada, it is instructive to gauge perceptions among non-users. Data from the IALSS reveal that in Canada, 29 percent of individuals aged 16 to 65 who have never used a computer expressed an interest in starting to use one. This presents a challenge if Canada is to succeed in increasing computer connectivity and use among its citizens to near universal levels.

Further measures of ICT use and attitudes toward ICTs

Three composite indices measuring aspects of familiarity with and use of ICTs are developed for analysis in this section. These are the index of respondents' perceived usefulness and attitude towards computers; the index of diversity and intensity of Internet use; and the index of using computers for task-oriented purposes (See Text Box C5).

Text box C5

Three ICT indices and their observed measures

Three indices of ICT use and familiarity are derived from a number of observed measures collected as part of the IALSS survey. These ICT related measures are examined using exploratory factor analysis with principal components specified as the method. Subsequently, confirmatory factor analysis is used to validate the three models. Index scores are then derived using a Rasch scaling approach. Scores for each index are expressed as standardized scores on a 10-point scale, with a mean of 5 points and a standard deviation of 1.5 points.

The index scores are estimated on the basis of the pooled between-country data set for the population 16 to 65 years, derived from all six countries participating in the ALL survey. The index scores for Canada and the provinces and territories are calculated relative to the standardized international mean score, set at 5 points for each index.

The underlying variables used to construct the three measures are outlined below:

1. Index of perceived usefulness and attitude toward computers

Please tell me whether you strongly agree, agree, disagree, or strongly disagree with each of the following statements:

- Computers have made it possible for me to get more done in less time
- Computers have made it easier for me to get useful information
- Computers have helped me to learn new skills other than computer skills
- Computers have helped me to communicate with people
- Computers have helped me reach my occupational (career) goals

2. Index of diversity and intensity of Internet use

In a typical month, how often did you use the Internet for the following purposes? (Daily, a few times a week, a few times a month, never)

- Electronic mail (email)
- Participate in chat groups or other on-line discussions
- Shopping (including browsing for products or services but not necessarily buying)
- Banking
- Formal education or training (part of a formal learning activity such as a course or a program of studies)
- Obtain or save music
- Read about news and current events
- Search for employment opportunities
- Search for health related information
- Search for weather related information
- Search for government information
- Playing games with others
- General browsing
- Other purposes; specify
- *In a typical month, how many hours did you use a computer at home?*

3. Index of using computers for task-oriented purposes

In a typical month, how often did you use a computer for the following purposes? (Daily, a few times a week, a few times a month, never).

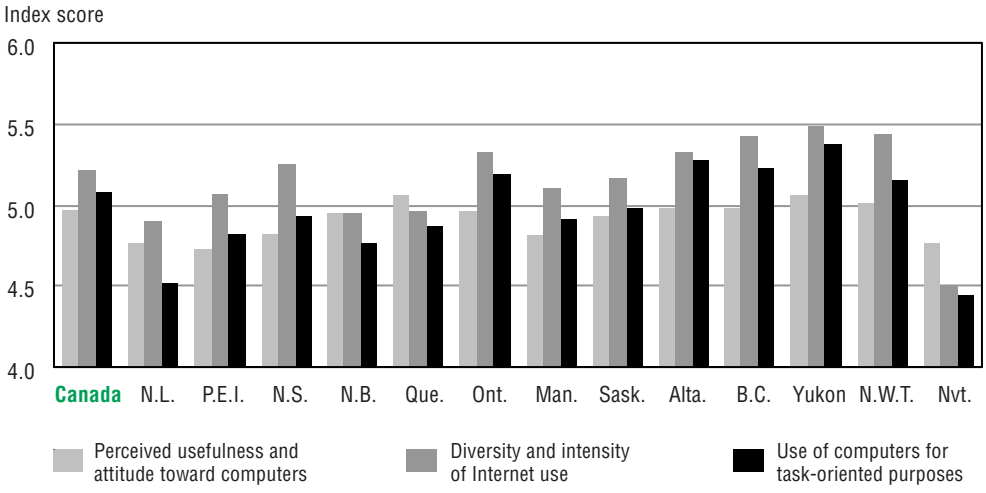
Text box C5 (concluded)

Three ICT indices and their observed measures

- Writing or editing text
- Accounts, spreadsheets or statistical analysis
- Creating graphics, designs, pictures or presentations
- Programming or writing computer code
- Keeping a schedule or calendar
- Reading information on a CD-ROM or DVD
- *In a typical month, how many hours did you use a computer at home?*

Figure 5.4

Average scores for three scales of the information and communication technologies use and familiarity index, Canada and jurisdictions, population aged 16 to 65, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

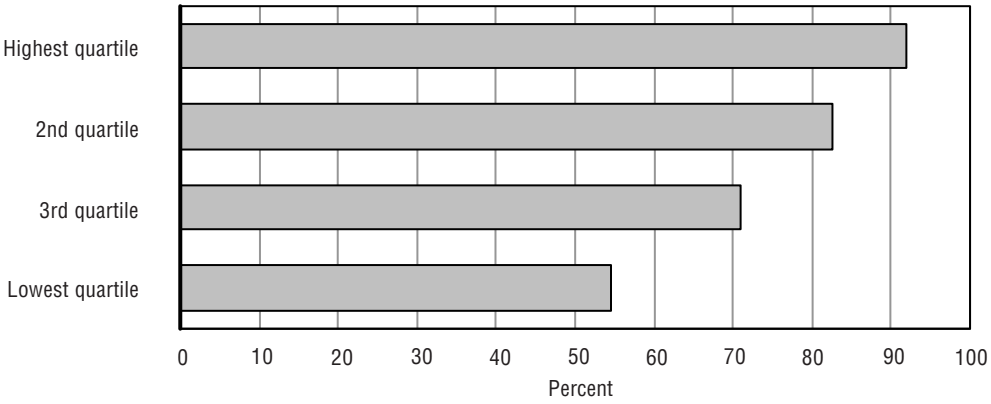
Within Canada, attitudes toward computers and the intensity of ICT use vary by province and territory. The Yukon Territory, the Northwest Territories, Alberta and British Columbia are all above the national mean score in their perceived usefulness and attitude toward computers, diversity and intensity of Internet use, and use of computers for task-oriented purposes. Residents of these provinces and territories also use ICTs the most intensively. Adults in Ontario are also active ICT users, while those in Yukon Territory and Quebec have the highest score on the perceived usefulness of computers. However, residents of Quebec score lower on average on actual ICT use than populations in other jurisdictions. Similarly, adults in Nunavut score high on perceived usefulness and attitude toward computers but relatively low on the actual use of ICT. Residents in Nunavut and Newfoundland and Labrador are the least intensive ICT users among adult Canadians. Index scores mirrored those at the national level for most other jurisdictions.

Factors related to ICT use

Differences in the penetration and use of various ICTs, both within and across countries, are well documented. Studies of the "digital divide" (U.S. Department of Commerce, 2002; OECD, 2001 & 2004; Sciadas, 2002) have both identified and analyzed factors that influence Internet connectivity and use of ICTs, whether at the household or individual level. While income is often a key determinant, other factors have also been shown to exert an independent influence. These include education, age, gender, residential location (urban vs. rural) and even family type.

Figure 5.5

Percent reporting having access to a computer and the Internet at home, by household income quartiles, Canada, population aged 16 to 65, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

Figure 5.5 shows the relationship between household income and access to a computer at home. The pattern is similar for Internet access. Confirming previous findings, use of computers and Internet connectivity vary substantially by income. In Canada, computer penetration among individuals in the highest household income quartile is nearly universal (92 percent) but only slightly over half of those in the lowest income quartile (55 percent) have access to a computer at home. Individuals living in low-income households may therefore face computer-related learning disadvantages (Felstead, Duncan and Green, 2002) and may not access health, government, and other information on the Internet. It should also be noted that the gaps in access in the lower income quartiles are larger than the gap between the top two income quartiles. In other words, as income declines, the gap in access widens. This pattern is not unique to Canada but also observed in other countries participating in the ALL study (Veenhof, Clermont and Sciadas, 2005).

ICT and literacy

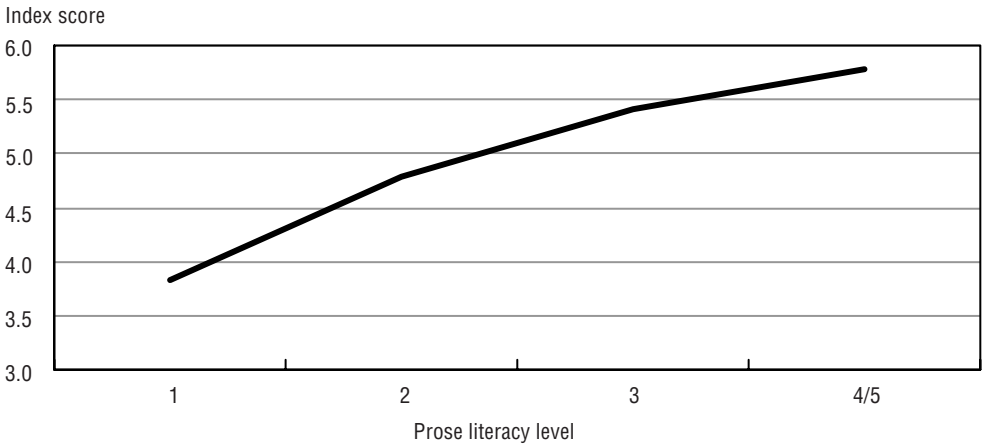
An insight into the relationship between use of ICTs and other competencies can be obtained by comparing the literacy proficiency of respondents who say they use ICTs and those who do not. In Canada, there is a 75-point gap between computer users and non-users on the prose literacy scale with a range from 0 to 500 points (Veenhof et al., 2005).[3] Thus in addition to a digital divide, non-users may also face a literacy

challenge. In a separate Canadian study, findings also show a positive relationship between access to home computers and reading achievement among 15 year-olds (Bussière and Gluszynski, 2004).

Results displayed in Figure 5.6 also indicate that prose literacy proficiency increases with the use of computers for task-oriented purposes. The findings are similar for the other two ICT indices developed for this study as well as for the other competency domains measured in the IALSS. These results are consistent with another study that suggests that adults with high literacy and numeracy proficiency perform better in an assessment of ICT skills than adults with low literacy and numeracy (DfES, 2003).

Figure 5.6

Average index scores measuring the intensity of use of computers for task-oriented purposes, by prose proficiency levels, Canada, population aged 16 to 65, 2003



Source: *International Adult Literacy and Skills Survey, 2003.*

ICT and age

Age is known from previous research studies to be a major factor in the use of ICTs. Generally, younger adults use ICTs more frequently and more intensely than older adults. The IALSS findings confirm this general pattern. Values on all three ICT indices are found to decline steadily with increasing age, with the largest decrease observed for the group aged 56 to 65 years. Many of the items included in the index measuring the use of computers for task-oriented purposes are associated with work tasks, such as writing or editing text, managing accounts or spreadsheets, programming, creating presentations and keeping a schedule or calendar. The steep decline in the index score observed for those aged 56 to 65 indicates that older individuals and persons in early retirement do not perform these tasks as regularly as younger age groups. The relationship between age and the index of diversity and intensity of Internet use is also strong. In contrast, the relationship between age and the index of perceived usefulness of computers is weaker.

ICT and gender

Findings from the IALSS reveal that differences in ICT use by gender are small in Canada. There are virtually no significant differences between men and women on all three ICT indices. Narrow gaps in ICT use by gender are characteristic of much of North America (Veenhof, Clermont and Sciadas, 2005), but this pattern differs markedly from those found in other parts of the world, particularly in developing countries (Huyer, Hafkin, Ertl and Dryburgh, 2005). In addition, gender differences in ICT use are often higher during the early stages of the introduction of new technologies but decline over time (Veenhof, Clermont and Sciadas, 2005).

ICT and education

Educational attainment and ICT use are strongly related in Canada. Studies undertaken elsewhere have found that those with more education have higher ICT skills, but also that more educated people tend to work more with computers, thus making it difficult to determine whether education or employment has the largest impact on ICT use (DfES, 2003). Nonetheless, education represents an important means to develop at least basic ICT skills (OECD, 2004a) and sometimes ICTs are integrated with learning activities to develop competencies other than computer skills. In Canada, ICT use increases with advancing levels of education. The gap in ICT use is most apparent between respondents who have completed upper secondary education and those who have not. Individuals with low levels of education tend to be at a disadvantage in the labour market and their relatively lower familiarity with and use of ICTs may exacerbate this situation. Although differences by levels of education exist for all three ICT indices, the relationship is weakest for the index of perceived usefulness and attitude toward computers.

Conclusions

In this chapter the relationships between literacy proficiency and a range of social outcomes, including self-reported health status and civic engagement, are explored. The chapter also looks at access to and use of Information and Communications Technologies and the factors related to their use.

Differences in reported health status appear to be related to document literacy proficiency. Respondents reporting poor health score lower on the document literacy scale compared with those reporting fair, good or excellent health. Although the nature of this relationship needs to be explored further, the evidence is sufficiently clear to suggest that health issues and literacy issues intersect.

Higher levels of prose literacy are associated with higher engagement in various community activities. Literacy may be a key factor in building a socially engaged community, while such a community in turn may be more likely to develop a literacy rich environment to sustain and improve its literacy base.

Patterns of Internet and computer access at home confirm the existence of "digital divides" in Canada among the population aged 16 to 65 years. Ontario, Alberta, British Columbia and the Yukon Territory have computer access rates close to 80 percent and Internet connectivity rates around 70 percent. Penetration rates are lower in the other jurisdictions.

There are substantive differences between provinces and territories in the respondents' reported perceived usefulness and attitude toward computers, the diversity and intensity of Internet use, and the use of computers for task-oriented, mainly work related purposes. Index scores are particularly high in British Columbia, the Northwest Territories and the Yukon.

Many factors including age, gender, and level of education are associated with adults' familiarity with and use of computers and the Internet. Age exerts a particularly strong effect on computer use. Literacy proficiency also exerts a significant effect on ICT familiarity and use. The influence of literacy on computer use has been known to be mediated by the effects of other variables such as the factors identified above. But evidence has also shown that literacy has a net and independent effect on ICT familiarity and use (Veenhof et al, 2005). Further research is needed to shed more light on economic and social outcomes associated with ICT and literacy proficiency.

Endnotes

1. For similar analyses of data for the six countries participating in the ALL survey, see Veenhof, Clermont and Sciadas (2005). For detailed international and provincial comparisons using the 16 to 65 age group, refer to Veenhof, Clermont and Sciadas (forthcoming).
2. Bermuda, Canada, Italy, Norway, Switzerland and the United States of America. See OECD and Statistics Canada (2005, p. 197) for the comparative results about computer access and Internet connectivity.
3. The average prose literacy score for computer users in Canada was 289 and was 214 for non-users; the difference of 75 is significant.

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Conclusion

The 1994 International Adult Literacy Survey showed that close to half of the Canadian adult population, aged 16 and over, performed below Level 3 on the prose literacy scale, the "desired level" of competence for coping with the increasing skill demands of the emerging knowledge and information economy (OECD and Statistics Canada, 1995). Among those 16 to 65 years of age, this represented about 8 million Canadians below Level 3 in 1994. This drew the attention of the media and the general public and served to raise the profile of adult literacy issues among governments, businesses and the wider community.

The expectation was that the next survey would show improvements to the literacy profile of Canadians given that a large proportion of those with low literacy in the older age groups would retire from the work force, more new immigrants would have university degrees, and a larger proportion of the Canadian-born population would graduate with postsecondary degrees.

Contrary to expectations, the results from the 2003 IALSS presented in this report do not show any marked improvement in the overall literacy performance of Canadian adults since 1994. In 2003, just under half of adults aged 16 and over and 42 percent of those aged 16 to 65, about 9 million, were below Level 3 in prose literacy. Among the provinces, with the exception of Quebec, where there was an increase in average prose literacy, and in the Atlantic region where there was an increase in document literacy, no changes were observed in the average literacy performance of adults 16 and over between 1994 and 2003.

There has been a modest shift away from the lowest and highest ends of literacy performance towards the middle. In other words, there appear to be fewer Canadians at the highest and lowest literacy levels in 2003 than in 1994 and more at Levels 2 and 3. Average proficiency for those 16 and over on the prose scale and the document scale is close to the desired threshold of literacy performance of Level 3 (at Level 3 for those 16 to 65 years of age) but the scores have not significantly improved during the past decade.

Understanding why the expected improvement in literacy performance did not occur is clearly important but the answers are not simple. As anticipated, there has been some improvement in the literacy performance of those in the older age groups. While the group born between 1928 and 1937, who were 57 to 66 years of age in 1994, had an average prose literacy score of 233 points, those who are currently in that age group have an average score of 258 points.

At the same time there have been losses in literacy proficiency among and within different groups. As individuals age, average prose literacy tends to slightly decline as well. As a group, holders of a university degree had lower average prose literacy scores in 2003 than in 1994, likely related to a difference in scores for immigrant and non-immigrant populations. About two percent of the Canadian-born who had completed university education have prose literacy scores at Level 1 compared to 18 percent of recent immigrants and 14 percent of established immigrants who had completed university.

While it is true that recent immigrants tend to be better educated than in the past, more come from countries where English or French are not mainstream languages. This explains, at least in part, why recent immigrants between the ages of 16 and 65 perform significantly below the Canadian-born population on the literacy tests. Much more analytical work will be required to fully explore the factors around the lack of significant change in the overall literacy performance of Canadian adults.

The results from the 2003 IALSS make it possible to take stock of the overall performance of Canadians and to determine if performance differs by jurisdiction, and within populations of special interest to Canadians. What is shown is that proficiency is not evenly distributed within Canada.

The average literacy, numeracy and problem solving scores of adults in the Yukon, Alberta, Saskatchewan and British Columbia are significantly higher than the national average. Scores in New Brunswick, Newfoundland and Labrador, and Nunavut are lower than the Canadian average in each of the four domains.

Nova Scotia, the Northwest Territories, Manitoba, Ontario and Prince Edward Island have average scores that are not statistically different than the Canadian averages. In Quebec, the average scores for the two literacy domains are below the national averages while for the numeracy and problem solving domains there is no difference.

Most seniors have relatively low literacy when compared to other age groups: in every province and territory, at least two-thirds of seniors are at literacy Levels 1 and 2. Canadians with university degrees have higher average prose literacy scores compared to those with a high school diploma. In most jurisdictions, men outperform women in numeracy.

Prose literacy performance differs significantly by language in New Brunswick, Quebec, Ontario and Manitoba where a higher proportion of Francophones than Anglophones score below Level 3. The Aboriginal populations age 16 and over surveyed in urban Manitoba, urban Saskatchewan and in each of the territories have lower prose literacy proficiency than non-Aboriginal populations, reflecting in some ways the effect of different levels of formal education and a mother tongue other than English or French. Compared to the Canadian-born population, a higher percentage of recent and established immigrants between the ages of 16 and 65 score below prose literacy Level 3.

Unequal distributions of proficiencies may well lead to inequalities in economic and social outcomes, which in turn may make the maintenance and acquisition of new competencies more difficult. The 2003 IALSS results clearly indicate that literacy is associated with employability, the types of jobs occupied by workers, and earnings. Those with higher proficiencies have a higher employment rate and higher earnings and those who work in more knowledge-intensive jobs have higher proficiencies.

Although the direction of cause and effect is unclear, a range of social outcomes is also shown to have a relationship to literacy. Those reporting poor health score lower on the document literacy scale compared to those reporting better health and higher levels of prose literacy are associated with higher engagement in various community activities.

The results of IALSS raise concern because the ability to use and understand information is fundamental to daily life at work, at home, and in the community. A large proportion of Canadians have prose literacy scores at Levels 1 and 2 even in the highest performing jurisdictions such as the Yukon Territory (33 per cent), Saskatchewan, Alberta and British Columbia (about 40 per cent). The proportion of the Canadian population aged 16 and over with numeracy scores at Levels 1 and 2 is even more pronounced (55 per cent).

The issues surrounding low literacy are compounded when combined with other factors that affect day-to-day well-being. More than half of seniors in Canada report being in poor health and the average document literacy score for this group corresponds to the lowest level on the literacy scales.

The belief that strong literacy proficiency is the foundation for building and maintaining competencies throughout the life cycle is widely held. Those with low literacy proficiency are most at risk of being excluded from lifelong learning opportunities. The results show that, overall, about half of Canadians age 16 to 65 participate in adult education and learning but this percentage drops to about 20 percent in all regions for those at the lowest level of literacy. Furthermore, in a society ever more dependent on obtaining its information through electronic means, familiarity with, and use of, information and communications technologies is almost a necessity. The survey results show that use of computers is lowest among those with low literacy – meaning that in addition to a digital divide, non-users may also face a literacy challenge.

The findings presented in this report leave no room for doubt that the Canadian literacy challenge, so dramatically highlighted with the release of the IALS a decade ago, remains a major factor today. Yet, there are also reasons for optimism. Overall, Canadians aged 16 to 65 have average prose and document literacy scores at Level 3 – the desired threshold for coping with the increasing skill demands of a knowledge economy and society. The average for numeracy is only slightly below this threshold level. In all industry sectors, at least one in ten Canadians scores at the highest level of literacy proficiency. In the international context, Canadians outperform by a significant margin major North American trading partners, the United States and the Mexican State of Nuevo Leon. Moreover, there are areas of literacy excellence in Canada when judged against an international standard. The Yukon Territory, Saskatchewan, Alberta and British Columbia record high prose literacy scores, comparing favourably with Norway, the country with the highest average score among participating countries. The western provinces and the Yukon score above the national average across all four proficiency domains and thus, set a high standard of excellence for Canadians.

Reference

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Annex A

Tables for Chapter 1

Table 1.1

Comparisons of provinces and territories based on average proficiency scores, by domain, population 16 and over, 2003

	Average score	Standard error	Confidence interval – 95% upper limit	Confidence interval – 95% lower limit
A. Prose				
Yukon	292	(1.7)	296	289
Saskatchewan	283	(2.2)	288	279
Alberta	283	(1.9)	286	279
British Columbia	281	(1.2)	283	279
Nova Scotia	276	(1.9)	280	273
Northwest Territories	275	(2.4)	280	271
Manitoba	274	(1.7)	277	270
Prince Edward Island	272	(2.6)	277	267
Canada	**272**	**(0.7)**	**274**	**271**
Ontario	270	(1.4)	273	267
Quebec	266	(1.2)	269	264
New Brunswick	264	(2.1)	268	260
Newfoundland and Labrador	263	(2.0)	267	259
Nunavut	230	(2.5)	235	225
B. Document				
Yukon	290	(2.0)	294	286
Alberta	283	(1.8)	287	279
Saskatchewan	282	(2.2)	286	277
British Columbia	282	(1.4)	284	279
Northwest Territories	275	(2.2)	279	271
Nova Scotia	274	(1.9)	278	271
Manitoba	273	(1.5)	276	270
Canada	**271**	**(0.6)**	**272**	**270**
Prince Edward Island	270	(2.8)	276	265
Ontario	270	(1.3)	272	267
Quebec	263	(1.4)	266	260
New Brunswick	261	(2.4)	266	256
Newfoundland and Labrador	261	(2.1)	265	257
Nunavut	232	(3.0)	238	226
C. Numeracy				
Yukon Territory	280	(1.8)	283	276
Alberta	274	(1.8)	277	270
Saskatchewan	272	(2.0)	276	268
British Columbia	272	(1.3)	274	269
Northwest Territories	265	(2.1)	269	260
Canada	**263**	**(0.8)**	**265**	**262**

Table 1.1 (concluded)

Comparisons of provinces and territories based on average proficiency scores, by domain, population 16 and over, 2003

	Average score	Standard error	Confidence interval – 95% upper limit	Confidence interval – 95% lower limit
Nova Scotia	262	(1.6)	265	259
Manitoba	262	(1.6)	265	259
Ontario	261	(1.5)	264	258
Prince Edward Island	260	(2.5)	265	255
Quebec	259	(1.3)	262	257
New Brunswick	252	(2.4)	257	247
Newfoundland and Labrador	251	(2.0)	255	247
Nunavut	219	(3.1)	225	212
D. Problem solving				
Yukon	282	(2.0)	286	278
Alberta	274	(2.0)	278	270
Saskatchewan	274	(2.2)	278	270
British Columbia	274	(1.4)	277	271
Nova Scotia	267	(2.0)	271	263
Manitoba	266	(1.7)	269	263
Canada	**266**	**(1.0)**	**267**	**264**
Northwest	265	(1.9)	269	262
Ontario	263	(1.6)	266	260
Prince Edward Island	262	(2.0)	266	258
Quebec	262	(1.3)	265	259
New Brunswick	257	(2.3)	261	252
Newfoundland and Labrador	255	(2.0)	259	251
Nunavut	225	(2.6)	230	220

Note: Jurisdictions are ranked by the average proficiency score.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 1.2

Percent of population at each proficiency level by jurisdiction, Canadian population, 16 and over, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
A. Prose								
Newfoundland and Labrador	24.0	(1.5)	30.8	(1.8)	32.8	(1.5)	12.4	(0.9)
Prince Edward Island	19.9	(1.6)	29.6	(2.0)	34.0	(2.5)	16.6	(2.1)
Nova Scotia	17.3	(1.4)	27.5	(1.6)	38.4	(2.1)	16.8	(1.6)
New Brunswick	22.7	(1.6)	33.3	(2.2)	31.6	(2.2)	12.4	(2.0)
Quebec	22.3	(1.2)	32.3	(1.4)	32.8	(1.1)	12.6	(0.8)
Ontario	21.3	(0.9)	26.7	(1.4)	35.0	(1.8)	17.0	(1.7)
Manitoba	18.2	(1.2)	28.1	(1.7)	37.2	(2.1)	16.5	(1.3)
Saskatchewan	13.5	(1.4)	26.6	(2.2)	38.9	(2.4)	21.0	(2.3)
Alberta	13.6	(1.1)	25.9	(2.0)	39.6	(2.2)	21.0	(1.6)
British Columbia	17.3	(0.8)	22.7	(1.7)	37.2	(2.1)	22.9	(1.7)
Yukon	10.5	(1.5)	22.9	(1.9)	39.3	(3.4)	27.3	(2.7)
Northwest Territories	19.3	(1.9)	25.8	(1.7)	35.1	(2.7)	19.8	(1.8)
Nunavut	47.2	(1.9)	25.8	(2.2)	19.5	(2.6)	7.5	(1.4)
Canada	**19.9**	**(0.5)**	**27.8**	**(0.7)**	**35.4**	**(0.8)**	**17.0**	**(0.7)**

Table 1.2 (concluded)

Percent of population at each proficiency level by jurisdiction, Canadian population, 16 and over, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
B. Document								
Newfoundland and Labrador	26.5	(1.6)	31.1	(1.5)	29.3	(1.8)	13.2	(1.2)
Prince Edward Island	21.7	(2.1)	28.9	(2.9)	33.5	(2.6)	15.8	(1.7)
Nova Scotia	19.7	(1.3)	27.5	(2.0)	35.3	(2.0)	17.5	(1.5)
New Brunswick	26.1	(1.7)	32.2	(2.0)	29.8	(2.9)	11.9	(2.3)
Quebec	25.1	(1.0)	31.5	(1.0)	30.4	(1.0)	12.9	(0.7)
Ontario	22.7	(0.8)	25.8	(1.6)	33.5	(2.1)	18.1	(1.4)
Manitoba	19.2	(1.0)	27.7	(1.2)	36.9	(2.0)	16.2	(1.6)
Saskatchewan	14.6	(1.5)	26.0	(2.2)	38.6	(2.7)	20.7	(2.9)
Alberta	14.8	(1.2)	25.4	(1.4)	37.2	(1.9)	22.6	(1.5)
British Columbia	17.4	(1.1)	22.9	(1.6)	35.3	(1.6)	24.4	(1.3)
Yukon	10.8	(1.3)	24.7	(2.3)	39.6	(2.6)	24.9	(2.1)
Northwest Territories	20.2	(1.8)	25.9	(2.6)	33.8	(2.2)	20.1	(2.0)
Nunavut	46.9	(2.4)	26.9	(2.4)	18.5	(2.4)	7.7	(1.4)
Canada	**21.5**	**(0.4)**	**27.1**	**(0.6)**	**33.5**	**(0.9)**	**17.9**	**(0.5)**
C. Numeracy								
Newfoundland and Labrador	32.0	(1.8)	32.8	(2.0)	25.9	(1.8)	9.2	(1.2)
Prince Edward Island	25.7	(2.4)	33.9	(2.3)	28.1	(2.5)	12.3	(1.7)
Nova Scotia	26.0	(1.6)	30.5	(2.2)	30.8	(1.7)	12.8	(1.4)
New Brunswick	30.0	(1.5)	35.2	(1.9)	25.8	(2.2)	8.9	(1.3)
Quebec	27.6	(0.9)	31.3	(1.0)	28.6	(1.2)	12.5	(0.7)
Ontario	27.0	(1.0)	28.8	(1.4)	29.3	(1.1)	14.8	(1.2)
Manitoba	24.6	(1.2)	31.7	(2.3)	31.3	(2.4)	12.4	(1.6)
Saskatchewan	19.7	(1.5)	29.2	(3.4)	34.2	(3.6)	16.9	(2.2)
Alberta	19.7	(1.6)	29.0	(2.3)	32.7	(2.3)	18.6	(1.6)
British Columbia	21.4	(1.1)	27.3	(2.0)	33.4	(2.0)	17.8	(1.3)
Yukon	15.7	(1.5)	27.5	(3.1)	37.7	(3.0)	19.1	(2.0)
Northwest Territories	25.0	(2.4)	28.0	(3.5)	31.7	(2.2)	15.3	(1.6)
Nunavut	55.7	(2.4)	22.4	(2.6)	15.4	(1.7)	6.5	(1.3)
Canada	**25.5**	**(0.6)**	**29.6**	**(0.6)**	**30.1**	**(0.7)**	**14.7**	**(0.6)**

	Level 1		Level 2		Level 3		Level 4	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
D. Problem solving								
Newfoundland and Labrador	43.7	(1.9)	37.3	(2.2)	17.1	(1.5)	2.0E	(0.5)
Prince Edward Island	37.9	(2.1)	39.3	(2.6)	20.4	(1.9)	2.3E	(1.5)
Nova Scotia	35.4	(1.7)	38.3	(1.7)	22.1	(1.6)	4.2	(1.1)
New Brunswick	43.2	(2.1)	38.0	(2.7)	15.9	(2.2)	2.8E	(0.8)
Quebec	39.8	(1.3)	36.4	(0.9)	19.8	(1.0)	4.0	(0.5)
Ontario	37.1	(1.4)	35.4	(1.6)	22.9	(1.6)	4.7	(0.9)
Manitoba	35.0	(1.3)	37.4	(1.9)	23.8	(1.7)	3.8	(0.8)
Saskatchewan	28.9	(2.1)	40.2	(3.9)	26.1	(3.4)	4.8	(1.2)
Alberta	29.1	(1.8)	38.3	(2.2)	26.9	(1.6)	5.8	(1.1)
British Columbia	30.2	(1.3)	35.4	(1.8)	28.5	(2.2)	6.0	(1.1)
Yukon	24.0	(2.3)	38.5	(2.6)	30.7	(2.4)	6.8	(1.9)
Northwest Territories	35.7	(1.9)	36.3	(2.5)	24.1	(2.2)	3.9E	(0.9)
Nunavut	64.4	(3.1)	24.2	(3.1)	10.2	(2.0)	1.2E	(0.6)
Canada	**35.9**	**(0.7)**	**36.3**	**(0.8)**	**23.1**	**(0.7)**	**4.6**	**(0.5)**

E Use with caution.

Note: Jurisdictions are ranked geographically from East to West.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 1.3

Provincial, territorial and international comparative distribution of average scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles on proficiency scales ranging from 0 to 500 points, population 16 to 65, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
A. Prose										
Yukon Territory	208	(7.2)	266	(3.2)	296	(1.8)	331	(3.1)	369	(5.3)
Saskatchewan	219	(4.0)	267	(1.7)	294	(2.4)	325	(3.6)	366	(5.6)
Norway	**212**	**(3.4)**	**263**	**(1.4)**	**290**	**(1.0)**	**321**	**(0.8)**	**356**	**(1.0)**
Bermuda	**192**	**(4.4)**	**256**	**(2.7)**	**290**	**(1.3)**	**328**	**(1.8)**	**374**	**(2.5)**
Alberta	196	(10.4)	262	(3.6)	289	(2.1)	323	(2.3)	364	(4.4)
British Columbia	180	(5.1)	258	(3.2)	288	(1.5)	327	(2.6)	366	(3.4)
Nova Scotia	198	(4.6)	256	(2.2)	286	(2.0)	319	(2.0)	359	(4.9)
Manitoba	189	(6.0)	254	(3.6)	283	(1.8)	318	(1.7)	357	(3.8)
Prince Edward Island	187	(8.0)	252	(4.4)	282	(2.8)	316	(3.8)	363	(9.5)
Canada	**178**	**(2.1)**	**251**	**(1.3)**	**281**	**(0.7)**	**318**	**(0.7)**	**359**	**(1.2)**
Northwest Territories	172	(9.9)	247	(3.6)	280	(2.3)	319	(2.5)	362	(5.7)
Ontario	166	(6.1)	248	(3.0)	279	(1.5)	319	(1.9)	357	(2.1)
Quebec	186	(3.1)	245	(1.4)	275	(0.9)	309	(1.8)	353	(2.8)
New Brunswick	183	(4.9)	241	(3.4)	273	(2.3)	307	(3.7)	350	(9.6)
Switzerland	**194**	**(2.7)**	**242**	**(2.2)**	**272**	**(1.3)**	**304**	**(1.5)**	**346**	**(4.0)**
Newfoundland and Labrador	171	(6.8)	239	(3.2)	271	(2.0)	309	(2.8)	349	(4.2)
United States	**176**	**(3.5)**	**236**	**(1.6)**	**269**	**(1.3)**	**306**	**(1.9)**	**347**	**(2.2)**
Nunavut	124	(6.1)	181	(5.3)	232	(2.6)	282	(4.6)	340	(8.5)
Italy	**136**	**(3.9)**	**192**	**(2.8)**	**229**	**(1.7)**	**267**	**(1.9)**	**319**	**(2.2)**
Nuevo Leon, Mexico	**143**	**(4.2)**	**206**	**(0.9)**	**228**	**(0.7)**	**256**	**(0.9)**	**292**	**(1.7)**
B. Document										
Norway	**206**	**(3.1)**	**264**	**(1.6)**	**295**	**(0.9)**	**330**	**(1.0)**	**372**	**(1.9)**
Saskatchewan	218	(4.0)	264	(3.7)	294	(2.7)	325	(5.7)	369	(4.9)
Yukon Territory	203	(8.2)	264	(3.9)	294	(2.1)	328	(2.9)	367	(5.3)
Alberta	197	(6.9)	260	(3.6)	290	(2.2)	326	(2.2)	368	(4.2)
British Columbia	178	(5.6)	259	(2.1)	290	(1.6)	330	(1.7)	371	(4.6)
Nova Scotia	194	(4.5)	251	(2.5)	284	(1.9)	320	(2.8)	363	(5.5)
Manitoba	190	(6.2)	253	(2.6)	283	(1.6)	317	(2.9)	360	(2.5)
Canada	**178**	**(2.1)**	**248**	**(1.0)**	**281**	**(0.6)**	**319**	**(0.8)**	**361**	**(1.7)**
Prince Edward Island	187	(6.9)	248	(3.6)	281	(3.0)	316	(3.5)	363	(8.7)
Bermuda	**185**	**(3.5)**	**244**	**(2.4)**	**280**	**(1.5)**	**318**	**(1.8)**	**370**	**(2.2)**
Northwest Territories	174	(9.9)	246	(3.9)	280	(2.2)	320	(3.0)	364	(5.5)
Ontario	169	(3.6)	247	(2.1)	279	(1.4)	320	(2.3)	360	(3.5)
Switzerland	**199**	**(2.3)**	**244**	**(2.3)**	**277**	**(1.6)**	**309**	**(2.4)**	**355**	**(3.1)**
Quebec	182	(3.1)	240	(2.0)	273	(1.3)	309	(1.7)	356	(4.7)
New Brunswick	180	(6.4)	237	(3.7)	270	(2.6)	308	(3.7)	353	(5.0)
United States	**174**	**(3.6)**	**236**	**(1.7)**	**270**	**(1.5)**	**309**	**(2.2)**	**353**	**(2.4)**
Newfoundland and Labrador	171	(5.0)	234	(2.9)	269	(2.0)	308	(3.7)	351	(3.9)
Nunavut	128	(6.1)	185	(3.7)	234	(3.2)	280	(4.5)	339	(5.9)
Nuevo Leon, Mexico	**112**	**(5.0)**	**200**	**(1.4)**	**226**	**(1.1)**	**262**	**(1.0)**	**305**	**(2.2)**
Italy	**128**	**(3.4)**	**188**	**(2.3)**	**226**	**(1.7)**	**266**	**(2.2)**	**317**	**(2.9)**
C. Numeracy										
Switzerland	**212**	**(3.0)**	**258**	**(1.8)**	**290**	**(1.0)**	**322**	**(2.0)**	**369**	**(4.1)**
Norway	**205**	**(3.0)**	**255**	**(1.5)**	**285**	**(1.0)**	**316**	**(1.4)**	**358**	**(2.5)**
Saskatchewan	200	(6.8)	252	(3.7)	284	(2.5)	317	(5.1)	363	(5.4)
Yukon Territory	189	(6.1)	251	(4.0)	283	(2.0)	319	(3.4)	365	(5.5)
Alberta	184	(7.5)	246	(3.4)	281	(2.1)	320	(2.7)	363	(5.3)
British Columbia	173	(6.8)	246	(2.4)	279	(1.4)	319	(2.3)	367	(3.4)
Canada	**170**	**(2.5)**	**237**	**(1.3)**	**272**	**(0.7)**	**312**	**(1.2)**	**358**	**(2.0)**
Nova Scotia	178	(6.9)	236	(3.0)	272	(1.7)	308	(2.8)	355	(4.2)
Manitoba	176	(4.0)	240	(3.2)	271	(1.8)	308	(2.6)	353	(4.1)
Ontario	161	(4.1)	234	(2.4)	270	(1.5)	312	(3.5)	356	(3.3)
Bermuda	**177**	**(2.5)**	**233**	**(2.4)**	**270**	**(1.6)**	**309**	**(2.0)**	**359**	**(2.8)**
Quebec	175	(3.0)	235	(1.8)	269	(1.1)	307	(1.6)	354	(3.2)
Prince Edward Island	177	(9.9)	237	(3.5)	269	(2.8)	305	(4.4)	353	(7.7)
Northwest Territories	161	(6.1)	231	(3.2)	269	(2.1)	310	(3.1)	360	(4.8)
New Brunswick	171	(7.2)	229	(3.4)	262	(2.5)	295	(4.9)	345	(7.3)
United States	**163**	**(2.6)**	**222**	**(2.1)**	**261**	**(1.5)**	**302**	**(2.1)**	**351**	**(3.0)**
Newfoundland and Labrador	166	(4.4)	223	(3.2)	259	(2.0)	297	(3.5)	342	(3.0)
Italy	**149**	**(3.9)**	**200**	**(2.1)**	**233**	**(1.4)**	**267**	**(1.6)**	**314**	**(2.0)**
Nunavut	114	(6.2)	170	(4.6)	220	(3.2)	270	(5.2)	333	(7.2)

Table 1.3 (concluded)

Provincial, territorial and international comparative distribution of average scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles on proficiency scales ranging from 0 to 500 points, population 16 to 65, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
D. Problem solving										
Yukon	203	(3.7)	256	(3.0)	286	(2.2)	319	(2.7)	359	(5.5)
Saskatchewan	214	(5.2)	257	(3.3)	285	(2.7)	314	(5.1)	354	(6.3)
Norway	**197**	**(3.8)**	**254**	**(2.6)**	**284**	**(1.7)**	**318**	**(1.4)**	**359**	**(1.5)**
British Columbia	179	(2.9)	251	(2.5)	281	(1.7)	318	(2.6)	357	(4.3)
Alberta	193	(7.9)	252	(3.4)	281	(2.3)	314	(2.5)	356	(4.6)
Switzerland	**195**	**(5.3)**	**245**	**(2.4)**	**279**	**(1.2)**	**313**	**(1.6)**	**361**	**(2.7)**
Nova Scotia	193	(5.6)	245	(2.0)	276	(2.1)	308	(2.7)	351	(5.1)
Manitoba	188	(5.5)	247	(3.1)	275	(1.8)	309	(2.3)	350	(3.9)
Canada	**179**	**(2.2)**	**243**	**(1.5)**	**274**	**(1.1)**	**310**	**(1.5)**	**353**	**(2.4)**
Bermuda	**182**	**(3.3)**	**238**	**(2.2)**	**273**	**(1.4)**	**310**	**(2.2)**	**357**	**(2.4)**
Ontario	169	(4.6)	240	(2.8)	271	(1.8)	310	(2.7)	352	(4.7)
Prince Edward Island	188	(4.1)	243	(3.5)	271	(2.1)	303	(3.6)	342	(8.2)
Quebec	188	(2.3)	240	(1.4)	271	(1.3)	304	(1.9)	349	(2.8)
Northwest Territories	175	(6.1)	236	(4.4)	269	(1.9)	306	(3.0)	348	(3.7)
New Brunswick	185	(5.6)	235	(3.9)	266	(2.6)	297	(3.2)	341	(6.1)
Newfoundland and Labrador	173	(7.7)	233	(3.3)	262	(1.8)	296	(3.0)	335	(2.4)
Nunavut	123	(7.7)	184	(3.2)	227	(2.7)	272	(4.6)	325	(5.8)
Italy	**131**	**(4.1)**	**186**	**(2.4)**	**225**	**(1.5)**	**263**	**(1.5)**	**320**	**(3.2)**

Notes: Countries, Canadian provinces and territories are ranked by average scores for each domain.
The province of Nuevo Leon in Mexico did not field the numeracy domain.
Switzerland (Italian), the United States, and the province of Nuevo Leon in Mexico did not field the problem solving domain.

Source: Adult Literacy and Life Skills Survey, 2003; International Adult Literacy and Skills Survey, 2003.

Table 1.4

Average literacy scores across selected regions and provinces, Canadian population 16 and over, 1994 and 2003

	IALS		IALSS		
	Mean	Standard error	Mean	Standard error	Difference IALS - IALSS
A. Prose					
Atlantic region	**264**	**(2.5)**	**269**	**(1.1)**	**5**
New Brunswick	260	(3.9)	264	(2.1)	4
Quebec	255	(5.0)	266	(1.2)	11*
Ontario	275	(6.7)	270	(1.4)	-5
Western region	**280**	**(4.9)**	**281**	**(0.9)**	**1**
Alberta	289	(4.6)	283	(1.9)	-6
British Columbia	275	(8.8)	281	(1.2)	6
Canada	**270**	**(3.7)**	**272**	**(0.7)**	**2**
B. Document					
Atlantic region	**259**	**(2.3)**	**267**	**(1.2)**	**8***
New Brunswick	256	(3.4)	261	(2.4)	5
Quebec	254	(7.1)	263	(1.4)	8
Ontario	277	(6.3)	270	(1.3)	-7
Western region	**277**	**(5.6)**	**281**	**(0.8)**	**4**
Alberta	284	(5.5)	283	(1.8)	-1
British Columbia	274	(8.9)	282	(1.4)	
Canada	**270**	**(3.6)**	**271**	**(0.6)**	**2**

* p<.05 statistically significant.

Notes: The northern territories are excluded from the Canadian average.
The Western region includes Manitoba, Saskatchewan, Alberta and British Columbia.
The Atlantic region includes Newfoundland and Labrador, Nova Scotia, New Brunswick and Prince Edward Island.

Source: *International Adult Literacy Survey, 1994; International Adult Literacy and Skills Survey, 2003.*

Table 1.5

Changes in distribution of literacy levels across selected regions and provinces, Canadian population aged 16 and over, 1994 and 2003

	1994 IALS							
	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
A. Prose								
Atlantic region	**24.1**	**(1.8)**	**28.4**	**(3.2)**	**31.5**	**(4.1)**	**16.1**	**(2.6)**
New Brunswick	26.9	(3.1)	31.3	(2.5)	26.0	(3.0)	15.8	(3.0)
Quebec	27.0	(3.5)	27.1	(4.1)	37.3	(3.0)	8.6	(2.1)
Ontario	19.9	(3.8)	24.5	(3.6)	30.9	(3.4)	24.7	(3.1)
Western region	**17.9**	**(2.5)**	**22.9**	**(2.9)**	**35.5**	**(4.3)**	**23.7**	**(4.2)**
Alberta	14.1	(2.7)	21.0	(2.6)	38.0	(2.6)	26.9	(3.2)
British Columbia	19.6	(7.5)	23.9	(5.9)	35.7	(7.6)	20.8	(5.0)
Canada	**21.5**	**(1.7)**	**25.0**	**(1.7)**	**33.9**	**(2.3)**	**19.6**	**(2.2)**
B. Document								
Atlantic region	**28.0**	**(1.7)**	**26.4**	**(1.8)**	**30.7**	**(3.6)**	**14.9**	**(2.1)**
New Brunswick	28.9	(2.0)	28.5	(3.3)	27.8	(4.1)	14.8	(2.2)
Quebec	29.7	(3.7)	27.0	(5.0)	29.3	(4.5)	14.0	(3.3)
Ontario	20.5	(4.4)	21.3	(2.1)	29.3	(4.2)	28.8	(3.5)
Western region	**19.2**	**(1.6)**	**23.9**	**(1.9)**	**32.4**	**(2.6)**	**24.5**	**(2.9)**
Alberta	16.3	(3.0)	19.8	(4.7)	37.9	(6.5)	26.0	(3.5)
British Columbia	19.5	(2.6)	27.5	(2.2)	29.3	(4.7)	23.7	(4.5)
Canada	**23.1**	**(2.1)**	**23.9**	**(1.4)**	**30.3**	**(1.7)**	**22.6**	**(1.5)**

	2003 IALSS							
	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
A. Prose								
Atlantic region	**20.7**	**(0.9)**	**30.2**	**(1.2)**	**34.7**	**(1.0)**	**14.4**	**(0.8)**
New Brunswick	22.7	(1.6)	33.3	(2.2)	31.6	(2.2)	12.4	(2.0)
Quebec	22.3	(1.2)	32.3	(1.4)	32.8	(1.1)	12.6	(0.8)
Ontario	21.3	(0.9)	26.7	(1.4)	35.0	(1.8)	17.0	(1.7)
Western region	**15.8**	**(0.6)**	**24.8**	**(1.2)**	**38.1**	**(1.1)**	**21.3**	**(0.9)**
Alberta	13.6	(1.1)	25.9	(2.0)	39.6	(2.2)	21.0	(1.6)
British Columbia	17.3	(0.8)	22.7	(1.7)	37.2	(2.1)	22.9	(1.7)
Canada	**19.9**	**(0.5)**	**27.8**	**(0.7)**	**35.4**	**(0.8)**	**17.0**	**(0.7)**
B. Document								
Atlantic region	**23.4**	**(0.9)**	**29.9**	**(1.0)**	**32.1**	**(1.2)**	**14.7**	**(0.9)**
New Brunswick	26.1	(1.7)	32.2	(2.0)	29.8	(2.9)	11.9	(2.3)
Quebec	25.1	(1.0)	31.5	(1.0)	30.4	(1.0)	12.9	(0.7)
Ontario	22.7	(0.8)	25.8	(1.6)	33.5	(2.1)	18.1	(1.4)
Western region	**16.5**	**(0.6)**	**24.6**	**(0.8)**	**36.5**	**(1.1)**	**22.5**	**(0.8)**
Alberta	14.8	(1.2)	25.4	(1.4)	37.2	(1.9)	22.6	(1.5)
British Columbia	17.4	(1.1)	22.9	(1.6)	35.3	(1.6)	24.4	(1.3)
Canada	**21.5**	**(0.4)**	**27.1**	**(0.6)**	**33.5**	**(0.9)**	**17.9**	**(0.5)**

Notes: The Western region includes Manitoba, Saskatchewan, Alberta and British Columbia.
The Atlantic region includes Newfoundland and Labrador, Nova Scotia, New Brunswick and Prince Edward Island.
The northern territories are excluded from the Canadian average.
Regions and provinces are ranked in descending order according to the percentage above Level 2 in 1994.

Source: *International Adult Literacy Survey, 1994; International Adult Literacy and Skills Survey, 2003.*

Table 1.6

Comparisons of provinces and territories based on average proficiency scores, by domain, population 16 to 65, 2003

	Average score	Standard error	Confidence interval - 95% upper limit	Confidence interval - 95% lower limit
A. Prose				
Yukon	296	(1.8)	299	292
Saskatchewan	294	(2.4)	299	289
Alberta	289	(2.1)	294	285
British Columbia	288	(1.5)	291	285
Nova Scotia	286	(2.0)	290	282
Manitoba	283	(1.8)	287	279
Prince Edward Island	282	(2.8)	287	276
Canada	**281**	**(0.7)**	**282**	**279**
Northwest Territories	280	(2.3)	285	275
Ontario	279	(1.5)	282	276
Quebec	275	(0.9)	277	273
New Brunswick	273	(2.3)	277	268
Newfoundland and Labrador	271	(2.0)	275	267
Nunavut	232	(2.6)	237	227
B. Document				
Saskatchewan	294	(2.7)	300	289
Yukon	294	(2.1)	298	289
Alberta	290	(2.2)	295	286
British Columbia	290	(1.6)	293	287
Nova Scotia	284	(1.9)	288	280
Manitoba	283	(1.6)	286	280
Canada	**281**	**(0.6)**	**282**	**279**
Prince Edward Island	281	(3.0)	287	275
Northwest Territories	280	(2.2)	284	275
Ontario	279	(1.4)	282	276
Quebec	273	(1.3)	276	271
New Brunswick	270	(2.6)	276	265
Newfoundland and Labrador	269	(2.0)	273	265
Nunavut	234	(3.2)	240	227
C. Numeracy				
Saskatchewan	284	(2.5)	289	279
Yukon	283	(2.0)	287	279
Alberta	281	(2.1)	285	277
British Columbia	279	(1.4)	282	277
Canada	**272**	**(0.7)**	**274**	**271**
Nova Scotia	272	(1.7)	275	268
Manitoba	271	(1.8)	275	268
Ontario	270	(1.5)	273	267
Quebec	269	(1.1)	272	267
Prince Edward Island	269	(2.8)	275	264
Northwest Territories	269	(2.1)	274	265
New Brunswick	262	(2.5)	267	257
Newfoundland and Labrador	259	(2.0)	263	255
Nunavut	220	(3.2)	227	214

Table 1.6 (concluded)

Comparisons of provinces and territories based on average proficiency scores, by domain, population 16 to 65, 2003

	Average score	Standard error	Confidence interval - 95% upper limit	Confidence interval - 95% lower limit
D. Problem solving				
Yukon	286	(2.2)	290	281
Saskatchewan	285	(2.7)	290	279
British Columbia	281	(1.7)	284	278
Alberta	281	(2.3)	285	276
Nova Scotia	276	(2.1)	280	271
Manitoba	275	(1.8)	279	272
Canada	**274**	**(1.1)**	**276**	**272**
Ontario	271	(1.8)	275	268
Prince Edward Island	271	(2.1)	275	267
Quebec	271	(1.3)	274	268
Northwest Territories	269	(1.9)	273	266
New Brunswick	266	(2.6)	271	260
Newfoundland and Labrador	262	(1.8)	266	259
Nunavut	227	(2.7)	233	222

Note: Jurisdictions are ranked by the average proficiency score.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 1.7

Percent of population at each proficiency level by jurisdiction, Canadian population, 16 to 65, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
A. Prose								
Newfoundland and Labrador	18.7	(1.6)	31.6	(2.0)	35.7	(1.5)	14.0	(1.1)
Prince Edward Island	14.0	(1.6)	28.8	(2.3)	38.0	(2.7)	19.2	(2.4)
Nova Scotia	11.9	(1.4)	26.5	(1.6)	42.1	(2.4)	19.5	(1.9)
New Brunswick	16.6	(1.7)	33.8	(2.2)	35.3	(2.4)	14.4	(2.3)
Quebec	15.6	(0.8)	33.0	(1.3)	36.8	(1.1)	14.6	(0.9)
Ontario	16.2	(0.8)	26.0	(1.5)	38.3	(2.0)	19.5	(2.0)
Manitoba	12.7	(1.3)	27.0	(1.9)	41.0	(2.2)	19.3	(1.6)
Saskatchewan	6.6	(1.2)	26.4	(2.3)	42.7	(3.0)	24.3	(2.8)
Alberta	9.7	(1.1)	25.3	(2.3)	41.7	(2.6)	23.2	(1.7)
British Columbia	13.8	(1.0)	20.9	(1.7)	39.2	(2.4)	26.0	(2.0)
Yukon	9.0	(1.4)	21.9	(1.9)	40.1	(3.3)	28.9	(2.8)
Northwest Territories	16.5	(1.9)	26.1	(1.9)	36.8	(2.9)	20.6	(1.9)
Nunavut	45.8	(2.1)	26.4	(2.4)	20.2	(2.7)	7.6	(1.4)
Canada	**14.6**	**(0.4)**	**27.3**	**(0.7)**	**38.6**	**(0.9)**	**19.5**	**(0.8)**

Table 1.7 (concluded)

Percent of population at each proficiency level by jurisdiction, Canadian population, 16 to 65, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
B. Document								
Newfoundland and Labrador	20.8	(1.6)	32.0	(1.8)	32.3	(1.9)	14.9	(1.4)
Prince Edward Island	14.9	(1.9)	29.0	(3.4)	37.8	(3.1)	18.3	(2.1)
Nova Scotia	13.7	(1.2)	26.6	(1.8)	39.2	(2.3)	20.4	(1.8)
New Brunswick	19.3	(1.8)	32.9	(2.1)	33.8	(3.3)	13.9	(2.8)
Quebec	17.7	(1.0)	32.8	(1.3)	34.5	(1.1)	15.0	(0.7)
Ontario	16.8	(0.9)	25.4	(1.6)	37.0	(2.4)	20.8	(1.7)
Manitoba	13.0	(1.1)	26.9	(1.4)	41.1	(2.2)	19.0	(1.8)
Saskatchewan	7.1	(1.6)	25.8	(2.6)	42.8	(3.7)	24.3	(3.7)
Alberta	10.6	(1.3)	24.8	(1.4)	39.5	(2.2)	25.1	(1.7)
British Columbia	13.2	(1.2)	21.5	(1.7)	37.4	(1.8)	27.8	(1.5)
Yukon	9.3	(1.3)	23.6	(2.7)	40.6	(3.0)	26.5	(2.2)
Northwest Territories	17.2	(1.7)	26.5	(2.6)	35.4	(2.4)	20.9	(2.0)
Nunavut	45.4	(2.6)	27.5	(2.5)	19.1	(2.5)	7.9	(1.4)
Canada	**15.6**	**(0.4)**	**27**	**(0.7)**	**36.9**	**(1.0)**	**20.5**	**(0.6)**
C. Numeracy								
Newfoundland and Labrador	26.8	(1.8)	34.3	(2.0)	28.4	(2.1)	10.4	(1.4)
Prince Edward Island	19.2	(2.5)	34.8	(3.2)	31.8	(3.1)	14.2	(2.0)
Nova Scotia	19.7	(1.6)	30.9	(2.3)	34.5	(2.1)	14.8	(1.5)
New Brunswick	23.1	(1.9)	37.2	(2.5)	29.3	(2.5)	10.5	(1.6)
Quebec	20.0	(0.8)	33.1	(1.2)	32.5	(1.5)	14.5	(0.9)
Ontario	21.3	(1.1)	29.1	(1.7)	32.5	(1.2)	17.1	(1.3)
Manitoba	18.2	(1.5)	32.1	(2.6)	35.3	(3.0)	14.4	(1.8)
Saskatchewan	11.8	(1.4)	30.2	(3.6)	38.0	(4.3)	20.0	(2.7)
Alberta	15.1	(1.9)	29.3	(2.6)	34.8	(2.6)	20.8	(1.7)
British Columbia	16.7	(1.2)	27.0	(2.1)	36.0	(2.3)	20.3	(1.4)
Yukon	14.1	(1.5)	26.4	(3.2)	39.1	(3.0)	20.4	(2.2)
Northwest Territories	22.0	(2.4)	29.0	(3.6)	33.1	(2.3)	15.9	(1.6)
Nunavut	54.7	(2.5)	22.6	(2.6)	16.1	(1.8)	6.6	(1.3)
Canada	**19.5**	**(0.5)**	**30.3**	**(0.7)**	**33.4**	**(0.9)**	**16.9**	**(0.7)**

	Level 1		Level 2		Level 3		Level 4	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
D. Problem solving								
Newfoundland and Labrador	38.1	(2.0)	40.4	(2.4)	19.3	(1.7)	2.2E	(0.5)
Prince Edward Island	30.7	(2.4)	42.9	(2.9)	23.6	(2.1)	2.7E	(1.8)
Nova Scotia	28.7	(1.8)	40.8	(2.0)	25.5	(1.9)	5.0	(1.3)
New Brunswick	36.2	(2.7)	42.0	(3.1)	18.6	(2.6)	3.3E	(0.9)
Quebec	32.6	(1.3)	40.0	(1.0)	22.8	(1.2)	4.6	(0.6)
Ontario	30.9	(1.5)	37.6	(1.8)	26.0	(1.8)	5.4	(1.0)
Manitoba	27.9	(1.5)	40.1	(2.2)	27.6	(1.9)	4.5	(0.9)
Saskatchewan	20.9	(2.3)	43.5	(4.6)	30.0	(3.8)	5.6	(1.4)
Alberta	24.4	(2.1)	39.7	(2.5)	29.3	(1.8)	6.5	(1.2)
British Columbia	24.8	(1.3)	36.4	(1.9)	31.9	(2.4)	6.9	(1.3)
Yukon	21.7	(2.1)	38.7	(2.6)	32.3	(2.4)	7.3	(2.0)
Northwest Territories	32.9	(1.9)	37.9	(2.5)	25.1	(2.3)	4.1E	(1.0)
Nunavut	63.3	(3.2)	25.0	(3.2)	10.6	(2.1)	1.1E	(0.6)
Canada	**29.7**	**(0.8)**	**38.8**	**(1.0)**	**26.2**	**(0.9)**	**5.4**	**(0.6)**

E. Use with caution.

Note: Jurisdictions are ranked geographically from east to west.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 1.8

Average literacy scores across selected regions and provinces, Canadian population 16 to 65, 1994 and 2003

	IALS		IALSS		
	Mean	Standard error	Mean	Standard error	Difference IALS - IALSS
A. Prose					
Atlantic region	**274**	**(2.8)**	**278**	**(1.1)**	**3.9**
New Brunswick	273	(4.4)	273	(2.3)	0.1
Quebec	264	(5.8)	275	(0.9)	11.3*
Ontario	283	(4.7)	279	(1.5)	-4.6
Western region	**288**	**(4.5)**	**289**	**(1.1)**	**0.9**
Alberta	295	(4.7)	289	(2.1)	-6.0
British Columbia	282	(10.4)	288	(1.5)	6.4
Canada	**279**	**(3.1)**	**281**	**(0.7)**	**1.9**
B. Document					
Atlantic region	**269**	**(3.0)**	**276**	**(1.2)**	**6.7***
New Brunswick	270	(3.8)	270	(2.6)	0.2
Quebec	266	(7.9)	273	(1.3)	7.2
Ontario	286	(4.0)	279	(1.4)	-6.7
Western region	**286**	**(5.3)**	**290**	**(1.0)**	**4.2**
Alberta	291	(5.8)	290	(2.2)	-0.5
British Columbia	282	(9.3)	290	(1.6)	8.2
Canada	**279**	**(2.9)**	**281**	**(0.6)**	**1.3**

* p<.05 statistically significant.

Notes: The northern territories are excluded from the Canadian average.
The Western region includes Manitoba, Saskatchewan, Alberta and British Columbia.
The Atlantic region includes Newfoundland and Labrador, Nova Scotia, New Brunswick and Prince Edward Island.

Source: *International Adult Literacy Survey, 1994; International Adult Literacy and Skills Survey, 2003.*

Table 1.9

Changes in distribution of literacy levels across selected regions and provinces, Canadian population aged 16 to 65, 1994 and 2003

	1994 IALS							
	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
A. Prose								
Atlantic region	**18.2**	**(2.0)**	**28.7**	**(3.3)**	**34.7**	**(4.4)**	**18.4**	**(3.1)**
New Brunswick	19.3	(3.4)	32.5	(2.1)	29.7	(3.6)	18.6	(3.5)
Quebec	20.3	(3.1)	27.8	(4.5)	41.9	(3.8)	9.9	(2.4)
Ontario	15.9	(2.7)	24.0	(3.5)	32.1	(3.7)	28.1	(3.3)
Western region	**13.7**	**(3.3)**	**21.9**	**(3.4)**	**37.5**	**(5.7)**	**26.9**	**(4.8)**
Alberta	10.5	(2.2)	19.9	(2.3)	39.7	(2.7)	29.9	(3.7)
British Columbia	16.0	(8.8)	22.5	(5.9)	38.0	(10.9)	23.5	(5.7)
Canada	**16.6**	**(1.7)**	**24.8**	**(2.0)**	**36.4**	**(2.6)**	**22.3**	**(2.4)**
B. Document								
Atlantic region	**22.2**	**(2.0)**	**26.8**	**(2.1)**	**33.9**	**(4.3)**	**17.0**	**(2.4)**
New Brunswick	20.5	(2.3)	30.3	(3.4)	31.8	(4.7)	17.4	(2.6)
Quebec	22.2	(3.8)	28.7	(6.1)	32.9	(5.3)	16.1	(3.8)
Ontario	16.5	(3.2)	20.0	(2.3)	30.7	(5.3)	32.8	(3.8)
Western region	**14.5**	**(1.6)**	**23.3**	**(2.3)**	**34.7**	**(3.2)**	**27.5**	**(3.2)**
Alberta	12.6	(2.8)	18.7	(5.2)	40.1	(7.7)	28.7	(3.9)
British Columbia	15.2	(3.1)	27.2	(2.4)	31.2	(7.0)	26.5	(5.3)
Canada	**17.9**	**(1.9)**	**23.7**	**(1.6)**	**32.7**	**(2.2)**	**25.7**	**(1.5)**

	2003 IALSS							
	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
A. Prose								
Atlantic region	**15.1**	**(0.9)**	**30.1**	**(1.2)**	**38.2**	**(1.2)**	**16.6**	**(1.0)**
New Brunswick	16.6	(1.7)	33.8	(2.2)	35.3	(2.4)	14.4	(2.3)
Quebec	15.6	(0.8)	33.0	(1.3)	36.8	(1.1)	14.6	(0.9)
Ontario	16.2	(0.8)	26.0	(1.5)	38.3	(2.0)	19.5	(2.0)
Western region	**11.6**	**(0.7)**	**23.6**	**(1.2)**	**40.6**	**(1.1)**	**24.1**	**(1.0)**
Alberta	9.7	(1.1)	25.3	(2.3)	41.7	(2.6)	23.2	(1.7)
British Columbia	13.8	(1.0)	20.9	(1.7)	39.2	(2.4)	26.0	(2.0)
Canada	**14.6**	**(0.4)**	**27.3**	**(0.7)**	**38.6**	**(0.9)**	**19.5**	**(0.8)**
B. Document								
Atlantic region	**17.2**	**(0.8)**	**30.0**	**(0.9)**	**35.8**	**(1.5)**	**17.0**	**(1.1)**
New Brunswick	19.3	(1.8)	32.9	(2.1)	33.8	(3.3)	13.9	(2.8)
Quebec	17.7	(1.0)	32.8	(1.3)	34.5	(1.1)	15.0	(0.7)
Ontario	16.8	(0.9)	25.4	(1.6)	37.0	(2.4)	20.8	(1.7)
Western region	**11.7**	**(0.7)**	**23.7**	**(0.8)**	**39.1**	**(1.3)**	**25.5**	**(1.0)**
Alberta	10.6	(1.3)	24.8	(1.4)	39.5	(2.2)	25.1	(1.7)
British Columbia	13.2	(1.2)	21.5	(1.7)	37.4	(1.8)	27.8	(1.5)
Canada	**15.5**	**(0.4)**	**27.0**	**(0.7)**	**36.9**	**(1.0)**	**20.5**	**(0.6)**

Notes: The northern territories are excluded from the Canadian average.
The Western region includes Manitoba, Saskatchewan, Alberta and British Columbia.
The Atlantic region includes Newfoundland and Labrador, Nova Scotia, New Brunswick and Prince Edward Island.

Source: *International Adult Literacy and Skills Survey, 2003.*


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Annex A

Tables for Chapter 2

Table 2.1

Average prose scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by age groups, Canada, population aged 16 and over, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
A. Prose										
16 to 25	207	(4.7)	258	(3.1)	288	(1.6)	321	(3.1)	358	(2.4)
26 to 35	201	(4.4)	264	(2.8)	292	(1.6)	326	(1.6)	364	(3.4)
36 to 45	174	(5.1)	250	(2.7)	281	(2.0)	319	(1.8)	361	(4.5)
46 to 55	177	(5.5)	248	(3.0)	278	(1.6)	315	(1.5)	358	(2.7)
56 to 65	142	(7.3)	222	(3.2)	258	(2.3)	301	(2.9)	344	(3.7)
66 and over	123	(3.6)	181	(3.4)	221	(2.2)	264	(2.4)	310	(3.4)

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 2.2

Distribution of proficiency levels, by age group, Canada, population aged 16 and over, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
A. Prose								
16 to 25	9.5	(0.8)	28.3	(2.1)	40.6	(2.8)	21.6	(1.9)
26 to 35	9.5	(1.0)	24.0	(2.0)	41.9	(2.1)	24.6	(1.8)
36 to 45	14.7	(1.2)	26.7	(1.7)	38.2	(2.0)	20.3	(1.6)
46 to 55	15.9	(0.9)	27.8	(1.3)	38.7	(1.4)	17.6	(1.0)
56 to 65	26.9	(1.7)	30.9	(1.8)	31.8	(1.8)	10.4	(1.2)
66 and over	51.5	(2.4)	30.6	(2.0)	15.7	(1.3)	2.2	(0.6)
B. Document								
16 to 25	9.5	(1.1)	25.4	(2.0)	42.1	(2.0)	23.0	(1.5)
26 to 35	9.6	(1.2)	23.0	(2.1)	39.8	(2.0)	27.7	(1.4)
36 to 45	15.8	(1.4)	26.8	(1.6)	35.5	(2.1)	21.8	(1.8)
46 to 55	17.2	(1.1)	29.2	(1.7)	36.6	(1.9)	17.0	(1.2)
56 to 65	29.6	(1.8)	32.2	(1.8)	28.5	(1.9)	9.7	(1.1)
66 and over	57.3	(2.1)	27.8	(2.1)	13.0	(1.5)	1.9	(0.6)
C. Numeracy								
16 to 25	14.3	(1.2)	30.5	(1.2)	36.7	(1.6)	18.5	(1.6)
26 to 35	13.0	(1.2)	26.6	(1.8)	37.9	(2.1)	22.5	(2.0)
36 to 45	20.1	(1.2)	29.4	(1.5)	32.0	(1.5)	18.5	(1.2)
46 to 55	20.0	(1.4)	32.9	(2.0)	33.1	(1.9)	14.0	(1.3)
56 to 65	34.0	(1.6)	32.9	(2.4)	25.0	(2.0)	8.1	(1.4)
66 and over	62.1	(2.0)	25.7	(1.9)	10.7	(1.3)	1.5	(0.5)

Table 2.2 (concluded)

Distribution of proficiency levels, by age group, Canada, population aged 16 and over, 2003

	Level 1		Level 2		Level 3		Level 4	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
D. Problem solving								
16 to 25	21.4	(1.4)	40.8	(1.8)	32.0	(1.7)	5.8	(1.2)
26 to 35	21.2	(1.6)	39.1	(1.9)	32.2	(2.3)	7.5	(1.3)
36 to 45	30.0	(1.6)	37.8	(1.7)	26.0	(1.7)	6.2	(0.9)
46 to 55	32.2	(1.8)	40.7	(1.9)	23.0	(1.1)	4.2	(0.9)
56 to 65	48.9	(1.9)	34.3	(1.8)	14.7	(1.3)	2.1	(0.5)
66 and over	73.7	(1.7)	21.7	(1.8)	4.3	(0.9)	0.3 E	(0.2)

E. Use with caution.

Source: International Adult Literacy and Skills Survey, 2003.

Table 2.3

Average prose proficiency scores, by age group, Canada and jurisdictions, population aged 16 and over, 2003

	Age group											
	16 to 25		26 to 35		36 to 45		46 to 55		56 to 65		66 and over	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Newfoundland and Labrador	284	(4.6)	290	(5.1)	272	(3.4)	261	(3.6)	242	(5.2)	211	(5.3)
Prince Edward Island	283	(7.1)	298	(6.4)	281	(5.7)	281	(6.6)	260	(6.2)	218	(4.7)
Nova Scotia	286	(4.6)	299	(3.6)	287	(4.2)	284	(3.4)	268	(4.2)	225	(4.3)
New Brunswick	287	(5.7)	284	(6.1)	273	(4.2)	266	(4.1)	251	(6.4)	213	(5.4)
Quebec	291	(2.3)	285	(2.6)	275	(2.5)	271	(2.7)	252	(3.1)	212	(4.9)
Ontario	286	(3.7)	293	(3.3)	278	(3.8)	275	(3.2)	254	(4.7)	217	(3.5)
Manitoba	288	(3.5)	286	(5.9)	283	(3.5)	284	(3.1)	269	(5.1)	224	(4.0)
Saskatchewan	293	(4.9)	297	(7.2)	301	(5.8)	295	(4.5)	281	(4.8)	229	(7.0)
Alberta	292	(3.6)	298	(3.3)	288	(5.2)	290	(4.1)	271	(6.2)	232	(6.2)
British Columbia	287	(3.1)	297	(5.1)	292	(3.5)	291	(4.1)	267	(6.0)	240	(3.8)
Yukon	289	(6.0)	297	(6.6)	296	(5.0)	308	(4.4)	283	(7.0)	242	(8.7)
Northwest Territories	274	(4.8)	287	(5.9)	282	(6.0)	281	(5.0)	267	(8.5)	185	(16.6)
Nunavut	222	(5.8)	241	(6.0)	232	(7.6)	246	(9.0)	198	(10.4)	183	(20.2)
Canada	**288**	**(1.6)**	**292**	**(1.6)**	**281**	**(2.0)**	**278**	**(1.6)**	**258**	**(2.3)**	**221**	**(2.2)**

Source: International Adult Literacy and Skills Survey, 2003.

Table 2.4

Differences in average prose scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by age cohort, Canada, population aged 17 to 66 years in 1994 and 26 to 75 in 2003

Cohort	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
A: 1968-77										
IALS	196	(10.3)	263	(4.4)	288	(7.1)	322	(9.7)	366	(20.6)
IALSS	201	(4.4)	264	(2.8)	292	(1.6)	326	(1.6)	364	(3.4)
B: 1958-67										
IALS	170	(53.8)	253	(10.0)	287	(4.6)	328	(4.6)	374	(15.3)
IALSS	174	(5.1)	250	(2.7)	281	(2.0)	319	(1.8)	361	(4.5)
C: 1948-57										
IALS	160	(30.1)	257	(9.9)	289	(6.8)	332	(9.7)	376	(16.7)
IALSS	177	(5.5)	248	(3.0)	278	(1.6)	315	(1.5)	358	(2.7)
D: 1938-47										
IALS	140	(16.8)	234	(11.0)	268	(8.2)	310	(7.9)	352	(22.8)
IALSS	142	(7.3)	222	(3.2)	258	(2.3)	301	(2.9)	344	(3.7)
E: 1928-37										
IALS	101	(34.0)	173	(23.3)	233	(12.9)	290	(23.3)	335	(17.9)
IALSS	131	(6.0)	190	(4.6)	229	(2.9)	271	(3.7)	317	(5.2)

Cohort A: born between 1968 and 77: Aged 17 to 26 in 1994 and 26 to 35 in 2003;
Cohort B: born between 1958 and 67: Aged 27 to 36 in 1994, 36 to 45 in 2003;
Cohort C: born between 1948 and 57: Aged 37 to 46 in 1994; 46 to 55 in 2003;
Cohort D: born between 1938 and 47: Aged 47 to 56 in 1994; 56 to 65 in 2003; and
Cohort E: born between 1928 and 37: Aged 57 to 66 in 1994; 66 to 75 in 2003.

Source: *International Adult Literacy Survey, 1994; International Adult Literacy and Skills Survey, 2003.*

Table 2.5

Distribution of prose proficiency levels, by jurisdictions, population aged 16 to 25 years, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
Newfoundland and Labrador	8.2	(2.3) E	34.3	(5.7)	41.5	(6.2)	16.0	(3.8) E
Prince Edward Island	14.2	(5.6) E	32.1	(6.2)	31.0	(6.0)	22.7	(5.1) E
Nova Scotia	10.0	(3.1) E	28.5	(4.0)	43.7	(4.8)	17.8	(4.0) E
New Brunswick	8.5	(4.1) E	29.1	(7.0)	44.4	(8.3)	18.0	(6.0)
Quebec	8.5	(1.4)	27.6	(1.9)	41.1	(2.9)	22.8	(2.1)
Ontario	10.6	(2.3)	28.4	(4.7)	40.1	(5.6)	20.9	(4.0)
Manitoba	9.3	(2.2)	29.9	(4.3)	37.9	(6.2)	22.9	(4.1)
Saskatchewan	4.0	(2.0)	32.9	(6.8)	38.3	(8.6)	24.8	(6.4)
Alberta	5.8	(2.3) E	29.9	(3.8)	41.6	(5.0)	22.8	(3.2)
British Columbia	12.3	(2.4)	25.0	(3.2)	41.0	(3.2)	21.7	(2.2)
Yukon	9.0	(3.7) E	26.2	(7.0)	44.1	(9.7)	20.7	(8.2) E
Northwest Territories	17.4	(4.6)	31.2	(5.5)	38.3	(7.0)	13.0	(4.5) E
Nunavut	50.9	(5.6)	31.9	(4.8)	17.2	(4.1) E	x	x

E. Use with caution.
x. Suppressed to meet the confidentiality requirements of the *Statistics Act*.

Note: Due to confidentiality issues, Nunavut repondents aged 16 to 25 at level 4/5 have been included in the Level 3 category.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 2.6

Average prose scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by parental education level, Canada, population aged 16 to 25 years, 1994 and 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
High school not completed										
1994 IALS	95	(26.7)	250	(27.7)	272	(16.0)	307	(5.1)	346	(16.2)
2003 IALSS	179	(15.1)	228	(7.0)	256	(4.4)	286	(6.3)	330	(8.6)
High school										
1994 IALS	234	(22.3)	269	(11.1)	301	(7.3)	332	(10.9)	367	(10.6)
2003 IALSS	199	(10.8)	255	(4.3)	283	(3.1)	316	(6.6)	354	(8.5)
Trade vocational										
1994 IALS	189	(15.7)	242	(22.2)	275	(14.3)	311	(13.0)	351	(12.2)
2003 IALSS	215	(13.6)	259	(9.7)	289	(4.5)	323	(6.1)	356	(7.2)
Non-university post-secondary										
1994 IALS	201	(14.7)	274	(14.6)	300	(7.4)	331	(9.6)	365	(15.4)
2003 IALSS	223	(6.7)	260	(5.5)	289	(3.2)	315	(5.0)	359	(4.4)
University										
1994 IALS	202	(23.2)	271	(16.6)	293	(10.5)	321	(12.2)	358	(17.6)
2003 IALSS	222	(8.7)	278	(3.1)	302	(2.2)	331	(3.3)	366	(4.9)

Source: *International Adult Literacy Survey, 1994; International Adult Literacy and Skills Survey, 2003.*

Table 2.7

Distribution of prose proficiency level, by jurisdiction, population aged 65 and over, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
Newfoundland and Labrador	59.4	(4.3)	25.7	(3.8)	13.2 E	(4.3)	1.7 E	(1.2)
Prince Edward Island	53.8	(4.9)	33.9	(5.4)	10.8 E	(2.8)	1.6 E	(1.6)
Nova Scotia	48.2	(4.8)	32.8	(4.2)	17.3	(2.7)	1.7 E	(1.2)
New Brunswick	58.7	(6.2)	30.4	(5.3)	10.2 E	(3.9)	0.7 E	(0.7)
Quebec	62.1	(5.4)	28.4	(5.3)	8.9	(3.0)	0.7 E	(0.7)
Ontario	51.9	(3.8)	31.3	(3.4)	14.9	(2.8)	1.9 E	(1.1)
Manitoba	47.5	(4.1)	33.9	(4.8)	16.7	(3.0)	1.8 E	(1.2)
Saskatchewan	46.9	(6.0)	27.5	(4.9)	20.7 E	(5.7)	4.9 E	(3.0)
Alberta	43.2	(4.7)	30.0	(4.1)	23.1	(4.3)	3.8 E	(2.1)
British Columbia	37.0	(3.1)	32.7	(4.2)	25.4	(5.3)	4.9 E	(2.3)
Yukon	30.6	(7.4)	37.3 E	(13.3)	27.6 E	(11.0)	4.5 E	(5.5)
Northwest Territories	74.8	(11.5)	18.2 E	(10.7)	3.1 E	(3.8)	4.0 E	(1.8)
Nunavut	78.9 E	(10.5)	13.9 E	(7.6)	3.3 E	(3.4)	3.9 E	(3.4)

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 2.8

Average proficiency with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by gender, Canada, population aged 16 and over, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Prose										
Male	162	(3.3)	237	(1.9)	271	(1.2)	311	(1.5)	353	(2.1)
Female	160	(3.1)	239	(1.6)	274	(0.8)	316	(1.1)	359	(2.0)
Document										
Male	163	(3.2)	239	(1.9)	275	(1.1)	316	(1.7)	360	(2.9)
Female	156	(3.5)	231	(1.8)	268	(0.8)	311	(0.9)	357	(2.0)
Numeracy										
Male	161	(3.0)	235	(2.3)	272	(1.6)	315	(1.9)	362	(1.9)
Female	145	(2.5)	217	(1.5)	254	(0.7)	297	(1.3)	345	(2.8)
Problem solving										
Male	167	(2.8)	233	(2.0)	267	(1.3)	305	(1.6)	350	(3.2)
Female	161	(2.4)	230	(1.3)	264	(1.1)	304	(1.2)	349	(2.9)

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 2.9

Distribution of proficiency levels, by educational attainment, Canada, population aged 16 and over, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
A. Prose								
High school not completed	45.7	(1.2)	32.0	(1.4)	18.4	(1.1)	3.9	(0.7)
High school	15.8	(1.0)	31.9	(1.1)	38.9	(1.3)	13.4	(1.0)
Trade-vocational	10.6	(1.1)	29.0	(2.0)	42.8	(2.5)	17.6	(2.1)
Non-university post-secondary	8.9	(1.2)	26.0	(2.0)	42.4	(2.2)	22.7	(2.1)
University	5.1	(0.6)	17.1	(1.3)	43.4	(1.2)	34.5	(1.5)
B. Document								
High school not completed	48.7	(1.3)	30.1	(1.3)	17.1	(0.9)	4.2	(0.7)
High school	17.0	(1.0)	31.2	(1.4)	37.8	(1.8)	14.1	(1.3)
Trade-vocational	13.8	(1.6)	29.9	(2.1)	41.4	(1.9)	14.9	(1.4)
Non-university post-secondary	10.8	(1.5)	25.6	(1.7)	40.8	(2.7)	22.7	(1.9)
University	4.9	(0.5)	17.4	(1.3)	39.4	(2.0)	38.3	(1.6)
C. Numeracy								
High school not completed	53.8	(1.3)	28.6	(1.3)	14.1	(0.8)	3.6	(0.7)
High school	21.9	(1.3)	34.4	(1.0)	32.7	(1.3)	10.9	(0.9)
Trade-vocational	19.2	(1.7)	37.5	(2.9)	32.9	(2.6)	10.4	(1.1)
Non-university post-secondary	14.1	(1.8)	29.7	(1.4)	38.5	(1.8)	17.7	(1.6)
University	6.3	(0.8)	20.4	(1.6)	39.7	(1.6)	33.6	(1.9)

	Level 1		Level 2		Level 3		Level 4	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
D. Problem solving								
High school not completed	66.4	(1.4)	25.6	(1.5)	7.4	(0.7)	0.6 E	(0.2)
High school	32.0	(1.4)	41.1	(1.3)	23.3	(1.3)	3.6	(0.7)
Trade-vocational	27.7	(1.9)	43.7	(3.0)	25.1	(2.2)	3.5	(1.3)
Non-university post-secondary	25.9	(2.3)	41.5	(2.1)	28.8	(1.8)	3.8	(0.9)
University	14.5	(1.1)	36.2	(1.7)	37.4	(1.7)	11.9	(1.3)

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 2.10

Average prose scores, by educational attainment, age group, Canada, population aged 16 to 65 years, 2003

	Age group									
	16 to 20		21 to 25		26 to 30		31 to 35		36 to 40	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
High school not completed	273	(3.1)	259	(8.0)	262	(5.4)	242	(7.2)	226	(5.5)
High school	292	(2.4)	287	(3.9)	273	(4.7)	280	(4.0)	272	(3.4)
Trade-vocational	304	(5.8)	299	(4.3)	302	(8.5)	295	(6.5)	289	(3.7)
Non-university post-secondary	307	(11.7)	307	(4.2)	302	(5.7)	299	(3.6)	292	(5.2)
University	302 E	(18.2)	315	(4.8)	312	(4.4)	311	(4.9)	309	(3.7)
Canada	**283**	**(2.0)**	**294**	**(2.2)**	**293**	**(2.3)**	**291**	**(2.3)**	**281**	**(2.8)**

	Age group									
	41 to 45		46 to 50		51 to 55		56 to 60		61 to 65	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
High school not completed	232	(3.7)	239	(4.8)	231	(5.3)	222	(5.8)	215	(5.1)
High school	274	(5.3)	278	(3.6)	272	(3.1)	273	(3.4)	260	(5.0)
Trade-vocational	289	(4.2)	289	(4.7)	278	(4.9)	275	(8.8)	259	(7.6)
Non-university post-secondary	293	(5.5)	296	(5.1)	291	(4.5)	276	(5.0)	269	(7.4)
University	311	(5.0)	306	(3.0)	304	(4.4)	299	(4.5)	295	(4.4)
Canada	**281**	**(2.7)**	**282**	**(1.9)**	**274**	**(2.4)**	**263**	**(3.0)**	**251**	**(3.3)**

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 2.11

Average prose scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by level of educational attainment, Canada, population aged 16 and over, 1994 and 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
High school not completed										
IALS	102	(10.8)	179	(6.4)	224	(3.7)	278	(3.9)	320	(5.7)
IALSS	129	(3.1)	188	(2.5)	229	(1.2)	271	(1.8)	322	(2.6)
High school										
IALS	193	(37.5)	255	(7.2)	282	(4.9)	317	(2.8)	359	(4.1)
IALSS	174	(4.9)	240	(2.3)	270	(1.6)	305	(1.8)	345	(3.5)
Non-university post-secondary										
IALS	220	(30.6)	266	(5.0)	296	(4.0)	326	(6.4)	367	(7.9)
IALSS	202	(4.6)	258	(1.4)	286	(1.2)	318	(1.2)	355	(2.1)
University										
IALS	249	(34.8)	304	(16.1)	328	(8.6)	353	(11.7)	393	(23.2)
IALSS	226	(4.4)	281	(2.0)	306	(1.5)	338	(2.0)	375	(2.2)

Note: Non-university post-secondary includes those matriculating from a trade-vocational school.

Source: *International Adult Literacy Survey, 1994; International Adult Literacy and Skills Survey, 2003.*

Table 2.12

Distribution of population, by age group, by jurisdictions, population aged 16 and over, 2003

	Age group								
	16 to 25			26 to 35			36 to 45		
	Count	%	Standard error	Count	%	Standard error	Count	%	Standard error
Newfoundland and Labrador	73,000	17.0	(0.0)	72,000	16.8	(0.0)	88,000	20.4	(0.0)
Prince Edward Island	20,000	17.9	(0.0)	18,000	16.4	(0.0)	22,000	19.9	(0.0)
Nova Scotia	123,000	16.4	(0.0)	122,000	16.4	(0.0)	151,000	20.2	(0.0)
New Brunswick	97,000	16.2	(0.0)	102,000	17.0	(0.0)	121,000	20.2	(0.0)
Quebec	959,000	16.0	(0.3)	995,000	16.6	(0.3)	1,248,000	20.8	(0.0)
Ontario	1,597,000	16.6	(0.0)	1,754,000	18.2	(0.0)	2,072,000	21.5	(0.0)
Manitoba	149,000	17.5	(0.0)	146,000	17.1	(0.0)	168,000	19.7	(0.0)
Saskatchewan	138,000	18.5	(0.0)	119,000	16.1	(0.0)	142,000	19.2	(0.0)
Alberta	468,000	19.3	(0.0)	468,000	19.3	(0.0)	520,000	21.4	(0.0)
British Columbia	552,000	16.6	(0.6)	534,000	16.1	(1.0)	710,000	21.4	(0.8)
Yukon	4,000	18.6	(0.0)	4,000	17.7	(0.0)	5,000	23.9	(0.0)
Northwest Territories	6,000	21.1	(0.0)	6,000	23.9	(0.0)	7,000	25.1	(0.0)
Nunavut	4,000	28.0	(0.0)	3,000	26.7	(0.0)	3,000	20.3	(0.0)

	Age group								
	46 to 55			56 to 65			66 and over		
	Count	%	Standard error	Count	%	Standard error	Count	%	Standard error
Newfoundland and Labrador	86,000	19.9	(0.0)	56,000	12.9	(0.0)	57,000	13.1	(0.0)
Prince Edward Island	21,000	18.7	(0.0)	14,000	12.3	(0.0)	16,000	14.7	(0.0)
Nova Scotia	141,000	18.9	(0.0)	98,000	13.1	(0.0)	113,000	15.1	(0.0)
New Brunswick	116,000	19.4	(0.0)	76,000	12.7	(0.0)	87,000	14.6	(0.0)
Quebec	1,135,000	18.9	(0.0)	791,000	13.2	(0.0)	867,000	14.5	(0.0)
Ontario	1,692,000	17.6	(0.0)	1,142,000	11.9	(0.0)	1,363,000	14.2	(0.0)
Manitoba	152,000	17.9	(0.0)	102,000	12.0	(0.0)	135,000	15.8	(0.0)
Saskatchewan	131,000	17.6	(0.0)	85,000	11.5	(0.0)	127,000	17.1	(0.0)
Alberta	437,000	18.0	(0.0)	255,000	10.5	(0.0)	281,000	11.6	(0.0)
British Columbia	622,000	18.8	(0.0)	403,000	12.2	(0.0)	493,000	14.9	(0.0)
Yukon	4,000	21.0	(0.0)	3,000	12.2	(0.0)	1,000	6.6	(0.0)
Northwest Territories	4,000	16.4	(0.0)	2,000	8.6	(0.0)	1,000	4.8	(0.0)
Nunavut	2,000	15.2	(0.0)	1,000	5.6	(0.0)	1,000	4.2	(0.0)

Note: All counts rounded to the nearest thousand.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 2.13

Difference in the average scores between males and females, Canada and jurisdictions, population aged 16 and over, 2003

	Difference between males and females (average score of females minus average score of males)			
	Prose	Document	Numeracy	Problem solving
Canada	2.6	**-6.6**	**-17.6**	-2.2
Newfoundland and Labrador	**14.6**	5.5	-1.0	**9.5**
Prince Edward Island	**18.1**	8.3	-0.4	8.6
Nova Scotia	4.5	-5.2	**-14.5**	1.5
New Brunswick	7.3	-2.2	**-10.3**	0.1
Quebec	0.4	**-9.1**	**-22.4**	**-5.5**
Ontario	2.6	**-6.6**	**-17.5**	-2.3
Manitoba	3.8	-5.4	**-14.7**	1.8
Saskatchewan	8.5	-1.0	**-12.2**	4.5
Alberta	5.9	-3.0	**-13.3**	1.1
British Columbia	-0.1	**-8.8**	**-18.7**	-3.7
Yukon	4.2	-2.7	**-10.9**	0.2
Northwest Territories	8.2	-1.7	**-10.3**	3.3
Nunavut	2.1	-5.4	**-11.0**	0.0

Note: The score difference is calculated by subtracting the average score for males from the average score for females. Negative values indicate higher performance for males whereas positive values indicate higher performance for females. Bold numbers are significant at the .05 level.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 2.14 A to D

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles by gender, by jurisdictions, population aged 16 and over, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Newfoundland and Labrador					**A. Prose**					
Male	144	(9.2)	220	(6.1)	256	(2.5)	300	(3.3)	339	(6.4)
Female	167	(7.8)	236	(3.6)	270	(2.5)	309	(3.9)	352	(6.6)
Prince Edward Island										
Male	156	(17.2)	228	(5.8)	263	(4.0)	302	(4.8)	351	(15.3)
Female	186	(10.7)	247	(4.3)	281	(3.5)	321	(7.8)	366	(10.2)
Nova Scotia										
Male	172	(8.6)	241	(6.7)	274	(2.5)	311	(4.0)	356	(5.7)
Female	179	(7.4)	246	(4.6)	279	(2.5)	317	(2.7)	357	(5.6)
New Brunswick										
Male	164	(5.0)	225	(5.5)	260	(3.2)	298	(4.8)	344	(10.9)
Female	171	(7.9)	234	(3.7)	268	(2.7)	306	(4.2)	348	(10.6)
Quebec										
Male	168	(6.8)	232	(2.7)	266	(1.7)	304	(3.0)	349	(4.5)
Female	167	(6.7)	232	(3.2)	266	(1.5)	305	(2.0)	350	(1.7)
Ontario										
Male	153	(5.4)	234	(4.4)	269	(2.5)	312	(2.9)	351	(3.9)
Female	149	(6.3)	237	(3.5)	271	(1.6)	316	(2.3)	358	(3.1)
Manitoba										
Male	170	(11.3)	240	(4.9)	272	(2.6)	309	(3.2)	351	(5.6)
Female	160	(8.4)	242	(3.8)	276	(2.5)	318	(2.7)	357	(6.3)

Table 2.14 A to D (continued)

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles by gender, by jurisdictions, population aged 16 and over, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Saskatchewan										
Male	172	(14.9)	251	(5.3)	279	(3.0)	314	(5.4)	353	(8.5)
Female	181	(12.0)	259	(5.0)	287	(3.3)	326	(5.1)	365	(6.7)
Alberta										
Male	169	(8.3)	253	(4.0)	280	(2.6)	316	(3.3)	358	(6.3)
Female	177	(10.0)	255	(4.9)	286	(2.6)	324	(2.7)	365	(4.9)
British Columbia										
Male	176	(8.0)	247	(3.0)	281	(2.2)	321	(3.0)	363	(6.8)
Female	156	(7.1)	249	(4.8)	281	(1.8)	325	(2.0)	365	(3.1)
Yukon										
Male	197	(13.0)	261	(4.6)	290	(3.3)	326	(3.9)	365	(9.9)
Female	201	(8.2)	264	(4.9)	294	(2.2)	331	(4.3)	369	(6.5)
Northwest Territories										
Male	160	(11.6)	237	(5.9)	271	(2.9)	313	(2.7)	353	(5.6)
Female	155	(15.8)	246	(5.6)	280	(3.7)	322	(5.2)	366	(7.1)
Nunavut										
Male	119	(10.3)	176	(5.9)	229	(3.1)	279	(4.2)	341	(12.4)
Female	125	(8.8)	182	(6.0)	231	(3.9)	281	(6.8)	337	(10.1)
Newfoundland and Labrador					**B. Document**					
Male	151	(8.0)	219	(6.4)	258	(2.7)	302	(4.5)	346	(3.4)
Female	158	(7.3)	226	(4.1)	263	(2.3)	303	(5.2)	351	(4.6)
Prince Edward Island										
Male	161	(11.0)	228	(7.0)	266	(4.0)	307	(4.1)	359	(18.6)
Female	176	(9.6)	239	(4.9)	274	(3.8)	314	(4.8)	361	(10.2)
Nova Scotia										
Male	175	(5.6)	241	(6.7)	277	(2.8)	316	(4.3)	362	(8.5)
Female	168	(6.5)	236	(3.8)	272	(2.4)	312	(3.5)	360	(6.0)
New Brunswick										
Male	161	(7.0)	223	(6.6)	262	(3.5)	305	(4.8)	352	(8.5)
Female	162	(6.0)	224	(4.0)	260	(2.6)	298	(5.0)	347	(8.8)
Quebec										
Male	163	(6.9)	231	(2.6)	268	(2.0)	308	(2.0)	357	(6.4)
Female	158	(4.7)	220	(2.4)	258	(1.6)	298	(2.3)	348	(3.5)
Ontario										
Male	158	(6.2)	236	(5.1)	273	(2.5)	317	(3.6)	356	(4.4)
Female	146	(6.5)	229	(3.2)	266	(1.8)	312	(2.3)	356	(4.1)
Manitoba										
Male	172	(10.3)	244	(4.1)	276	(2.8)	312	(3.0)	358	(6.0)
Female	157	(6.2)	234	(4.5)	270	(2.3)	312	(2.7)	357	(4.3)
Saskatchewan										
Male	167	(12.3)	252	(6.5)	282	(3.7)	321	(7.5)	360	(8.1)
Female	171	(12.2)	249	(5.5)	281	(3.8)	319	(4.6)	369	(6.0)
Alberta										
Male	174	(7.7)	254	(4.5)	284	(2.9)	324	(3.0)	367	(5.8)
Female	175	(7.9)	248	(5.5)	281	(2.6)	320	(2.5)	362	(5.9)

Table 2.14 A to D (continued)

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles by gender, by jurisdictions, population aged 16 and over, 2003

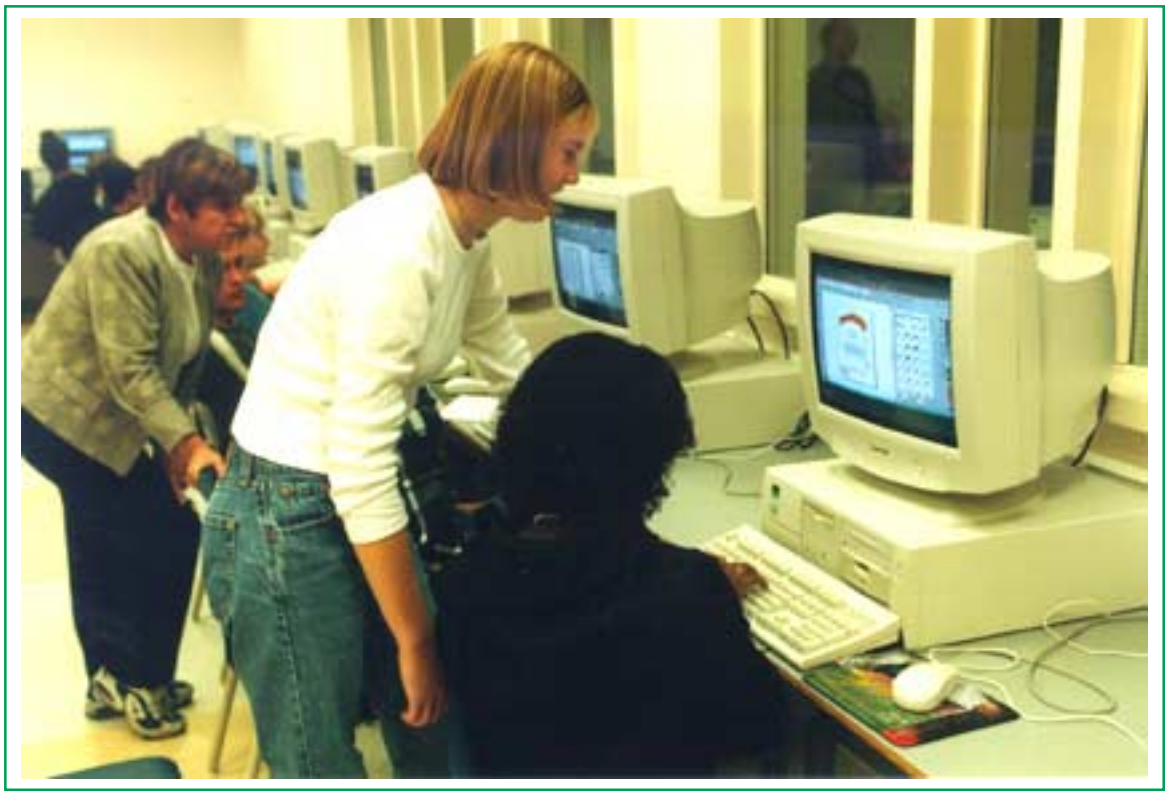
	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
British Columbia										
Male	174	(6.8)	252	(4.4)	286	(2.3)	329	(3.3)	373	(9.0)
Female	155	(7.5)	242	(4.2)	277	(2.0)	321	(2.5)	363	(3.5)
Yukon										
Male	193	(14.5)	262	(3.7)	291	(3.8)	328	(5.4)	370	(8.7)
Female	194	(11.1)	258	(3.7)	288	(2.4)	324	(3.2)	365	(4.8)
Northwest Territories										
Male	167	(17.0)	239	(5.8)	276	(2.7)	320	(4.2)	362	(6.7)
Female	152	(11.5)	239	(5.6)	274	(3.4)	317	(4.1)	364	(9.0)
Nunavut										
Male	125	(9.8)	183	(6.2)	234	(3.7)	280	(5.8)	343	(9.8)
Female	125	(7.2)	182	(5.4)	229	(4.2)	276	(9.4)	334	(9.3)
Newfoundland and Labrador					**C. Numeracy**					
Male	149	(7.9)	210	(4.4)	251	(2.4)	295	(4.4)	342	(4.3)
Female	152	(7.1)	214	(3.9)	250	(2.8)	290	(5.0)	338	(8.3)
Prince Edward Island										
Male	156	(11.5)	224	(7.6)	260	(3.5)	302	(6.6)	350	(10.3)
Female	156	(7.4)	225	(5.0)	260	(3.4)	299	(5.8)	351	(10.5)
Nova Scotia										
Male	162	(5.4)	232	(5.0)	270	(2.8)	310	(4.3)	359	(5.1)
Female	153	(4.6)	218	(3.4)	255	(2.2)	296	(2.6)	342	(6.8)
New Brunswick										
Male	156	(7.6)	222	(5.0)	257	(3.5)	293	(7.6)	351	(13.0)
Female	146	(8.1)	212	(2.7)	247	(2.8)	286	(3.6)	334	(6.7)
Quebec										
Male	167	(7.4)	235	(3.3)	271	(2.0)	311	(2.0)	359	(4.6)
Female	150	(3.2)	209	(2.0)	248	(1.5)	289	(1.6)	339	(3.3)
Ontario										
Male	153	(6.3)	231	(4.7)	270	(3.1)	316	(4.4)	360	(3.7)
Female	135	(5.1)	216	(2.6)	252	(1.4)	296	(2.7)	343	(5.1)
Manitoba										
Male	169	(6.2)	235	(4.1)	270	(2.9)	308	(3.0)	356	(6.5)
Female	148	(9.0)	218	(4.0)	255	(2.4)	296	(4.5)	342	(7.1)
Saskatchewan										
Male	166	(12.2)	247	(5.6)	278	(3.3)	318	(6.2)	360	(8.3)
Female	161	(14.1)	231	(4.8)	266	(3.3)	304	(5.9)	356	(7.9)
Alberta										
Male	173	(8.9)	244	(4.2)	280	(2.9)	322	(3.8)	366	(8.1)
Female	163	(6.9)	231	(3.7)	267	(2.3)	310	(2.5)	354	(5.4)
British Columbia										
Male	174	(10.1)	244	(4.2)	281	(2.5)	321	(3.5)	373	(6.3)
Female	148	(5.5)	223	(4.1)	262	(1.8)	305	(2.8)	352	(5.0)
Yukon										
Male	189	(12.0)	254	(7.8)	285	(3.5)	322	(5.4)	373	(8.9)
Female	179	(10.4)	241	(5.7)	274	(3.3)	313	(4.9)	356	(7.3)

Table 2.14 A to D (concluded)

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles by gender, by jurisdictions, population aged 16 and over, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Northwest Territories										
Male	160	(10.1)	229	(5.9)	270	(3.0)	314	(4.3)	362	(5.0)
Female	135	(14.5)	221	(7.1)	259	(3.6)	304	(4.7)	354	(14.6)
Nunavut										
Male	114	(9.2)	173	(6.9)	224	(3.6)	275	(5.5)	336	(8.5)
Female	108	(7.5)	165	(6.4)	213	(3.8)	259	(7.1)	327	(10.0)
Newfoundland and Labrador					**D. Problem solving**					
Male	155	(8.6)	217	(5.7)	250	(2.7)	289	(4.3)	328	(2.5)
Female	170	(6.1)	229	(3.9)	259	(2.0)	295	(3.0)	337	(4.7)
Prince Edward Island										
Male	160	(15.8)	226	(6.4)	258	(3.5)	293	(6.1)	337	(11.5)
Female	179	(8.4)	235	(3.6)	267	(3.0)	302	(6.0)	342	(10.3)
Nova Scotia										
Male	168	(9.2)	236	(3.0)	266	(2.6)	302	(3.6)	347	(6.5)
Female	178	(5.4)	233	(3.8)	268	(2.2)	303	(3.5)	348	(5.8)
New Brunswick										
Male	167	(7.3)	223	(5.7)	257	(3.0)	293	(4.2)	339	(12.8)
Female	168	(7.9)	223	(2.6)	257	(2.6)	291	(4.4)	336	(5.1)
Quebec										
Male	175	(6.7)	230	(2.8)	265	(1.9)	301	(2.2)	347	(4.7)
Female	167	(8.7)	224	(2.4)	259	(1.6)	297	(2.5)	344	(2.6)
Ontario										
Male	158	(5.6)	229	(4.0)	264	(2.3)	306	(3.2)	350	(5.2)
Female	153	(5.7)	226	(3.2)	262	(1.8)	304	(2.0)	348	(7.3)
Manitoba										
Male	168	(11.7)	236	(5.1)	265	(2.8)	301	(4.2)	345	(7.6)
Female	163	(8.1)	233	(3.4)	267	(2.3)	308	(2.8)	348	(4.6)
Saskatchewan										
Male	172	(10.2)	245	(5.7)	272	(3.1)	305	(5.8)	343	(8.1)
Female	182	(14.1)	244	(5.2)	276	(3.5)	314	(4.7)	355	(8.1)
Alberta										
Male	170	(8.0)	244	(4.2)	274	(2.8)	309	(3.3)	352	(8.0)
Female	177	(8.0)	243	(4.9)	275	(2.4)	312	(4.1)	355	(4.0)
British Columbia										
Male	177	(5.2)	243	(3.0)	276	(2.0)	313	(3.4)	356	(6.3)
Female	162	(7.4)	238	(4.1)	272	(1.8)	314	(2.8)	354	(4.9)
Yukon										
Male	192	(9.6)	251	(5.1)	282	(3.2)	318	(4.4)	360	(9.6)
Female	197	(6.7)	254	(4.9)	282	(2.6)	315	(2.6)	355	(8.5)
Northwest Territories										
Male	166	(12.9)	229	(5.4)	264	(2.5)	302	(4.2)	346	(6.0)
Female	157	(8.3)	231	(8.1)	267	(2.8)	308	(4.6)	348	(5.5)
Nunavut										
Male	119	(9.1)	182	(6.7)	225	(3.3)	271	(5.3)	324	(8.7)
Female	121	(9.5)	181	(6.1)	225	(4.2)	270	(6.7)	327	(7.2)

Source: *International Adult Literacy and Skills Survey, 2003.*



Annex A

Tables for Chapter 3

Table 3.1

Distribution of prose proficiency level, by mother tongue, Canada, Quebec, New Brunswick, Ontario and Manitoba, population aged 16 and over, 2003

	Mother tongue			
	English		French	
Level	%	Standard error	%	Standard error
Level 1				
New Brunswick	17.6	(2.7)	31.8	(1.8)
Quebec	15.9	(3.0)	21.2	(1.3)
Ontario	13.4	(1.2)	24.8	(1.1)
Manitoba	11.2	(1.1)	21.1	(2.2)
Canada	**12.6**	**(0.7)**	**21.7**	**(1.1)**
Level 2				
New Brunswick	32.0	(3.2)	34.5	(1.7)
Quebec	26.2	(3.0)	33.5	(1.6)
Ontario	26.9	(1.6)	30.7	(1.6)
Manitoba	27.8	(2.0)	31.0	(3.6)
Canada	**25.9**	**(0.9)**	**33.1**	**(1.3)**
Level 3				
New Brunswick	35.6	(3.4)	24.9	(2.2)
Quebec	38.4	(2.6)	33.3	(1.3)
Ontario	39.0	(2.2)	31.9	(1.3)
Manitoba	41.3	(2.2)	34.5	(4.6)
Canada	**39.8**	**(1.1)**	**33.1**	**(1.2)**
Level 4/5				
New Brunswick	14.7	(3.2)	8.8	(1.1)
Quebec	19.4	(2.3)	12.0	(0.8)
Ontario	20.7	(2.4)	12.6	(0.9)
Manitoba	19.8	(1.8)	13.4	(2.3)
Canada	**21.7**	**(1.3)**	**12.0**	**(0.8)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.2

Average prose scores, by mother tongue, highest level of educational attainment, Canada without Quebec, population aged 16 and over, 2003

	Educational attainment											
	Primary or less		High school not completed		High school		Trade Vocational		Non-university post-secondary		University	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
English (Outside Quebec)	182	(6.7)	251	(1.8)	285	(1.5)	291	(2.7)	302	(2.5)	320	(2.2)
French (Outside Quebec)	179	(4.0)	229	(2.5)	274	(3.1)	275	(4.8)	287	(3.5)	307	(2.2)

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.3

Distribution of prose proficiency level, by urban Aboriginal and non-Aboriginal populations in Manitoba and Saskatchewan, population aged 16 and over, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
Manitoba								
Urban Aboriginal	26.7	(2.6)	34.4	(3.1)	29.4	(2.6)	9.4	(1.4)
Non-Aboriginal	17.5	(1.3)	27.6	(1.9)	37.8	(2.4)	17.1	(1.4)
Saskatchewan								
Urban Aboriginal	26.5	(2.6)	36.9	(2.7)	27.8	(2.5)	8.9	(1.4)
Non-Aboriginal	13.2	(1.5)	25.5	(2.2)	39.3	(2.4)	21.9	(2.4)
Canada								
Total	**19.9**	**(0.5)**	**27.8**	**(0.7)**	**35.4**	**(0.8)**	**17.0**	**(0.7)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.4

Distribution of prose proficiency level, by Aboriginal and non-Aboriginal, by Northern Territories, population aged 16 and over, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
Yukon								
Aboriginal	26.5	(4.5)	28.3	(4.9)	32.2	(4.8)	13.0	(4.9)
Non-Aboriginal	7.2	(1.6)	21.9	(2.1)	40.7	(4.0)	30.2	(3.2)
Northwest Territories								
Aboriginal	36.9	(3.5)	32.0	(2.5)	25.5	(3.4)	5.6E	(1.5)
Non-Aboriginal	8.0	(2.1)	21.8	(2.4)	41.3	(3.0)	28.9	(2.4)
Nunavut								
Inuit	61.5	(2.3)	26.8	(2.3)	10.4	(2.5)	1.3E	(0.4)
Non-Inuit	5.7E	(2.0)	22.8	(4.8)	46.3	(5.7)	25.2	(4.8)
Canada								
Total	**19.9**	**(0.5)**	**27.8**	**(0.7)**	**35.4**	**(0.8)**	**17.0**	**(0.7)**

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.5 A to D

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by Aboriginal and Non-Aboriginal, Manitoba, Saskatchewan, Yukon Territory, Northwest Territories, and Nunavut, population aged 16 and over, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
A. Prose										
Non-Aboriginal in Manitoba	167	(5.7)	242	(2.7)	275	(1.7)	315	(2.0)	355	(3.9)
Urban Aboriginal in Manitoba	153	(3.9)	223	(4.1)	257	(2.6)	297	(4.2)	340	(4.6)
Non-Aboriginal in Saskatchewan	177	(11.0)	257	(2.6)	284	(2.3)	322	(3.6)	364	(5.0)
Urban Aboriginal in Saskatchewan	171	(8.2)	224	(4.0)	257	(2.5)	293	(3.3)	341	(5.6)
Non-Aboriginal in Yukon Territory	216	(10.2)	269	(4.6)	299	(2.3)	332	(3.1)	370	(5.3)
Aboriginal in Yukon Territory	138	(13.0)	224	(8.9)	261	(5.3)	306	(7.2)	354	(20.9)
Non-Aboriginal in Northwest Territories	206	(14.1)	268	(3.6)	297	(2.6)	332	(2.6)	369	(5.8)
Aboriginal in Northwest Territories	134	(7.9)	202	(7.9)	241	(4.2)	286	(6.0)	327	(6.9)
Non-Inuit in Nunavut	224	(17.9)	270	(7.8)	298	(3.9)	327	(7.6)	368	(7.6)
Inuit in Nunavut	115	(6.1)	164	(3.4)	207	(2.9)	248	(6.0)	297	(6.5)
B. Document										
Non-Aboriginal in Manitoba	216	(10.2)	269	(4.6)	299	(2.3)	332	(3.1)	370	(5.3)
Urban Aboriginal in Manitoba	138	(13.0)	224	(8.9)	261	(5.3)	306	(7.2)	354	(20.9)
Non-Aboriginal in Saskatchewan	224	(17.9)	270	(7.8)	298	(3.9)	327	(7.6)	368	(7.6)
Urban Aboriginal in Saskatchewan	171	(8.2)	224	(4.0)	257	(2.5)	293	(3.3)	341	(5.6)
Non-Aboriginal in Yukon Territory	206	(14.1)	268	(3.6)	297	(2.6)	332	(2.6)	369	(5.8)
Aboriginal in Yukon Territory	134	(7.9)	202	(7.9)	241	(4.2)	286	(6.0)	327	(6.9)
Non-Aboriginal in Northwest Territories	177	(11.0)	257	(2.6)	284	(2.3)	322	(3.6)	364	(5.0)
Aboriginal in Northwest Territories	115	(6.1)	164	(3.4)	207	(2.9)	248	(6.0)	297	(6.5)
Non-Inuit in Nunavut	167	(5.7)	242	(2.7)	275	(1.7)	315	(2.0)	355	(3.9)
Inuit in Nunavut	153	(3.9)	223	(4.1)	257	(2.6)	297	(4.2)	340	(4.6)
C. Numeracy										
Non-Aboriginal in Manitoba	159	(4.4)	228	(2.8)	264	(1.6)	304	(2.9)	350	(3.8)
Urban Aboriginal in Manitoba	139	(4.8)	205	(3.8)	242	(2.4)	282	(2.6)	333	(4.9)
Non-Aboriginal in Saskatchewan	163	(10.5)	241	(3.3)	274	(2.1)	313	(4.4)	359	(5.2)
Urban Aboriginal in Saskatchewan	145	(10.4)	203	(5.6)	241	(3.0)	279	(3.8)	332	(5.4)
Non-Aboriginal in Yukon Territory	200	(9.4)	256	(3.8)	287	(2.2)	322	(4.4)	368	(6.1)
Aboriginal in Yukon Territory	124	(11.7)	201	(8.6)	244	(5.2)	294	(6.5)	329	(7.8)
Non-Aboriginal in Northwest Territories	197	(14.6)	256	(4.5)	288	(2.3)	322	(2.8)	368	(5.3)
Aboriginal in Northwest Territories	116	(11.3)	186	(7.2)	229	(3.9)	274	(7.4)	319	(5.7)
Non-Inuit in Nunavut	211	(13.1)	260	(7.7)	290	(4.2)	323	(6.2)	364	(15.4)
Inuit in Nunavut	105	(5.9)	155	(4.6)	194	(3.4)	233	(6.0)	287	(6.1)
D. Problem solving										
Non-Aboriginal in Manitoba	165	(6.5)	236	(3.4)	267	(1.7)	306	(2.5)	347	(3.4)
Urban Aboriginal in Manitoba	161	(6.4)	220	(3.4)	253	(2.4)	288	(3.4)	332	(3.4)
Non-Aboriginal in Saskatchewan	175	(9.6)	248	(2.7)	275	(2.3)	310	(4.3)	351	(5.7)
Urban Aboriginal in Saskatchewan	170	(6.0)	222	(2.7)	252	(2.2)	284	(3.5)	329	(5.4)
Non-Aboriginal in Yukon Territory	210	(6.1)	259	(4.2)	288	(2.7)	320	(3.4)	360	(6.2)
Aboriginal in Yukon Territory	142	(12.8)	217	(8.4)	252	(4.9)	292	(7.4)	335	(10.5)
Non-Aboriginal in Northwest Territories	195	(13.2)	259	(2.8)	286	(2.1)	318	(2.7)	355	(6.3)
Aboriginal in Northwest Territories	142	(10.3)	197	(5.8)	233	(3.0)	273	(5.0)	315	(7.2)
Non-Inuit in Nunavut	215	(13.9)	259	(8.0)	285	(4.7)	314	(6.4)	347	(6.7)
Inuit in Nunavut	114	(7.1)	166	(4.2)	205	(3.1)	242	(6.9)	293	(4.7)

Note: Populations have been ranked by the mean of prose scores.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.6 A to D

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by age groups, by Aboriginal and non-Aboriginal, Canada, Manitoba, Saskatchewan, Yukon Territory, Northwest Territories, and Nunavut, population aged 16 and over, 2003

Age groups	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Non-Aboriginal in Manitoba					**A. Prose**					
16 to 25	211	(17.4)	259	(6.9)	291	(4.0)	326	(6.7)	363	(14.6)
26 to 45	191	(10.8)	262	(6.0)	287	(3.3)	320	(4.3)	361	(7.6)
46 and over	149	(6.2)	224	(3.9)	260	(2.2)	302	(2.3)	345	(6.0)
Urban Aboriginal in Manitoba										
16 to 25	185	(12.3)	229	(7.5)	258	(3.8)	287	(7.0)	327	(7.4)
26 to 45	169	(11.6)	232	(6.4)	266	(4.0)	305	(6.3)	345	(5.6)
46 and over	134	(10.0)	199	(8.7)	242	(4.4)	288	(5.2)	340	(9.7)
Non-Aboriginal in Saskatchewan										
16 to 25	236E	(19.1)	267E	(4.3)	295	(5.3)	326E	(10.6)	358E	(7.7)
26 to 45	228	(26.6)	278	(6.9)	303	(5.0)	330	(3.7)	374	(11.6)
46 and over	154	(10.0)	231	(5.9)	267	(2.8)	310	(4.0)	355	(8.5)
Urban Aboriginal in Saskatchewan										
16 to 25	186	(17.4)	227	(6.1)	262	(4.1)	298	(5.7)	348	(12.1)
26 to 45	178	(8.3)	228	(9.0)	263	(4.1)	297	(5.2)	347	(7.1)
46 and over	141	(13.8)	208	(10.7)	239	(4.4)	276	(7.0)	318	(7.3)
Canada										
16 to 25	**207**	**(4.7)**	**258**	**(3.1)**	**288**	**(1.6)**	**321**	**(3.1)**	**358**	**(2.4)**
26 to 45	**185**	**(3.2)**	**257**	**(1.8)**	**286**	**(1.3)**	**322**	**(1.5)**	**363**	**(2.5)**
46 and over	**142**	**(3.3)**	**214**	**(2.3)**	**254**	**(1.2)**	**299**	**(1.8)**	**346**	**(1.8)**
Non-Aboriginal in Manitoba					**B. Document**					
16 to 25	215	(11.5)	262	(5.2)	294	(3.4)	327	(6.0)	362	(10.1)
26 to 45	192	(9.7)	259	(6.3)	288	(3.4)	320	(4.7)	354	(6.4)
46 and over	147	(8.8)	219	(3.8)	257	(2.2)	300	(3.0)	336	(6.6)
Urban Aboriginal in Manitoba										
16 to 25	184	(11.2)	231	(9.8)	260	(4.9)	291	(8.2)	319	(13.1)
26 to 45	172	(6.9)	231	(5.7)	265	(3.8)	301	(6.0)	337	(6.8)
46 and over	132	(12.9)	195	(6.3)	239	(4.8)	285	(8.5)	329	(14.6)
Non-Aboriginal in Saskatchewan										
16 to 25	241E	(22.7)	273E	(9.2)	300	(5.8)	325E	(13.9)	357E	(18.7)
26 to 45	226	(23.9)	278	(6.9)	304	(4.8)	333	(5.4)	369	(10.2)
46 and over	151	(9.6)	225	(4.6)	262	(2.8)	307	(5.0)	347	(9.6)
Urban Aboriginal in Saskatchewan										
16 to 25	189	(12.3)	227	(8.5)	264	(4.9)	299	(7.0)	337	(9.5)
26 to 45	181	(9.3)	229	(5.7)	264	(4.0)	299	(6.2)	335	(7.4)
46 and over	136	(13.4)	202	(8.9)	234	(4.7)	273	(7.2)	310	(12.7)
Canada										
16 to 25	**209**	**4.3**	**263**	**2.4**	**291**	**1.6**	**323**	**1.6**	**362**	**3.2**
26 to 45	**185**	**3.7**	**255**	**1.5**	**287**	**1.2**	**325**	**1.4**	**367**	**2.6**
46 and over	**140**	**2.5**	**209**	**1.6**	**250**	**1.2**	**295**	**1.6**	**344**	**2.1**
Non-Aboriginal in Manitoba					**C. Numeracy**					
16 to 25	190	(16.2)	249	(6.3)	281	(3.9)	317	(8.5)	362	(10.1)
26 to 45	180	(11.8)	249	(6.2)	277	(3.6)	312	(4.3)	354	(6.4)
46 and over	144	(7.8)	208	(5.3)	247	(2.0)	288	(4.0)	336	(6.6)
Urban Aboriginal in Manitoba										
16 to 25	165	(19.6)	212	(6.0)	246	(5.1)	280	(7.6)	319	(13.1)
26 to 45	151	(10.5)	216	(5.3)	251	(3.6)	289	(5.3)	337	(6.8)
46 and over	119	(11.4)	184	(7.8)	227	(5.4)	275	(5.7)	329	(14.6)
Non-Aboriginal in Saskatchewan										
16 to 25	224E	(15.6)	259E	(9.2)	287	(6.2)	315E	(10.1)	357E	(18.7)
26 to 45	215	(20.3)	264	(7.2)	293	(5.0)	328	(5.5)	369	(10.2)
46 and over	143	(11.9)	214	(5.0)	255	(3.2)	300	(6.1)	347	(9.6)
Urban Aboriginal in Saskatchewan										
16 to 25	161	(16.9)	205	(11.5)	244	(5.5)	282	(4.5)	337	(9.5)
26 to 45	163	(9.3)	209	(6.1)	247	(4.5)	285	(7.3)	335	(7.4)
46 and over	120	(17.6)	186	(10.9)	221	(5.2)	261	(7.1)	310	(12.7)

Table 3.6 A to D (concluded)

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by age groups, by Aboriginal and non-Aboriginal, Canada, Manitoba, Saskatchewan, Yukon Territory, Northwest Territories, and Nunavut, population aged 16 and over, 2003

Age groups	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Canada					**C. Numeracy**					
16 to 25	**191**	**(7.1)**	**247**	**(2.2)**	**280**	**(2.0)**	**316**	**(2.3)**	**358**	**(3.4)**
26 to 45	**178**	**(2.9)**	**244**	**(2.0)**	**279**	**(1.1)**	**319**	**(1.6)**	**363**	**(2.7)**
46 and over	**134**	**(2.3)**	**201**	**(2.0)**	**243**	**(1.2)**	**288**	**(1.7)**	**339**	**(1.9)**
Non-Aboriginal in Manitoba					**D. Problem solving**					
16 to 25	211	(9.0)	254	(5.0)	287	(4.1)	321	(6.7)	356	(11.3)
26 to 45	194	(16.2)	255	(4.1)	281	(3.0)	314	(3.8)	354	(5.8)
46 and over	151	(8.6)	215	(4.4)	250	(2.6)	288	(3.3)	331	(8.1)
Urban Aboriginal in Manitoba										
16 to 25	193	(9.1)	226	(4.9)	256	(3.7)	284	(5.9)	326	(7.8)
26 to 45	167	(14.6)	231	(5.9)	260	(3.6)	295	(4.4)	336	(6.3)
46 and over	139	(15.2)	199	(7.3)	238	(4.5)	277	(6.1)	332	(8.3)
Non-Aboriginal in Saskatchewan										
16 to 25	228E	(14.2)	264E	(6.1)	290	(5.0)	313E	(8.6)	347E	(14.5)
26 to 45	223	(29.6)	268	(6.9)	293	(5.3)	323	(5.3)	359	(11.1)
46 and over	153	(10.4)	222	(5.4)	257	(2.9)	295	(5.4)	340	(8.7)
Urban Aboriginal in Saskatchewan										
16 to 25	186	(9.6)	226	(8.4)	258	(5.4)	290	(7.6)	340	(13.9)
26 to 45	180	(10.8)	227	(5.8)	257	(3.6)	288	(4.8)	333	(7.3)
46 and over	152	(10.8)	206	(11.6)	234	(4.8)	269	(6.1)	307	(7.2)
Canada										
16 to 25	**208**	**(4.4)**	**257**	**(2.1)**	**285**	**(1.8)**	**315**	**(3.7)**	**354**	**(5.3)**
26 to 45	**185**	**(3.5)**	**249**	**(2.1)**	**279**	**(1.5)**	**315**	**(1.7)**	**358**	**(3.2)**
46 and over	**145**	**(4.5)**	**208**	**(1.9)**	**246**	**(1.3)**	**287**	**(1.6)**	**334**	**(3.1)**

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.7 A to D

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by age groups, Aboriginal and non-Aboriginal, Canada and Northern Territories, population aged 16 and over, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Non-Aboriginal in Yukon					**A. Prose**					
16 to 25	216	(15.0)	266	(11.8)	293	(6.2)	325	(8.3)	356	(21.5)
26 to 45	222	(17.0)	275	(7.6)	303	(4.2)	336	(5.0)	370	(7.1)
46 and over	210	(13.1)	265	(6.1)	297	(4.1)	331	(4.8)	371	(9.9)
Aboriginal in Yukon										
16 to 25	191	(15.3)	253	(16.9)	277	(14.1)	311	(21.1)	333	(29.9)
26 to 45	157	(23.6)	224	(17.6)	264	(8.1)	309	(11.7)	351	(17.6)
46 and over	109	(13.3)	196	(13.3)	246	(9.1)	298	(12.7)	367	(21.7)
Non-Aboriginal in Northwest Territories										
16 to 25	225	(14.5)	264	(9.6)	291	(5.4)	322	(10.3)	350	(13.3)
26 to 45	210	(23.4)	273	(8.2)	305	(4.8)	341	(5.4)	374	(11.3)
46 and over	179	(35.7)	264	(6.8)	290	(5.7)	324	(6.1)	359	(9.0)
Aboriginal in Northwest Territories										
16 to 25	161	(14.8)	217	(14.5)	253	(8.8)	291	(12.6)	338	(12.1)
26 to 45	155	(13.7)	214	(12.5)	251	(5.4)	292	(8.0)	331	(10.7)
46 and over	112	(14.4)	157	(11.5)	214	(5.1)	267	(7.1)	316	(14.3)
Non-Inuit in Nunavut										
16 to 25	226E	(13.7)	244E	(11.7)	279E	(14.1)	309E	(26.5)	357E	(28.0)
26 to 45	218	(21.2)	277	(11.3)	301	(7.2)	329	(11.4)	368	(17.3)
46 and over	229	(22.2)	273	(12.9)	299	(6.3)	323	(9.8)	365	(12.1)

Table 3.7 A to D (continued)

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by age groups, Aboriginal and non-Aboriginal, Canada and Northern Territories, population aged 16 and over, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Inuit in Nunavut					**A. Prose**					
16 to 25	124	(19.2)	174	(8.3)	215	(5.6)	255	(7.8)	303	(9.8)
26 to 45	120	(9.9)	166	(5.9)	209	(4.6)	249	(6.8)	298	(11.8)
46 and over	103	(10.8)	146	(10.7)	189	(9.5)	231	(20.4)	280	(27.5)
Canada										
16 to 25	**207**	**(4.7)**	**258**	**(3.1)**	**288**	**(1.6)**	**321**	**(3.1)**	**358**	**(2.4)**
26 to 45	**185**	**(3.2)**	**257**	**(1.8)**	**286**	**(1.3)**	**322**	**(1.5)**	**363**	**(2.5)**
46 and over	**142**	**(3.3)**	**214**	**(2.3)**	**254**	**(1.2)**	**299**	**(1.8)**	**346**	**(1.8)**
Non-Aboriginal in Yukon					**B. Document**					
16 to 25	225	(16.6)	268	(13.8)	295	(7.4)	325	(11.9)	346	(13.6)
26 to 45	218	(13.9)	273	(7.6)	301	(4.4)	335	(5.0)	370	(12.2)
46 and over	207	(16.1)	261	(6.1)	292	(4.2)	326	(6.9)	374	(8.2)
Aboriginal in Yukon										
16 to 25	194	(9.0)	248	(22.0)	274	(10.8)	309	(18.4)	328	(12.5)
26 to 45	156	(27.2)	217	(19.5)	259	(8.4)	300	(11.7)	332	(8.6)
46 and over	115	(14.0)	194	(13.6)	241	(9.0)	290	(13.0)	321	(20.7)
Non-Aboriginal in Northwest Territories										
16 to 25	229	(12.3)	268	(10.0)	296	(6.1)	326	(12.1)	363	(19.1)
26 to 45	201	(23.4)	275	(8.9)	304	(4.8)	340	(4.3)	377	(9.9)
46 and over	179	(36.0)	261	(5.6)	287	(5.6)	326	(8.7)	359	(14.2)
Aboriginal in Northwest Territories										
16 to 25	161	(11.7)	220	(14.9)	253	(8.8)	294	(16.0)	331	(26.6)
26 to 45	157	(14.9)	214	(8.5)	249	(5.7)	291	(9.8)	323	(13.0)
46 and over	110	(10.7)	163	(10.1)	212	(5.0)	263	(8.6)	302	(13.5)
Non-Inuit in Nunavut										
16 to 25	221E	(5.6)	251E	(22.1)	279E	(15.5)	308E	(20.1)	354E	(19.3)
26 to 45	222	(18.8)	276	(10.2)	303	(5.9)	331	(9.3)	374	(26.7)
46 and over	228	(23.9)	272	(14.1)	300	(8.5)	330	(13.7)	356	(23.9)
Inuit in Nunavut										
16 to 25	129	(16.0)	177	(6.3)	216	(6.5)	254	(11.4)	295	(23.1)
26 to 45	124	(8.5)	171	(7.1)	210	(4.8)	247	(7.8)	285	(16.0)
46 and over	106	(15.6)	151	(10.1)	193	(9.8)	235	(22.6)	278	(13.1)
Canada										
16 to 25	**209**	**(4.3)**	**263**	**(2.4)**	**291**	**(1.6)**	**323**	**(1.6)**	**362**	**(3.2)**
26 to 45	**185**	**(3.7)**	**255**	**(1.5)**	**287**	**(1.2)**	**325**	**(1.4)**	**367**	**(2.6)**
46 and over	**140**	**(2.5)**	**209**	**(1.6)**	**250**	**(1.2)**	**295**	**(1.6)**	**344**	**(2.1)**
Non-Aboriginal in Yukon					**C. Numeracy**					
16 to 25	196	(19.6)	256	(16.9)	281	(7.5)	318	(10.4)	346	(13.6)
26 to 45	208	(19.8)	261	(4.8)	291	(3.9)	325	(4.3)	370	(12.2)
46 and over	198	(13.0)	251	(8.4)	285	(4.0)	321	(5.0)	374	(8.2)
Aboriginal in Yukon										
16 to 25	174	(19.1)	230	(19.1)	264	(11.4)	305	(14.5)	328	(12.5)
26 to 45	131	(20.8)	211	(12.9)	248	(7.6)	294	(9.9)	332	(8.6)
46 and over	104	(15.9)	170	(14.8)	223	(9.8)	283	(12.3)	321	(20.7)
Non-Aboriginal in Northwest Territories										
16 to 25	210	(16.9)	255	(10.0)	284	(8.3)	309	(14.3)	363	(19.1)
26 to 45	201	(23.5)	261	(8.9)	293	(4.9)	326	(6.6)	377	(9.9)
46 and over	171	(32.2)	249	(9.2)	280	(6.2)	321	(5.8)	359	(14.2)
Aboriginal in Northwest Territories										
16 to 25	139	(10.2)	201	(13.7)	242	(8.8)	291	(14.3)	331	(26.6)
26 to 45	136	(18.0)	203	(8.4)	238	(6.0)	279	(8.8)	323	(13.0)
46 and over	96	(14.7)	156	(12.1)	203	(5.8)	247	(9.6)	302	(13.5)
Non-Inuit in Nunavut										
16 to 25	193E	(8.0)	234E	(23.2)	262E	(15.2)	287E	(33.8)	354E	(19.3)
26 to 45	215	(23.2)	265	(9.6)	295	(6.1)	326	(10.2)	374	(26.7)
46 and over	217	(21.6)	263	(9.3)	292	(7.5)	325	(14.2)	356	(23.9)

Table 3.7 A to D (concluded)

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by age groups, Aboriginal and non-Aboriginal, Canada and Northern Territories, population aged 16 and over, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Inuit in Nunavut					**C. Numeracy**					
16 to 25	110	(13.1)	161	(9.3)	200	(6.8)	239	(12.4)	295	(23.1)
26 to 45	108	(13.8)	160	(6.8)	196	(4.2)	235	(6.5)	285	(16.0)
46 and over	94	(12.5)	139	(9.6)	181	(8.0)	220	(16.4)	278	(13.1)
Canada										
16 to 25	**191**	**(7.1)**	**247**	**(2.2)**	**280**	**(2.0)**	**316**	**(2.3)**	**358**	**(3.4)**
26 to 45	**178**	**(2.9)**	**244**	**(2.0)**	**279**	**(1.1)**	**319**	**(1.6)**	**363**	**(2.7)**
46 and over	**134**	**(2.3)**	**201**	**(2.0)**	**243**	**(1.2)**	**288**	**(1.7)**	**339**	**(1.9)**
Non-Aboriginal in Yukon					**D. Problem solving**					
16 to 25	223	(8.6)	261	(11.8)	288	(7.2)	316	(7.8)	355	(21.6)
26 to 45	214	(18.0)	268	(5.9)	294	(3.9)	323	(5.9)	363	(8.9)
46 and over	200	(13.2)	250	(5.9)	283	(3.9)	318	(5.1)	358	(10.5)
Aboriginal in Yukon										
16 to 25	190	(10.8)	241	(15.7)	267	(12.5)	297	(19.8)	328	(20.3)
26 to 45	152	(10.8)	217	(15.1)	253	(8.4)	294	(9.5)	345	(14.6)
46 and over	118	(10.8)	193	(14.7)	236	(7.5)	283	(7.2)	330	(20.0)
Non-Aboriginal in Northwest Territories										
16 to 25	224	(18.0)	258	(8.5)	284	(4.6)	310	(8.9)	344	(14.3)
26 to 45	202	(17.1)	264	(6.7)	292	(4.4)	324	(5.1)	365	(8.1)
46 and over	181	(26.9)	251	(7.2)	277	(5.3)	311	(5.7)	344	(13.5)
Aboriginal in Northwest Territories										
16 to 25	170	(10.8)	210	(14.2)	247	(8.4)	278	(11.5)	323	(15.8)
26 to 45	155	(10.8)	207	(7.3)	241	(5.0)	277	(6.2)	325	(13.0)
46 and over	120	(10.8)	163	(7.0)	208	(4.0)	249	(6.0)	295	(9.0)
Non-Inuit in Nunavut										
16 to 25	221E	(20.6)	241E	(18.0)	276E	(16.2)	307E	(13.1)	343E	(18.7)
26 to 45	218	(17.1)	266	(11.0)	288	(5.9)	318	(6.8)	345	(19.7)
46 and over	213	(17.2)	257	(12.5)	284	(9.0)	313	(15.2)	354	(14.6)
Inuit in Nunavut										
16 to 25	123	(10.8)	173	(8.8)	213	(6.4)	253	(11.6)	300	(7.5)
26 to 45	115	(10.8)	172	(6.6)	206	(4.6)	242	(6.8)	289	(8.8)
46 and over	106	(10.8)	145	(9.3)	188	(7.8)	231	(16.1)	276	(10.1)
Canada										
16 to 25	**208**	**(4.4)**	**257**	**(2.1)**	**285**	**(1.8)**	**315**	**(3.7)**	**354**	**(5.3)**
26 to 45	**185**	**(3.5)**	**249**	**(2.1)**	**279**	**(1.5)**	**315**	**(1.7)**	**358**	**(3.2)**
46 and over	**145**	**(4.5)**	**208**	**(1.9)**	**246**	**(1.3)**	**287**	**(1.6)**	**334**	**(3.1)**

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.8

Distribution of prose proficiency, by percentage below level 3, at or above level 3, by gender, urban Aboriginal and non-Aboriginal populations, Canada, Saskatchewan and Manitoba,population 16 and over, 2003

Gender	Below level 3		Level 3 and above	
	%	Standard error	%	Standard error
Non-Aboriginal in Manitoba				
Male	47.5	(3.0)	52.5	(3.0)
Female	42.8	(2.5)	57.2	(2.5)
Urban Aboriginal in Manitoba				
Male	64.8	(3.6)	35.2	(3.6)
Female	58.1	(3.0)	41.9	(3.0)
Non-Aboriginal in Saskatchewan				
Male	42.3	(3.6)	57.7	(3.6)
Female	35.2	(3.2)	64.8	(3.2)
Urban Aboriginal in Saskatchewan				
Male	64.0	(4.6)	36.0	(4.6)
Female	62.8	(3.0)	37.2	(3.0)
Canada				
Male	**48.5**	**(1.4)**	**51.5**	**(1.4)**
Female	**46.8**	**(1.0)**	**53.2**	**(1.0)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.9

Distribution of prose proficiency, by percentage below level 3, at or above level 3, by gender, urban Aboriginal and non-Aboriginal populations, Canada and Northern Territories, population aged 16 and over, 2003

Gender	Below level 3		Level 3 and above	
	%	Standard error	%	Standard error
Non-Aboriginal in Yukon				
Male	31.1	(3.8)	68.9	(3.8)
Female	27.1	(3.0)	72.9	(3.0)
Aboriginal in Yukon				
Male	55.7	(8.3)	44.3	(8.3)
Female	54.0	(5.9)	46.0	(5.9)
Non-Aboriginal in Northwest Territories				
Male	33.0	(3.9)	67.0	(3.9)
Female	26.2	(4.0)	73.8	(4.0)
Aboriginal in Northwest Territories				
Male	74.7	(3.7)	25.3	(3.7)
Female	63.3	(4.9)	36.7	(4.9)
Non-Inuit in Nunavut				
Male	33.6	(7.0)	66.4	(7.0)
Female	21.4E	(7.2)	78.6	(7.2)
Inuit in Nunavut				
Male	89.1	(2.1)	10.9E	(2.1)
Female	87.6	(4.0)	12.4	(4.0)
Canada				
Male	**48.5**	**(1.4)**	**51.5**	**(1.4)**
Female	**46.8**	**(1.0)**	**53.2**	**(1.0)**

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.10

Average prose proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by gender, urban Aboriginal and non-Aboriginal populations, Canada, Manitoba and Saskatchewan, population aged 16 and over, 2003

Gender	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Non-Aboriginal in Manitoba										
Male	171	(11.7)	242	(5.4)	273	(2.7)	310	(3.1)	351	(5.9)
Female	163	(9.4)	243	(4.2)	277	(2.6)	319	(2.5)	358	(6.0)
Urban Aboriginal in Manitoba										
Male	152	(6.7)	222	(6.5)	254	(3.7)	291	(4.7)	337	(7.7)
Female	157	(8.2)	224	(6.0)	259	(3.3)	301	(4.1)	342	(6.1)
Non-Aboriginal in Saskatchewan										
Male	172	(14.9)	253	(4.7)	279	(3.2)	315	(5.5)	356	(9.7)
Female	181	(12.6)	261	(4.6)	289	(3.4)	329	(5.6)	367	(6.6)
Urban Aboriginal in Saskatchewan										
Male	178	(9.9)	224	(5.2)	257	(3.8)	291	(5.7)	334	(9.7)
Female	166	(8.9)	223	(5.7)	258	(3.6)	296	(3.6)	346	(7.2)
Canada										
Male	**162**	**(3.5)**	**237**	**(2.0)**	**271**	**(1.2)**	**311**	**(1.4)**	**353**	**(2.0)**
Female	**160**	**(3.1)**	**239**	**(1.6)**	**274**	**(0.9)**	**316**	**(1.2)**	**359**	**(1.8)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.11

Average prose proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by gender, Aboriginal and non-Aboriginal populations, Canada and Northern Territories, population aged 16 and over, 2003

Gender	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Non-Aboriginal in Yukon										
Male	215	(18.9)	267	(6.5)	296	(4.2)	330	(4.0)	368	(9.9)
Female	217	(11.0)	273	(5.5)	301	(2.9)	334	(5.1)	370	(6.8)
Aboriginal in Yukon										
Male	146	(17.6)	217	(10.8)	258	(9.2)	303	(12.8)	346	(23.0)
Female	133	(21.9)	228	(12.0)	264	(8.1)	309	(17.4)	356	(16.8)
Non-Aboriginal in Northwest Territories										
Male	213	(17.7)	265	(6.6)	294	(3.2)	326	(5.7)	362	(7.2)
Female	201	(31.6)	273	(7.7)	302	(5.1)	337	(7.1)	376	(10.4)
Aboriginal in Northwest Territories										
Male	140	(11.4)	195	(12.1)	234	(6.5)	276	(9.4)	315	(9.3)
Female	133	(10.2)	210	(12.2)	248	(4.7)	292	(6.4)	337	(10.8)
Non-Inuit in Nunavut										
Male	219	(14.1)	264	(10.3)	294	(6.9)	325	(12.8)	360	(12.0)
Female	230	(25.2)	282	(12.9)	304	(7.3)	327	(10.6)	371	(13.5)
Inuit in Nunavut										
Male	110	(11.0)	160	(7.4)	203	(3.7)	244	(6.2)	299	(8.8)
Female	122	(9.6)	169	(5.8)	210	(4.4)	251	(9.1)	296	(6.9)
Canada										
Male	**162**	**(3.5)**	**237**	**(2.0)**	**271**	**(1.2)**	**311**	**(1.4)**	**353**	**(2.0)**
Female	**160**	**(3.1)**	**239**	**(1.6)**	**274**	**(0.9)**	**316**	**(1.2)**	**359**	**(1.8)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.12

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by educational attainment, urban Aboriginal and non-Aboriginal populations, Canada, Manitoba and Saskatchewan, population aged 16 and over, 2003

Highest level of educational attainment	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Urban Aboriginal in Manitoba					**A. Prose**					
Less than high school	138	(9.3)	196	(5.0)	229	(3.8)	264	(4.6)	314	(9.2)
High school	198	(20.9)	249	(4.0)	274	(4.6)	305	(5.0)	340	(8.0)
More than high school	214	(19.8)	265	(6.4)	294	(4.9)	323	(5.8)	361	(10.1)
Non-Aboriginal in Manitoba										
Less than high school	128	(5.8)	201	(8.0)	236	(3.9)	277	(5.0)	319	(5.0)
High school	189	(6.8)	251	(6.1)	281	(2.5)	315	(4.0)	355	(6.8)
More than high school	216	(8.6)	272	(3.2)	298	(2.5)	330	(4.1)	364	(7.5)
Urban Aboriginal in Saskatchewan										
Less than high school	141	(11.9)	204	(5.7)	231	(4.2)	261	(6.4)	305	(6.9)
High school	184	(13.7)	238	(9.7)	269	(5.9)	301	(7.1)	346	(7.7)
More than high school	208	(20.0)	260	(8.3)	288	(3.4)	317	(5.9)	359	(12.2)
Non-Aboriginal in Saskatchewan										
Less than high school	138	(16.9)	207	(13.2)	242	(5.6)	280	(6.6)	326	(14.2)
High school	203	(27.2)	262	(7.3)	287	(5.1)	320	(8.6)	353	(7.7)
More than high school	241	(13.7)	281	(5.1)	307	(3.0)	334	(4.9)	379	(7.7)
Canada										
Less than high school	**130**	**(3.6)**	**185**	**(1.6)**	**224**	**(1.4)**	**264**	**(2.0)**	**312**	**(3.6)**
High school	**181**	**(5.9)**	**240**	**(2.5)**	**270**	**(1.9)**	**303**	**(1.9)**	**344**	**(3.4)**
More than high school	**206**	**(4.1)**	**258**	**(1.7)**	**287**	**(1.3)**	**319**	**(1.5)**	**361**	**(2.9)**
Urban Aboriginal in Manitoba					**B. Document**					
Less than high school	138	(9.3)	195	(6.8)	229	(4.2)	265	(5.0)	312	(7.1)
High school	197	(21.0)	246	(4.9)	274	(4.2)	302	(5.8)	340	(9.5)
More than high school	218	(9.7)	262	(7.9)	291	(4.7)	321	(5.4)	364	(9.2)
Non-Aboriginal in Manitoba										
Less than high school	131	(10.3)	195	(6.1)	234	(4.0)	275	(5.9)	319	(6.7)
High school	190	(9.4)	254	(4.3)	281	(2.4)	313	(4.1)	358	(6.8)
More than high school	214	(9.2)	269	(4.9)	297	(3.0)	328	(4.7)	367	(5.4)
Urban Aboriginal in Saskatchewan										
Less than high school	142	(13.0)	205	(6.2)	229	(4.1)	258	(6.3)	301	(9.3)
High school	185	(6.5)	237	(10.0)	270	(5.9)	302	(7.9)	349	(9.6)
More than high school	214	(10.7)	258	(4.7)	289	(3.2)	321	(5.7)	360	(8.1)
Non-Aboriginal in Saskatchewan										
Less than high school	134	(21.3)	200	(12.0)	239	(5.9)	280	(6.2)	330	(16.1)
High school	191	(26.5)	257	(6.9)	286	(5.8)	319	(8.5)	357	(10.0)
More than high school	231	(10.8)	281	(6.2)	307	(3.7)	335	(5.5)	377	(8.2)
Canada										
Less than high school	**126**	**(4.0)**	**184**	**(2.7)**	**226**	**(1.3)**	**269**	**(1.6)**	**321**	**(4.6)**
High school	**178**	**(3.5)**	**243**	**(2.4)**	**273**	**(1.4)**	**309**	**(2.1)**	**349**	**(2.2)**
More than high school	**209**	**(2.8)**	**267**	**(1.4)**	**297**	**(0.9)**	**331**	**(1.3)**	**371**	**(1.5)**
Urban Aboriginal in Manitoba					**C. Numeracy**					
Less than high school	121	(8.7)	181	(5.0)	216	(3.6)	255	(7.4)	305	(6.7)
High school	174	(12.2)	233	(6.1)	259	(3.9)	290	(5.6)	328	(9.8)
More than high school	193	(13.5)	240	(7.8)	276	(6.0)	313	(5.4)	358	(11.9)
Non-Aboriginal in Manitoba										
Less than high school	128	(9.7)	185	(4.8)	226	(3.3)	268	(5.6)	320	(7.2)
High school	180	(7.2)	237	(4.8)	268	(2.8)	301	(4.3)	346	(7.4)
More than high school	198	(7.2)	257	(4.0)	286	(2.8)	319	(4.1)	364	(6.9)
Urban Aboriginal in Saskatchewan										
Less than high school	122	(13.4)	179	(6.1)	210	(4.8)	241	(7.7)	286	(6.4)
High school	172	(15.2)	225	(6.9)	254	(5.9)	287	(8.3)	336	(11.8)
More than high school	204	(13.9)	244	(4.8)	275	(3.8)	308	(7.0)	353	(9.7)

Table 3.12 (concluded)

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by educational attainment, urban Aboriginal and non-Aboriginal populations, Canada, Manitoba and Saskatchewan, population aged 16 and over, 2003

Highest level of educational attainment	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Non-Aboriginal in Saskatchewan					**C. Numeracy**					
Less than high school	132	(29.2)	194	(10.4)	234	(6.2)	278	(10.3)	322	(18.3)
High school	180	(19.6)	247	(6.5)	277	(5.1)	310	(7.6)	355	(12.7)
More than high school	214	(9.6)	266	(6.9)	295	(4.2)	326	(5.7)	370	(11.6)
Canada										
Less than high school	**119**	**(4.1)**	**175**	**(1.8)**	**219**	**(1.5)**	**261**	**(2.1)**	**317**	**(5.2)**
High school	**173**	**(4.8)**	**232**	**(2.3)**	**264**	**(1.6)**	**300**	**(1.5)**	**344**	**(3.0)**
More than high school	**200**	**(2.3)**	**257**	**(1.9)**	**289**	**(1.3)**	**325**	**(1.7)**	**367**	**(1.9)**
Urban Aboriginal in Manitoba					**D. Problem solving**					
Less than high school	137	(9.4)	197	(5.2)	228	(3.3)	261	(4.7)	306	(7.4)
High school	201	(11.7)	246	(4.5)	270	(3.6)	299	(5.1)	338	(9.7)
More than high school	212	(10.1)	257	(5.7)	282	(4.0)	310	(6.5)	347	(9.3)
Non-Aboriginal in Manitoba										
Less than high school	132	(8.6)	197	(6.7)	231	(4.1)	269	(4.3)	311	(5.7)
High school	190	(4.8)	247	(5.9)	276	(2.7)	309	(3.7)	349	(6.6)
More than high school	207	(8.0)	259	(3.9)	286	(2.6)	316	(4.5)	355	(6.1)
Urban Aboriginal in Saskatchewan										
Less than high school	148	(12.3)	202	(8.2)	226	(4.0)	251	(4.9)	300	(9.2)
High school	202	(9.3)	239	(6.5)	266	(5.0)	293	(5.9)	337	(12.9)
More than high school	208	(13.7)	248	(5.3)	277	(2.7)	305	(5.7)	346	(10.1)
Non-Aboriginal in Saskatchewan										
Less than high school	142	(21.6)	201	(9.3)	237	(4.5)	276	(9.2)	314	(10.8)
High school	201	(24.8)	251	(5.5)	280	(4.6)	312	(6.7)	351	(10.9)
More than high school	224	(6.2)	271	(4.8)	295	(3.9)	322	(5.2)	361	(9.5)
Canada										
Less than high school	**130**	**(3.6)**	**185**	**(1.6)**	**224**	**(1.4)**	**264**	**(2.0)**	**312**	**(3.6)**
High school	**181**	**(5.9)**	**240**	**(2.5)**	**270**	**(1.9)**	**303**	**(1.9)**	**344**	**(3.4)**
More than high school	**206**	**(4.1)**	**258**	**(1.7)**	**287**	**(1.3)**	**319**	**(1.5)**	**361**	**(2.9)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.13

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by educational attainment, Aboriginal and non-Aboriginal, Canada and Northern Territories, population aged 16 and over, 2003

Highest level of educational attainment	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Aboriginal in Yukon					**A. Prose**					
Less than high school	108	(8.4)	184	(14.3)	222	(5.4)	267	(5.6)	318	(20.7)
High school	201	(24.1)	255	(18.5)	277	(9.3)	306	(9.6)	346	(25.8)
More than high school	211	(28.9)	276	(15.0)	302	(10.4)	336	(15.4)	372	(15.9)
Non-Aboriginal in Yukon										
Less than high school	152	(17.4)	233	(11.7)	258	(6.0)	294	(10.0)	329	(8.2)
High school	226	(15.2)	272	(6.2)	298	(4.4)	325	(7.3)	367	(10.6)
More than high school	235	(9.1)	288	(4.1)	313	(3.5)	340	(3.8)	373	(5.6)
Aboriginal in Northwest Territories										
Less than high school	122	(10.1)	175	(12.8)	219	(6.4)	264	(6.6)	305	(7.5)
High school	203	(13.6)	236	(11.6)	272	(9.2)	305	(14.9)	344	(13.5)
More than high school	176	(29.2)	247	(9.9)	272	(7.0)	303	(9.7)	335	(11.3)
Non-Aboriginal in Northwest Territories										
Less than high school	162	(29.5)	231	(25.1)	258	(8.5)	295	(8.1)	323	(7.2)
High school	196	(30.4)	259	(12.0)	290	(7.4)	327	(8.3)	362	(8.3)
More than high school	234	(13.2)	284	(6.1)	310	(3.2)	339	(4.7)	374	(11.5)
Inuit in Nunavut										
Less than high school	109	(6.4)	156	(4.8)	194	(3.4)	233	(5.7)	282	(11.9)
High school	151	(15.8)	229	(12.2)	251	(7.8)	282	(11.2)	322	(16.0)
More than high school	149	(14.3)	203	(20.1)	240	(8.7)	278	(14.4)	316	(15.0)
Non-Inuit in Nunavut										
Less than high school [E]	227	(33.9)	246	(35.2)	275	(16.1)	305	(21.7)	321	(19.2)
High school	221	(12.4)	260	(12.1)	284	(7.3)	309	(10.8)	347	(21.8)
More than high school	233	(24.4)	283	(6.7)	308	(5.9)	339	(7.9)	372	(9.7)
Canada										
Less than high school	**130**	**(3.6)**	**185**	**(1.6)**	**224**	**(1.4)**	**264**	**(2.0)**	**312**	**(3.6)**
High school	**181**	**(5.9)**	**240**	**(2.5)**	**270**	**(1.9)**	**303**	**(1.9)**	**344**	**(3.4)**
More than high school	**206**	**(4.1)**	**258**	**(1.7)**	**287**	**(1.3)**	**319**	**(1.5)**	**361**	**(2.9)**
Aboriginal in Yukon					**B. Document**					
Less than high school	118	(12.7)	181	(14.9)	219	(6.8)	264	(11.4)	319	(16.8)
High school	202	(24.8)	254	(19.4)	274	(8.1)	299	(16.9)	342	(10.9)
More than high school	204	(26.2)	270	(13.7)	293	(8.0)	324	(8.3)	360	(17.6)
Non-Aboriginal in Yukon										
Less than high school	138	(23.0)	232	(9.8)	256	(6.8)	291	(9.6)	331	(10.6)
High school	223	(11.5)	270	(7.0)	296	(4.4)	322	(6.6)	366	(10.9)
More than high school	235	(8.8)	283	(5.5)	311	(3.6)	343	(6.1)	375	(8.6)
Aboriginal in Northwest Territories										
Less than high school	123	(10.4)	176	(10.9)	220	(5.9)	262	(6.5)	306	(10.4)
High school	190	(26.3)	229	(12.7)	270	(9.4)	310	(16.2)	350	(17.3)
More than high school	176	(22.0)	238	(8.3)	266	(7.1)	299	(12.0)	333	(12.8)
Non-Aboriginal in Northwest Territories										
Less than high school	155	(29.7)	225	(21.8)	256	(8.6)	290	(11.5)	330	(10.3)
High school	199	(31.9)	264	(9.7)	294	(7.1)	329	(8.4)	363	(12.9)
More than high school	221	(21.7)	282	(4.1)	309	(3.6)	339	(3.1)	378	(6.9)
Inuit in Nunavut										
Less than high school	114	(6.7)	160	(4.9)	196	(4.1)	232	(4.4)	278	(12.6)
High school	164	(17.0)	229	(12.6)	256	(7.4)	285	(10.6)	321	(13.7)
More than high school	155	(9.7)	204	(18.6)	237	(7.8)	270	(9.9)	312	(9.7)
Non-Inuit in Nunavut										
Less than high school [E]	216	(13.8)	229	(29.4)	269	(24.3)	309	(29.9)	332	(32.6)
High school	226	(12.2)	261	(14.8)	287	(8.0)	315	(10.1)	349	(12.6)
More than high school	235	(25.7)	283	(8.1)	309	(6.3)	337	(10.9)	370	(21.5)
Canada										
Less than high school	**126**	**(4.0)**	**184**	**(2.7)**	**226**	**(1.3)**	**269**	**(1.6)**	**321**	**(4.6)**
High school	**178**	**(3.5)**	**243**	**(2.4)**	**273**	**(1.4)**	**309**	**(2.1)**	**349**	**(2.2)**
More than high school	**209**	**(2.8)**	**267**	**(1.4)**	**297**	**(0.9)**	**331**	**(1.3)**	**371**	**(1.5)**

Table 3.13 (concluded)

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by educational attainment, Aboriginal and non-Aboriginal, Canada and Northern Territories, population aged 16 and over, 2003

Highest level of educational attainment	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
Aboriginal in Yukon					**C. Numeracy**					
Less than high school	99	(19.7)	167	(15.0)	206	(7.4)	250	(13.8)	315	(16.3)
High school	171	(14.3)	231	(20.2)	261	(9.9)	295	(11.8)	332	(11.0)
More than high school	185	(30.7)	256	(19.5)	281	(7.7)	308	(10.3)	341	(20.7)
Non-Aboriginal in Yukon										
Less than high school	132	(29.6)	219	(13.6)	249	(7.4)	284	(10.2)	328	(11.7)
High school	213	(9.6)	254	(7.8)	284	(4.4)	314	(6.9)	353	(9.9)
More than high school	220	(10.6)	272	(5.6)	302	(3.4)	334	(4.5)	379	(9.0)
Aboriginal in Northwest Territories										
Less than high school	112	(12.7)	166	(9.0)	210	(5.8)	253	(9.8)	305	(10.8)
High school	162	(18.4)	218	(17.8)	256	(10.7)	295	(11.3)	340	(31.8)
More than high school	176	(28.4)	225	(12.2)	255	(7.7)	288	(6.4)	331	(14.5)
Non-Aboriginal in Northwest Territories										
Less than high school	144	(37.1)	212	(16.1)	247	(8.9)	289	(12.3)	324	(16.5)
High school	193	(29.7)	246	(10.6)	278	(7.2)	312	(11.0)	362	(15.8)
More than high school	224	(22.9)	271	(5.2)	301	(3.8)	333	(5.1)	375	(8.0)
Inuit in Nunavut										
Less than high school	98	(7.1)	145	(4.2)	182	(3.8)	217	(6.2)	271	(8.6)
High school	139	(15.0)	203	(14.4)	238	(7.8)	277	(13.2)	314	(17.9)
More than high school	138	(15.3)	190	(19.6)	224	(10.2)	260	(14.2)	303	(21.1)
Non-Inuit in Nunavut										
Less than high school [E]	189	(9.5)	223	(27.4)	253	(18.7)	290	(31.1)	311	(22.6)
High school	206	(18.5)	255	(15.6)	277	(7.9)	301	(13.0)	340	(21.6)
More than high school	225	(22.0)	272	(9.3)	302	(7.6)	333	(7.6)	378	(25.3)
Canada										
Less than high school	**119**	**(4.1)**	**175**	**(1.8)**	**219**	**(1.5)**	**261**	**(2.1)**	**317**	**(5.2)**
High school	**173**	**(4.8)**	**232**	**(2.3)**	**264**	**(1.6)**	**300**	**(1.5)**	**344**	**(3.0)**
More than high school	**200**	**(2.3)**	**257**	**(1.9)**	**289**	**(1.3)**	**325**	**(1.7)**	**367**	**(1.9)**
Aboriginal in Yukon					**D. Problem solving**					
Less than high school	112	(18.5)	179	(9.1)	215	(5.5)	255	(10.3)	306	(18.3)
High school	207	(17.5)	242	(12.6)	270	(7.2)	295	(10.9)	339	(16.1)
More than high school	203	(20.0)	260	(11.5)	284	(10.9)	318	(24.8)	350	(9.0)
Non-Aboriginal in Yukon										
Less than high school	169	(16.8)	226	(8.3)	252	(6.8)	287	(8.8)	314	(10.9)
High school	227	(7.6)	259	(6.5)	288	(5.0)	315	(6.9)	354	(16.4)
More than high school	228	(11.4)	274	(4.7)	301	(3.2)	330	(4.9)	367	(7.5)
Aboriginal in Northwest Territories										
Less than high school	132	(14.2)	177	(6.7)	216	(4.7)	255	(7.5)	296	(11.2)
High school	187	(10.8)	222	(12.8)	259	(7.3)	292	(7.5)	333	(13.9)
More than high school	180	(25.9)	226	(8.8)	255	(6.8)	284	(7.8)	329	(20.3)
Non-Aboriginal in Northwest Territories										
Less than high school	158	(21.1)	213	(21.4)	250	(6.7)	287	(9.7)	322	(13.3)
High school	202	(24.8)	257	(8.7)	282	(5.5)	313	(8.4)	342	(9.2)
More than high school	218	(16.5)	271	(4.0)	296	(3.1)	324	(4.3)	365	(5.8)
Inuit in Nunavut										
Less than high school	109	(6.8)	156	(5.4)	192	(3.4)	229	(5.0)	273	(8.7)
High school	161	(23.4)	226	(14.8)	251	(6.7)	283	(10.7)	312	(7.5)
More than high school	162	(19.5)	203	(11.5)	234	(7.7)	264	(13.3)	306	(11.0)
Non-Inuit in Nunavut										
Less than high school [E]	201	(28.1)	238	(25.7)	256	(15.1)	280	(16.8)	302	(18.0)
High school	217	(10.6)	252	(18.4)	279	(7.8)	303	(8.6)	331	(11.4)
More than high school	218	(16.0)	270	(10.7)	293	(6.6)	323	(8.1)	353	(10.8)
Canada										
Less than high school	**130**	**(3.6)**	**185**	**(1.6)**	**224**	**(1.4)**	**264**	**(2.0)**	**312**	**(3.6)**
High school	**181**	**(5.9)**	**240**	**(2.5)**	**270**	**(1.9)**	**303**	**(1.9)**	**344**	**(3.4)**
More than high school	**206**	**(4.1)**	**258**	**(1.7)**	**287**	**(1.3)**	**319**	**(1.5)**	**361**	**(2.9)**

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.14 A to D

Distribution of proficiency levels, by immigrant status, Canada, population aged 16 to 65, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
A. Prose								
Canadian born	10.1	(0.5)	27.1	(0.8)	41.1	(0.9)	21.7	(1.0)
Recent immigrants (< = 10 years)	30.5	(2.6)	29.3	(3.0)	32.1	(2.8)	8.1	(1.3)
Established immigrants (> 10 years)	32.6	(1.6)	27.6	(1.7)	28.0	(1.6)	11.7	(1.1)
B. Document								
Canadian born	11.7	(0.4)	26.9	(0.8)	39.0	(1.0)	22.5	(0.7)
Recent immigrants (< = 10 years)	28.7	(2.4)	26.7	(3.4)	32.2	(3.6)	12.4	(2.1)
Established immigrants (> 10 years)	31.3	(1.5)	27.9	(1.6)	27.5	(1.6)	13.3	(1.4)
C. Numeracy								
Canadian born	15.8	(0.6)	30.6	(0.8)	35.4	(1.1)	18.2	(0.7)
Recent immigrants (< = 10 years)	30.4	(2.7)	29.7	(3.2)	27.7	(3.1)	12.2	(2.8)
Established immigrants (> 10 years)	34.9	(1.8)	28.9	(1.8)	24.6	(1.7)	11.6	(1.4)
	Level 1		**Level 2**		**Level 3**		**Level 4**	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
D. Problem solving								
Canadian born	24.4	(0.9)	40.5	(0.8)	28.8	(1.0)	6.2	(0.7)
Recent immigrants (< = 10 years)	47.4	(3.6)	35.6	(3.7)	15.6	(2.1)	1.5E	(0.6)
Established immigrants (> 10 years)	51.0	(1.9)	30.4	(1.8)	16.3	(1.2)	2.3	(0.7)

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.15

Distribution of prose proficiency levels, by immigrant status, gender, Canada, population aged 16 to 65, 2003

	Level 1		Level 2		Level 3		Level 4/5	
Immigrant status	%	Standard error	%	Standard error	%	Standard error	%	Standard error
Canadian born								
Male	11.7	(0.7)	28.5	(1.5)	41.1	(1.9)	18.8	(1.4)
Female	8.5	(0.7)	25.7	(1.2)	41.1	(1.2)	24.7	(1.0)
Established immigrants (> 10 years)								
Male	32.9	(2.6)	28.1	(2.8)	27.0	(2.6)	12.0	(1.7)
Female	32.4	(2.0)	27.1	(2.3)	29.0	(1.9)	11.5	(1.4)
Recent immigrants (< = 10 years)								
Male	27.7	(3.5)	28.7	(5.2)	34.4	(3.7)	9.1	(2.5)
Female	33.5	(3.4)	29.9	(4.4)	29.6	(5.4)	7.0	(1.6)

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.16

Distribution of prose proficiency, by level, by age group, by immigrant status, Canada, population aged 16 to 65, 2003

Immigrant status	Level 1 %	Level 1 Standard error	Level 2 %	Level 2 Standard error	Level 3 %	Level 3 Standard error	Level 4/5 %	Level 4/5 Standard error
Canadian born								
16 to 25	7.2	(0.8)	28.0	(2.3)	42.1	(3.0)	22.8	(2.1)
26 to 35	6.6	(1.1)	22.6	(1.7)	43.9	(2.2)	26.9	(2.1)
36 to 45	9.7	(1.2)	26.5	(2.0)	40.6	(2.2)	23.1	(1.8)
46 to 55	10.9	(0.9)	27.7	(1.5)	41.2	(1.7)	20.3	(1.2)
56 to 65	20.1	(1.7)	32.6	(2.2)	35.6	(2.0)	11.7	(1.2)
Established immigrants (> 10 years)								
16 to 25	18.8	(6.0)	28.7	(7.7)	37.0	(6.0)	15.5E	(4.3)
26 to 35	16.9	(3.8)	27.3	(5.6)	30.4	(4.2)	25.3	(5.8)
36 to 45	35.5	(4.1)	27.7	(3.6)	26.3	(3.2)	10.5	(2.1)
46 to 55	30.4	(3.0)	28.7	(4.0)	31.5	(4.4)	9.4	(1.6)
56 to 65	45.1	(3.3)	26.0	(3.3)	21.8	(2.9)	7.2	(2.0)
Recent immigrants (< = 10 years)								
16 to 25	32.8	(7.0)	32.2	(7.9)	24.6	(3.9)	10.4	(3.4)
26 to 35	24.6	(4.1)	30.8	(6.5)	37.1	(6.0)	7.5E	(2.6)
36 to 45	25.7	(4.1)	26.8	(5.3)	37.3	(5.1)	10.2	(3.3)
46 to 55	48.7	(7.9)	24.2	(5.1)	23.5	(6.8)	3.6E	(1.2)
56 to 65	49.5	(11.2)	32.5E	(10.4)	16.5E	(11.4)	x	x

E. Use with caution.

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

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.17

Distribution of proficiency levels for Francophones, by language of test, Canada without Quebec, population aged 16 and over, 2003

Language of test	Level 1 %	Level 1 Standard error	Level 2 %	Level 2 Standard error	Level 3 %	Level 3 Standard error	Level 4/5 %	Level 4/5 Standard error
A. Prose								
English	21.1	(1.7)	29.3	(1.6)	35.4	(2.1)	14.2	(2.7)
French	29.1	(1.8)	33.2	(1.6)	27.6	(1.8)	10.1	(1.1)
Total	**23.7**	**(1.3)**	**30.6**	**(1.1)**	**32.8**	**(1.5)**	**12.8**	**(1.7)**
B. Document								
English	23.4	(1.8)	30.3	(2.7)	32.7	(2.2)	13.5	(2.5)
French	32.5	(1.9)	32.1	(2.0)	25.0	(1.6)	10.4	(1.2)
Total	**26.4**	**(1.4)**	**30.9**	**(1.8)**	**30.2**	**(1.5)**	**12.5**	**(1.7)**
C. Numeracy								
English	28.1	(2.2)	31.5	(2.4)	29.1	(2.8)	11.2	(2.7)
French	36.0	(1.7)	30.5	(1.2)	24.0	(1.5)	9.4	(1.4)
Total	**30.7**	**(1.8)**	**31.2**	**(1.7)**	**27.4**	**(1.8)**	**10.6**	**(1.8)**

Language of test	Level 1 %	Level 1 Standard error	Level 2 %	Level 2 Standard error	Level 3 %	Level 3 Standard error	Level 4 %	Level 4 Standard error
D. Problem solving								
English	39.6	(2.2)	38.3	(2.2)	19.3	(2.3)	2.8	(1.7)
French	50.1	(1.9)	32.2	(2.0)	15.0	(1.5)	2.6	(0.5)
Total	**43.1**	**(1.7)**	**36.3**	**(1.8)**	**17.9**	**(1.8)**	**2.7**	**(1.2)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.18

Distribution of Francophones who were tested in English, by language spoken most often at home, Canada without Quebec, population aged 16 and over, 2003

Language spoken most often at home	Count	Standard error	%	Standard error
English	400,000	(29243.0)	63.0	(2.0)
French	235,000	(14587.0)	37.0	(2.0)
Total	**635,000**	**(35250.0)**	**100.0**	**(0.0)**

Distribution of prose proficiency levels for Francophones who were tested in English, by language spoken most often at home, Canada without Quebec, population aged 16 and over, 2003

Prose level	English %	English Standard error	French %	French Standard error
Level 1	16.6	(2.1)	28.8	(2.6)
Level 2	29.5	(2.3)	29.5	(2.6)
Level 3	37.9	(3.3)	30.6	(2.9)
Level 4/5	16.1	(3.7)	11.1	(2.1)

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.19

Distribution of proficiency levels, by mother tongue, Canada, population aged 16 and over, 2003

Mother tongue	Level 1 %	Level 1 Standard error	Level 2 %	Level 2 Standard error	Level 3 %	Level 3 Standard error	Level 4/5 %	Level 4/5 Standard error
A. Prose								
English	12.6	(0.7)	25.9	(0.9)	39.8	(1.1)	21.7	(1.3)
French	21.7	(1.1)	33.1	(1.3)	33.1	(1.2)	12.0	(0.8)
Other	37.7	(1.2)	27.0	(1.4)	25.7	(1.7)	9.6	(1.0)
B. Document								
English	14.6	(0.6)	25.0	(1.0)	37.9	(1.2)	22.6	(1.0)
French	24.9	(1.1)	32.5	(1.1)	30.5	(1.0)	12.1	(0.7)
Other	36.7	(1.2)	27.1	(1.6)	24.8	(1.7)	11.4	(1.1)
C. Numeracy								
English	19.3	(0.8)	29.6	(0.8)	33.4	(0.9)	17.6	(0.7)
French	28.3	(1.0)	31.4	(1.2)	28.7	(1.3)	11.6	(0.7)
Other	39.5	(1.2)	27.7	(1.1)	22.7	(1.1)	10.0	(1.2)

Mother tongue	Level 1 %	Level 1 Standard error	Level 2 %	Level 2 Standard error	Level 3 %	Level 3 Standard error	Level 4 %	Level 4 Standard error
D. Problem solving								
English	27.5	(1.1)	38.4	(1.0)	28.1	(1.0)	6.0	(0.7)
French	40.3	(1.2)	37.1	(1.0)	19.4	(1.0)	3.2	(0.4)
Other	54.3	(1.5)	29.8	(1.9)	13.3	(1.1)	2.6	(0.7)

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.20

Distribution of proficiency levels, by language of core and main task, Canada, population aged 16 and over, 2003

Language of core and main task	Level 1 %	Level 1 Standard error	Level 2 %	Level 2 Standard error	Level 3 %	Level 3 Standard error	Level 4/5 %	Level 4/5 Standard error
A. Prose								
English	19.0	(0.5)	26.2	(0.8)	36.2	(1.0)	18.5	(0.9)
French	22.8	(1.3)	33.2	(1.5)	32.4	(1.1)	11.7	(0.8)
Total	**19.9**	**(0.5)**	**27.8**	**(0.7)**	**35.4**	**(0.8)**	**17.0**	**(0.7)**
B. Document								
English	20.2	(0.5)	25.7	(0.8)	34.5	(1.1)	19.6	(0.7)
French	26.0	(1.2)	32.3	(1.2)	30.0	(1.1)	11.8	(0.7)
Total	**21.5**	**(0.4)**	**27.1**	**(0.6)**	**33.5**	**(0.9)**	**17.9**	**(0.5)**
C. Numeracy								
English	24.6	(0.6)	29.1	(0.7)	30.7	(0.7)	15.6	(0.7)
French	28.7	(1.0)	31.5	(1.0)	28.3	(1.3)	11.6	(0.7)
Total	**25.5**	**(0.6)**	**29.6**	**(0.6)**	**30.1**	**(0.7)**	**14.7**	**(0.6)**

Language of core and main task	Level 1 %	Level 1 Standard error	Level 2 %	Level 2 Standard error	Level 3 %	Level 3 Standard error	Level 4 %	Level 4 Standard error
D. Problem solving								
English	34.6	(0.9)	36.3	(1.0)	24.1	(0.8)	5.0	(0.6)
French	40.8	(1.5)	36.5	(0.9)	19.4	(1.0)	3.3	(0.4)
Total	**35.9**	**(0.7)**	**36.3**	**(0.8)**	**23.1**	**(0.7)**	**4.6**	**(0.5)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.21

Average prose proficiency scores, by mother tongue, by highest level of educational attainment, Quebec and Canada without Quebec, population aged 16 and over, 2003

	Educational attainment											
	Primary or less		High school not completed		High school		Trade-Vocational		Non-university post-secondary		University	
Mother tongue	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Quebec												
English	177 E	(13.6)	239	(8.1)	277	(3.6)	300	(7.4)	292	(9.0)	312	(6.1)
French	198	(6.7)	235	(2.5)	269	(2.2)	287	(3.2)	285	(2.9)	303	(3.0)
Other	174	(11.3)	224	(8.5)	239	(8.8)	261	(14.8)	267	(9.7)	295	(11.1)
Canada (without Quebec)												
English	182	(6.7)	251	(1.8)	285	(1.5)	291	(2.7)	302	(2.5)	320	(2.2)
French	179	(4.0)	229	(2.5)	274	(3.1)	275	(4.8)	287	(3.5)	307	(2.2)
Other	151	(4.0)	219	(4.2)	240	(3.7)	255	(7.8)	261	(4.9)	282	(2.7)

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.22

Average prose proficiency score, by mother tongue, by age groups, Quebec and Canada without Quebec, population aged 16 or over, 2003

	Age group											
	16 to 24		25 to 29		30 to 34		35 to 44		45 to 54		55 to 64		65 and over	
Mother tongue	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Quebec														
English	293	(5.7)	311 E	(13.8)	310	(13.2)	291	(5.0)	285	(5.9)	278	(5.2)	237	(9.9)
French	293	(2.2)	288	(4.1)	292	(3.8)	274	(2.0)	271	(2.9)	253	(3.1)	215	(5.2)
Other	264	(9.5)	269	(17.6)	256	(11.4)	282	(18.7)	249	(7.5)	229	(8.7)	196	(11.3)
Canada (without Quebec)														
English	290	(2.2)	302	(3.1)	301	(2.9)	297	(2.7)	293	(2.3)	279	(3.3)	239	(2.1)
French	283	(4.9)	284	(7.6)	290	(4.6)	279	(3.0)	274	(2.7)	252	(3.1)	212	(3.0)
Other	267	(5.0)	278	(7.8)	272	(6.8)	253	(4.1)	247	(4.1)	220	(5.0)	198	(3.8)

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.23

Percentage of use or presence of French among adults with French as a mother tongue, by region, population aged 16 and over, 2003

	Canada without Quebec		New Brunswick		Ontario		Manitoba	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
Language of interview	36.8	(1.5)	78.4	(2.5)	35.8	(1.2)	14.7	(1.5)
Language of test	34.8	(1.7)	66.9	(2.3)	36.3	(1.4)	15.9	(1.9)
Language most often spoken at home	58.3	(1.5)	89.8	(1.3)	58.1	(1.2)	46.6	(2.5)
Other language spoken regularly at home	43.5	(2.2)	54.1	(7.4)	47.8	(2.0)	48.0	(3.0)
Language commonly used at work	51.7	(1.9)	78.5	(2.3)	52.9	(1.8)	39.7	(3.5)
Language most often spoken at home at age of elementary school attendance	89.8	(0.9)	96.2	(1.1)	91.5	(0.7)	85.5	(1.9)
Main language of instruction at elementary school - French	73.3	(1.5)	90.1	(1.2)	83.4	(0.8)	44.2	(2.3)
Main language of instruction at elementary school - French and English	7.6	(0.7)	2.7	(0.6)	6.7	(0.4)	18.5	(1.8)
Main language of instruction at secondary school - French	59.8	(1.9)	87.9	(1.6)	64.7	(1.2)	33.4	(2.3)
Main language of instruction at secondary school - French and English	8.4	(0.7)	2.4E	(0.6)	8.3	(0.5)	19.0	(2.0)
Reported having a good or very good ability to speak French, who did the interview in English:	82.0	(1.4)	79.5	(3.2)	86.8	(1.1)	81.5	(2.1)
Reported having a good or very good ability to read French, who did the interview in English:	63.8	(1.5)	61.0	(4.6)	72.1	(1.4)	66.9	(2.8)
Reported having a good or very good ability to write in French, who did the interview in English:	52.0	(1.9)	51.7	(4.6)	58.0	(1.6)	53.1	(3.0)

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.24

Distribution of prose proficiency levels, by language of test, Canada, population aged 16 and over, 1994 and 2003

Language of core and main task	Level 1 %	Level 1 Standard error	Level 2 %	Level 2 Standard error	Level 3 %	Level 3 Standard error	Level 4/5 %	Level 4/5 Standard error
1994 IALSS								
English	19.4	(2.7)	24.4	(2.0)	33.0	(3.2)	23.2	(2.9)
French	27.4	(3.3)	26.9	(3.6)	36.6	(3.0)	9.1	(1.9)
French (Quebec)	26.8	(3.7)	26.5	(3.9)	37.8	(3.3)	9.0	(2.1)
French (outside Quebec)	33.1	(1.9)	30.9	(3.3)	25.3	(3.0)	10.7	(1.9)
2003 IALSS								
English	19.0	(0.5)	26.2	(0.8)	36.2	(1.0)	18.5	(0.9)
French	22.8	(1.3)	33.2	(1.5)	32.4	(1.1)	11.7	(0.8)
French (Quebec)	22.4	(1.4)	33.1	(1.6)	32.6	(1.2)	11.8	(0.9)
French (outside Quebec)	28.9	(1.9)	33.5	(1.8)	27.8	(1.8)	9.9	(1.2)

Source: International Adult Literacy and Skills Survey, 2003.

Table 3.25

Average proficiency scores with .95 confidence interval and scores at the 5th, 25th, 75th and 95th percentiles, by immigrant status, Canada, population aged 16 to 65, 2003

	5th percentile	Standard error	25th percentile	Standard error	Mean	Standard error	75th percentile	Standard error	95th percentile	Standard error
A. Prose										
Canadian born	201	(2.5)	259	(1.1)	288	(0.7)	322	(0.8)	361	(1.6)
Established immigrants (> 10 years)	137	(6.2)	207	(3.3)	252	(2.3)	299	(3.2)	346	(4.0)
Recent immigrants (< = 10 years)	143	(5.1)	212	(7.5)	252	(3.5)	294	(5.6)	337	(5.4)
B. Document										
Canadian born	197	(2.1)	256	(1.1)	287	(0.7)	322	(1.0)	364	(1.5)
Established immigrants (> 10 years)	140	(6.0)	212	(3.8)	255	(2.0)	302	(2.4)	351	(3.3)
Recent immigrants (< = 10 years)	146	(7.4)	217	(6.2)	258	(3.3)	303	(3.7)	343	(3.6)
C. Numeracy										
Canadian born	184	(2.6)	245	(1.4)	278	(0.7)	315	(1.3)	360	(2.4)
Established immigrants (> 10 years)	138	(6.7)	205	(4.0)	250	(2.4)	295	(3.7)	348	(7.2)
Recent immigrants (< = 10 years)	141	(8.2)	215	(6.7)	255	(3.8)	299	(5.8)	348	(9.2)
D. Problem solving										
Canadian born	198	(1.9)	252	(1.4)	281	(1.2)	313	(1.8)	356	(2.8)
Established immigrants (> 10 years)	138	(7.7)	204	(3.6)	245	(2.4)	289	(3.6)	336	(4.5)
Recent immigrants (< = 10 years)	153	(7.1)	214	(7.2)	249	(3.1)	288	(3.9)	329	(3.4)

Source: International Adult Literacy and Skills Survey, 2003.

Table 3.26

Average proficiency scores, by immigrant status, by mother tongue, Canada, population aged 16 to 65, 2003

Immigrant status	Prose		Document		Numeracy		Problem solving	
	Mean	Standard error	Mean	Standard error	Mean	Standard error	Mean	Standard error
Canadian born	280	(0.8)	278	(0.7)	269	(0.8)	273	(1.2)
Immigrants - mother tongue same as test language	269	(3.3)	269	(3.1)	259	(3.3)	257	(3.4)
Immigrants - mother tongue different from test language	234	(1.7)	238	(1.7)	235	(2.2)	230	(1.9)

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.27

Distribution of prose proficiency levels, by immigrant status, by mother tongue, Canada, population aged 16 to 65, 2003

Immigrant status	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
Canadian born	15.1	(0.6)	27.7	(0.9)	38.0	(0.8)	19.3	(0.8)
Immigrants - mother tongue same as test language	20.6	(2.4)	32.0	(3.1)	32.4	(2.1)	15.0	(1.8)
Immigrants - mother tongue different from test language	43.0	(1.5)	26.6	(1.4)	23.8	(1.5)	6.6	(0.8)

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.28

Distribution of prose proficiency levels, by immigrant status, by highest level of educational attainment, Canada, population aged 16 to 65, 2003

Immigrant status	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
Canadian born								
Less than high school	27.4	(1.4)	39.2	(1.8)	27.1	(1.8)	6.4	(1.1)
High school	8.4	(0.7)	30.5	(1.4)	44.8	(1.4)	16.3	(1.3)
Non-university post-secondary	5.2	(0.9)	26.3	(2.4)	47.2	(3.0)	21.3	(2.7)
University	2.4	(0.4)	16.3	(1.2)	44.4	(1.7)	36.9	(1.9)
Established immigrants (> 10 years)								
Less than high school	71.0	(4.1)	19.7	(3.7)	8.4	(2.1)	0.9E	(0.6)
High school	34.0	(2.8)	33.0	(3.1)	25.1	(3.5)	7.9	(2.5)
Non-university post-secondary	25.1	(4.9)	33.3	(6.1)	33.2	(5.7)	8.4E	(3.7)
University	13.9	(1.6)	26.6	(2.7)	39.1	(2.9)	20.5	(2.2)
Recent immigrants (< = 10 years)								
Less than high school	60.3	(5.8)	23.4	(4.8)	12.9E	(2.4)	3.4E	(2.2)
High school	41.4	(4.8)	32.2	(5.0)	21.2	(5.3)	5.2E	(3.4)
Non-university post-secondary	18.6E	(7.3)	34.7E	(11.5)	36.7E	(12.6)	10.1E	(5.7)
University	18.0	(3.2)	28.8	(4.5)	42.5	(4.2)	10.8	(2.1)

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.29

Distribution of prose levels, by immigrant status, by highest level of educational attainment, Canada, population aged 16 to 65, 2003

Immigrant status	Level 1 %	Level 1 Standard error	Level 2 %	Level 2 Standard error	Level 3 %	Level 3 Standard error	Level 4/5 %	Level 4/5 Standard error
Canadian born								
Less than high school	66.4	(1.8)	33.4	(1.4)	14.6	(0.9)	6.3	(1.1)
High school	21.8	(1.5)	36.5	(1.8)	36.3	(1.3)	25.2	(1.9)
More than high school	11.8	(1.2)	30.1	(1.6)	49.1	(1.6)	68.5	(2.1)
Established immigrants								
Less than high school	53.9	(2.6)	18.2	(3.0)	7.7E	(1.9)	x	x
High school	26.9	(2.6)	34.5	(3.0)	25.6	(2.7)	19.4	(5.6)
More than high school	19.2	(1.6)	47.3	(2.7)	66.7	(2.6)	78.6	(5.7)
Recent immigrants								
Less than high school	28.0	(4.3)	11.2	(2.4)	5.6	(1.2)	5.5E	(3.5)
High school	39.2	(4.5)	31.9	(6.1)	19.3	(4.1)	18.2E	(10.6)
More than high school	32.8	(4.2)	56.9	(5.8)	75.1	(4.0)	76.3	(11.2)

E. Use with caution.
x. Suppressed to meet the confidentiality requirements of the *Statistics Act*.
Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.30

Average prose proficiency scores, by mother tongue, Canada, Quebec, New Brunswick, Ontario and Manitoba, population aged 16 and over, 2003

Province	Mother tongue: English Mean	English Standard error	French Mean	French Standard error
New Brunswick	272	(3.1)	251	(2.6)
Quebec	281	(4.0)	267	(1.5)
Ontario	283	(1.8)	263	(1.5)
Manitoba	285	(2.2)	268	(3.1)
Canada	**285**	**(1.0)**	**266**	**(1.3)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 3.31

Average proficiency scores for Francophones, by language of test, Canada without Quebec, population aged 16 and over, 2003

Language of test	Average	Standard error
A. Prose		
English	269	(2.9)
French	255	(2.1)
Total	**264**	**(2.1)**
B. Document		
English	265	(2.7)
French	252	(2.2)
Total	**261**	**(2.0)**
C. Numeracy		
English	258	(3.4)
French	247	(2.1)
Total	**254**	**(2.4)**
D. Problem solving		
English	261	(3.1)
French	249	(2.4)
Total	**257**	**(2.2)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Annex A

Tables for Chapter 4

Table 4.1

Average proficiency scores, by labour force status, Canada and regions, population aged 16 to 65, 2003

		Prose		Document		Numeracy		Problem solving	
	Number	Average	Standard error	Average	Standard error	Average	Standard error	Average	Standard error
Atlantic									
Not in the labour force	398,000	266	(2.3)	262	(2.6)	250	(2.2)	258	(2.5)
Unemployed	183,000	262	(3.5)	261	(3.8)	250	(4.0)	257	(3.2)
Employed	1,033,000	286	(1.2)	285	(1.4)	274	(1.3)	276	(1.5)
Quebec									
Not in the labour force	1,192,000	266	(2.0)	259	(2.1)	253	(2.4)	258	(2.3)
Unemployed	347,000	252	(4.7)	250	(4.6)	249	(4.8)	261	(3.3)
Employed	3,589,000	281	(1.2)	280	(1.6)	277	(1.5)	276	(1.5)
Ontario									
Not in the labour force	1,477,000	263	(4.8)	261	(4.4)	252	(5.0)	257	(4.5)
Unemployed	623,000	271	(7.5)	270	(6.2)	263	(6.3)	265	(8.3)
Employed	6,139,000	284	(1.8)	284	(1.8)	275	(1.8)	275	(2.0)
Prairies									
Not in the labour force	598,000	281	(3.1)	280	(2.7)	267	(2.9)	273	(3.6)
Unemployed	176,000	276	(6.5)	276	(7.4)	265	(7.8)	270	(6.8)
Employed	2,707,000	292	(1.5)	292	(1.6)	283	(1.6)	283	(1.8)
British Columbia									
Not in the labour force	575,000	267	(3.8)	269	(3.8)	259	(3.2)	264	(3.9)
Unemployed	253,000	270	(6.8)	269	(7.8)	260	(7.5)	264	(5.9)
Employed	1,989,000	297	(2.0)	299	(2.0)	288	(1.9)	288	(1.9)
Territories									
Not in the labour force	9,000	248	(5.0)	248	(5.1)	235	(4.8)	243	(4.8)
Unemployed	6,000	237	(5.3)	238	(4.9)	224	(5.1)	232	(5.3)
Employed	41,000	287	(1.6)	286	(1.5)	276	(1.5)	276	(1.5)
Canada									
Not in the labour force	**4,250,000**	**267**	**(1.8)**	**265**	**(1.7)**	**255**	**(2.0)**	**261**	**(2.0)**
Unemployed	**1,589,000**	**266**	**(3.6)**	**265**	**(3.1)**	**258**	**(3.1)**	**263**	**(3.6)**
Employed	**15,497,000**	**286**	**(0.9)**	**287**	**(0.9)**	**278**	**(0.9)**	**278**	**(1.2)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.2 A to D

Distribution of labour force population, by proficiency level, Canada and regions, population aged 16 to 65, 2003

	Level 1			Level 2			Level 3			Level 4/5		
	Number	%	Standard error	Number	%	Standard error	Number	%	Standard error	Number	%	Standard error
Atlantic						**A. Document**						
Not in the labour force	98,000	24.5	(2.1)	135,000	34.0	(2.1)	121,000	30.4	(3.3)	44,000	11.1	(1.6)
Unemployed	49,000	26.6	(3.3)	58,000	31.4	(3.1)	55,000	30.2	(2.8)	21,000	11.7	(3.0)
Employed	130,000	12.6	(0.9)	292,000	28.2	(1.2)	402,000	39.0	(1.7)	209,000	20.2	(1.4)
Quebec												
Not in the labour force	307,000	25.8	(2.0)	418,000	35.0	(2.9)	349,000	29.3	(2.3)	119,000	9.9	(1.1)
Unemployed	111,000	32.0	(3.6)	117,000	33.8	(3.6)	91,000	26.2	(3.4)	28,000	7.9 E	(2.4)
Employed	488,000	13.6	(1.3)	1,148,000	32.0	(1.5)	1,329,000	37.0	(1.3)	623,000	17.4	(1.0)
Ontario												
Not in the labour force	405,000	27.4	(3.3)	396,000	26.8	(2.7)	457,000	31.0	(3.5)	219,000	14.8	(2.6)
Unemployed	128,000	20.6	(5.3)	169,000	27.2	(5.9)	233,000	37.4	(7.9)	92,000	14.8 E	(5.6)
Employed	855,000	13.9	(1.1)	1,529,000	24.9	(1.8)	2,349,000	38.3	(2.5)	1,406,000	22.9	(1.8)
Prairies												
Not in the labour force	98,000	16.4	(2.4)	163,000	27.3	(2.3)	211,000	35.2	(3.5)	126,000	21.0	(2.5)
Unemployed	27,000	15.1	(4.6)	56,000	31.6	(6.1)	64,000	36.3	(6.1)	30,000	17.1 E	(5.9)
Employed	239,000	8.8	(0.8)	666,000	24.6	(1.1)	1,132,000	41.8	(1.5)	669,000	24.7	(1.3)
British Columbia												
Not in the labour force	133,000	23.1	(3.3)	145,000	25.2	(3.5)	192,000	33.3	(3.4)	106,000	18.4	(3.7)
Unemployed	65,000	25.7	(5.4)	57,000	22.6	(6.7)	83,000	32.9	(9.7)	48,000	18.8 E	(8.5)
Employed	172,000	8.7	(1.0)	405,000	20.3	(2.1)	781,000	39.2	(2.3)	632,000	31.8	(1.6)
Territories												
Not in the labour force	3,000	35.3	(3.4)	3,000	28.6	(3.4)	2,000	26.3	(3.5)	1000	9.8	(3.0)
Unemployed	3,000	41.4	(3.7)	2,000	30.2	(3.8)	1,000	19.8	(5.5)	1000	8.7 E	(3.5)
Employed	6,000	14.2	(1.0)	10,000	24.4	(1.5)	16,000	37.4	(1.8)	10,000	24.0	(1.6)
Canada												
Not in the labour force	**1,045,000**	**24.6**	**(1.5)**	**1,260,000**	**29.6**	**(1.2)**	**1,332,000**	**31.3**	**(1.3)**	**614,000**	**14.4**	**(0.9)**
Unemployed	**382,000**	**24.1**	**(2.6)**	**459,000**	**28.9**	**(2.7)**	**528,000**	**33.2**	**(3.5)**	**220,000**	**13.8**	**(2.4)**
Employed	**1,891,000**	**12.2**	**(0.6)**	**4,049,000**	**26.1**	**(0.9)**	**6,009,000**	**38.8**	**(1.2)**	**3,548,000**	**22.9**	**(0.7)**
Atlantic						**B. Prose**						
Not in the labour force	86,000	21.5	(1.9)	134,000	33.6	(2.8)	136,000	34.1	(2.9)	43,000	10.9	(1.8)
Unemployed	44,000	24.0	(2.8)	64,000	35.0	(3.1)	55,000	30.3	(2.5)	20,000	10.7	(2.5)
Employed	113,000	10.9	(1.0)	288,000	27.9	(1.2)	427,000	41.4	(1.4)	205,000	19.8	(1.4)
Quebec												
Not in the labour force	258,000	21.6	(1.7)	402,000	33.7	(2.1)	401,000	33.6	(2.5)	132,000	11.1	(1.2)
Unemployed	107,000	30.9	(4.2)	117,000	33.7	(4.5)	97,000	28.1	(4.2)	25,000	7.3 E	(2.2)
Employed	432,000	12.0	(0.9)	1,175,000	32.7	(1.6)	1,390,000	38.7	(1.6)	591,000	16.5	(1.3)
Ontario												
Not in the labour force	387,000	26.2	(3.1)	398,000	27.0	(3.0)	469,000	31.7	(3.6)	223,000	15.1	(3.1)
Unemployed	120,000	19.3	(4.6)	190,000	30.4	(5.0)	220,000	35.3	(6.2)	94,000	15.0 E	(5.7)
Employed	832,000	13.5	(1.0)	1,553,000	25.3	(1.6)	2,461,000	40.1	(2.5)	1,293,000	21.1	(2.4)
Prairies												
Not in the labour force	93,000	15.6	(2.7)	161,000	27.0	(3.0)	211,000	35.3	(3.1)	133,000	22.2	(2.4)
Unemployed	28,000	15.7	(5.4)	49,000	27.6	(6.0)	71,000	40.4	(6.4)	29,000	16.3 E	(4.0)
Employed	220,000	8.1	(0.7)	690,000	25.5	(1.7)	1,171,000	43.3	(2.1)	626,000	23.1	(1.3)
British Columbia												
Not in the labour force	149,000	25.9	(3.1)	129,000	22.5	(3.0)	194,000	33.6	(3.0)	103,000	17.9	(2.9)
Unemployed	60,000	23.8	(4.4)	65,000	25.6	(5.4)	82,000	32.4	(7.9)	46,000	18.2 E	(7.1)
Employed	179,000	9.0	(1.2)	395,000	19.8	(1.8)	831,000	41.8	(2.7)	584,000	29.4	(2.3)
Territories												
Not in the labour force	3,000	35.0	(3.9)	3,000	27.9	(3.9)	2,000	27.1	(5.1)	1,000	9.9	(1.9)
Unemployed	3,000	41.6	(3.8)	2,000	29.9	(4.1)	1,000	20.2	(4.2)	1,000	8.3 E	(4.4)
Employed	6,000	13.8	(0.9)	10,000	23.3	(1.4)	16,000	38.0	(2.3)	10,000	24.8	(1.4)

Table 4.2 A to D (continued)

Distribution of labour force population, by proficiency level, Canada and regions, population aged 16 to 65, 2003

	Level 1			Level 2			Level 3			Level 4/5		
	Number	%	Standard error	Number	%	Standard error	Number	%	Standard error	Number	%	Standard error
Canada						**B. Prose**						
Not in the labour force	**976,000**	**23.0**	**(1.1)**	**1,227,000**	**28.9**	**(1.4)**	**1,413,000**	**33.2**	**(1.9)**	**635,000**	**14.9**	**(1.3)**
Unemployed	**362,000**	**22.8**	**(2.5)**	**486,000**	**30.6**	**(2.3)**	**527,000**	**33.2**	**(3.2)**	**214,000**	**13.5**	**(2.6)**
Employed	**1,781,000**	**11.5**	**(0.5)**	**4,111,000**	**26.5**	**(0.8)**	**6,296,000**	**40.6**	**(1.1)**	**3,309,000**	**21.4**	**(1.0)**
Atlantic						**C. Numeracy**						
Not in the labour force	128,000	32.2	(1.9)	138,000	34.6	(2.5)	99,000	24.8	(2.9)	34,000	8.5	(1.6)
Unemployed	62,000	33.7	(2.9)	62,000	33.9	(3.0)	45,000	24.6	(3.0)	14,000	7.8 E	(1.8)
Employed	172,000	16.6	(1.2)	346,000	33.5	(1.4)	362,000	35.1	(1.2)	152,000	14.7	(1.1)
Quebec												
Not in the labour force	357,000	30.0	(2.0)	418,000	35.1	(2.2)	304,000	25.5	(2.1)	113,000	9.4	(1.7)
Unemployed	113,000	32.5	(4.3)	120,000	34.5	(5.2)	85,000	24.5	(4.0)	30,000	8.5 E	(2.5)
Employed	554,000	15.4	(0.9)	1,160,000	32.3	(1.7)	1,276,000	35.5	(2.2)	599,000	16.7	(1.3)
Ontario												
Not in the labour force	482,000	32.6	(2.9)	426,000	28.8	(3.9)	400,000	27.0	(4.4)	170,000	11.5	(2.5)
Unemployed	167,000	26.7	(5.4)	167,000	26.7	(5.6)	201,000	32.2	(6.8)	89,000	14.4 E	(4.5)
Employed	1,109,000	18.1	(1.4)	1,808,000	29.4	(2.0)	2,070,000	33.7	(1.8)	1,152,000	18.8	(1.5)
Prairies												
Not in the labour force	137,000	22.9	(2.5)	194,000	32.5	(3.1)	173,000	28.9	(2.7)	94,000	15.7	(2.1)
Unemployed	39,000	22.3	(6.8)	56,000	32.0	(8.5)	60,000	34.3	(5.3)	20,000	11.4 E	(4.5)
Employed	352,000	13.0	(1.2)	794,000	29.4	(1.5)	1,002,000	37.0	(2.2)	558,000	20.6	(1.4)
British Columbia												
Not in the labour force	165,000	28.7	(2.6)	158,000	27.5	(3.3)	176,000	30.5	(4.2)	77,000	13.3	(3.0)
Unemployed	70,000	27.7	(3.6)	73,000	28.7	(7.1)	75,000	29.4	(8.2)	36,000	14.2 E	(7.0)
Employed	233,000	11.7	(1.3)	530,000	26.7	(2.7)	765,000	38.5	(2.8)	461,000	23.2	(1.8)
Territories												
Not in the labour force	4,000	43.7	(3.3)	2,000	24.3	(2.5)	2,000	25.3	(3.6)	1,000	6.7 E	(2.1)
Unemployed	3,000	50.1	(3.9)	2,000	28.3	(3.9)	1,000	16.4	(2.8)	1,000	5.2 E	(2.2)
Employed	8,000	19.0	(1.5)	11,000	27.0	(2.3)	15,000	35.1	(1.3)	8,000	18.9	(1.2)
Canada												
Not in the labour force	**1,273,000**	**30.0**	**(1.3)**	**1,336,000**	**31.4**	**(1.5)**	**1,153,000**	**27.1**	**(2.1)**	**488,000**	**11.5**	**(0.9)**
Unemployed	**454,000**	**28.5**	**(2.6)**	**479,000**	**30.2**	**(2.6)**	**467,000**	**29.4**	**(3.0)**	**190,000**	**11.9**	**(1.9)**
Employed	**2,427,000**	**15.7**	**(0.7)**	**4,650,000**	**30.0**	**(0.9)**	**5,489,000**	**35.4**	**(1.1)**	**2,930,000**	**18.9**	**(0.8)**

	Level 1			Level 2			Level 3			Level 4		
	Number	%	Standard error	Number	%	Standard error	Number	%	Standard error	Number	%	Standard error
Atlantic						**D. Problem solving**						
Not in the labour force	167,000	42.0	(2.8)	153,000	38.4	(2.6)	68,000	17.0	(1.8)	11,000	2.7 E	(0.9)
Unemployed	84,000	45.9	(3.3)	63,000	34.3	(3.7)	31,000	17.1	(2.6)	5,000	2.7 E	(1.3)
Employed	285,000	27.6	(1.4)	451,000	43.6	(2.3)	253,000	24.5	(1.6)	44,000	4.2	(0.8)
Quebec												
Not in the labour force	520,000	43.6	(3.3)	417,000	35.0	(2.5)	217,000	18.2	(2.6)	38,000	3.2	(0.6)
Unemployed	139,000	40.0	(3.5)	137,000	39.5	(4.5)	60,000	17.3	(2.9)	11,000	3.2 E	(1.4)
Employed	1,010,000	28.1	(1.3)	1,499,000	41.8	(1.2)	892,000	24.9	(1.1)	187,000	5.2	(0.8)
Ontario												
Not in the labour force	613,000	41.5	(3.4)	481,000	32.6	(3.5)	327,000	22.1	(4.9)	57,000	3.8 E	(1.5)
Unemployed	214,000	34.3	(6.3)	252,000	40.4	(6.6)	123,000	19.7	(6.7)	35,000	5.6 E	(3.7)
Employed	1,729,000	28.2	(1.7)	2,370,000	38.6	(2.5)	1,684,000	27.4	(2.0)	356,000	5.8	(1.3)
Prairies												
Not in the labour force	199,000	33.2	(3.0)	201,000	33.6	(3.1)	161,000	27.0	(3.1)	37,000	6.3 E	(1.5)
Unemployed	55,000	31.1	(6.2)	71,000	40.5	(6.2)	43,000	24.5	(7.3)	7,000	x	x
Employed	600,000	22.2	(1.5)	1,136,000	42.0	(2.3)	809,000	29.9	(1.8)	162,000	6.0	(0.8)

Table 4.2 A to D (concluded)

Distribution of labour force population, by proficiency level, Canada and regions, population aged 16 to 65, 2003

	Level 1			Level 2			Level 3			Level 4		
	Number	%	Standard error	Number	%	Standard error	Number	%	Standard error	Number	%	Standard error
British Columbia						**D. Problem solving**						
Not in the labour force	211,000	36.7	(3.7)	203,000	35.3	(4.4)	135,000	23.5	(3.0)	26,000	4.6 E	(1.8)
Unemployed	97,000	38.2	(4.5)	82,000	32.2	(6.3)	64,000	25.4	(5.1)	10,000	4.1 E	(4.1)
Employed	390,000	19.6	(1.5)	742,000	37.3	(2.6)	700,000	35.2	(2.8)	157,000	7.9	(1.6)
Territories												
Not in the labour force	5,000	50.7	(4.9)	3,000	33.4	(4.3)	1,000	14.1	(3.1)	1,000	1.8 E	(1.3)
Unemployed	4,000	59.6	(3.9)	2,000	25.8	(3.3)	1,000	13.2	(3.8)	x	x	x
Employed	12,000	28.7	(1.5)	15,000	37.3	(2.0)	12,000	28.3	(2.0)	2,000	5.6	(0.9)
Canada												
Not in the labour force	**1,714,000**	**40.3**	**(1.5)**	**1,457,000**	**34.3**	**(1.4)**	**910,000**	**21.4**	**(1.8)**	**169,000**	**4.0**	**(0.6)**
Unemployed	**592,000**	**37.2**	**(2.6)**	**606,000**	**38.2**	**(2.9)**	**323,000**	**20.3**	**(3.0)**	**68,000**	**4.3**	**(1.5)**
Employed	**4,027,000**	**26.0**	**(0.9)**	**6,213,000**	**40.1**	**(1.2)**	**4,349,000**	**28.1**	**(0.9)**	**908,000**	**5.9**	**(0.7)**

E. Use with caution.

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

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.3

Employment rate by document proficiency levels, Canada and regions, population aged 16 to 65, 2003

	Level 1			Level 2			Level 3			Level 4/5		
	Number	%	Standard error	Number	%	Standard error	Number	%	Standard error	Number	%	Standard error
Atlantic	130,000	47.2	(3.1)	292,000	60.2	(1.9)	402,000	69.5	(2.5)	209,000	76.1	(3.1)
Quebec	488,000	53.8	(3.3)	1,148,000	68.2	(2.0)	1,329,000	75.1	(1.7)	623,000	81.0	(1.9)
Ontario	855,000	61.5	(4.1)	1,529,000	73.0	(3.1)	2,349,000	77.3	(2.5)	1,406,000	81.9	(3.0)
Prairies	239,000	65.8	(3.7)	666,000	75.3	(2.1)	1,132,000	80.5	(1.8)	669,000	81.1	(1.9)
British Columbia	172,000	46.5	(4.9)	405,000	66.6	(4.0)	781,000	74.0	(3.0)	632,000	80.5	(3.4)
Territories	5,000	50.1	(3.0)	7,000	67.6	(3.0)	9,000	81.6	(2.8)	6,000	90.1	(3.0)
Canada	**1,890,000**	**57.0**	**(2.1)**	**4,046,000**	**70.2**	**(1.5)**	**6,003,000**	**76.4**	**(1.1)**	**3,544,000**	**81.0**	**(1.3)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.4 A to D

Percent of labour force population at proficiency Level 3 and over, by type of occupation, Canada and regions, population aged 16 to 65, 2003

	Level 3		Level 4/5	
	%	Standard error	%	Standard error
Atlantic		**A. Prose**		
Knowledge expert	46.9	(7.4)	41.6	(7.6)
Managers	49.4	(4.1)	20.3	(2.8)
Information high-skills	43.1	(4.9)	29.4	(4.2)
Information low-skills	46.3	(3.2)	21.8	(2.4)
Services low-skills	38.7	(2.5)	11.9	(2.9)
Goods	30.8	(1.8)	9.0	(1.5)
Quebec				
Knowledge expert	40.1	(5.4)	37.3	(5.2)
Managers	41.7	(4.9)	16.6	(3.2)
Information high-skills	44.0	(4.8)	25.8	(4.0)
Information low-skills	45.9	(2.9)	15.6	(1.7)
Services low-skills	32.5	(4.5)	9.1	(2.4)
Goods	28.4	(2.7)	6.0	(1.6)
Ontario				
Knowledge expert	48.8	(5.9)	36.4	(6.1)
Managers	41.9	(6.0)	24.9	(6.4)
Information high-skills	42.4	(6.8)	31.2	(4.6)
Information low-skills	43.7	(5.0)	20.1	(4.0)
Services low-skills	35.1	(4.8)	11.6	(3.7)
Goods	33.8	(4.5)	11.7	(3.5)
Prairies				
Knowledge expert	39.4	(4.9)	48.0	(4.6)
Managers	48.0	(3.7)	22.0	(3.5)
Information high-skills	46.7	(3.8)	34.3	(4.5)
Information low-skills	46.0	(3.5)	21.7	(2.7)
Services low-skills	41.1	(5.4)	11.3	(2.7)
Goods	38.8	(3.3)	14.5	(2.1)
British Columbia				
Knowledge expert	38.9	(8.4)	50.3	(8.6)
Managers	44.2	(8.5)	32.3	(6.7)
Information high-skills	46.2	(8.0)	41.5	(7.0)
Information low-skills	47.6	(6.6)	28.9	(4.2)
Services low-skills	35.4	(4.2)	17.8	(3.4)
Goods	35.0	(3.9)	13.7	(2.4) E
Territories				
Knowledge expert	33.1	(31.1)	44.3	(5.6)
Managers	41.7	(5.1)	35.8	(4.8)
Information high-skills	47.2	(6.8)	30.2	(5.8)
Information low-skills	39.2	(4.3)	16.7	(2.8)
Services low-skills	29.5	(4.9)	13.9	(4.0)
Goods	29.5	(4.9)	11.8	(2.5)
Canada				
Knowledge expert	**44.0**	**(3.0)**	**40.5**	**(3.0)**
Managers	**43.8**	**(2.4)**	**23.3**	**(2.5)**
Information high-skills	**44.1**	**(3.1)**	**31.8**	**(2.1)**
Information low-skills	**45.3**	**(2.6)**	**20.5**	**(1.8)**
Services low-skills	**35.9**	**(3.2)**	**11.9**	**(1.9)**
Goods	**33.2**	**(2.0)**	**10.9**	**(1.6)**

Table 4.4 A to D (continued)

Percent of labour force population at proficiency Level 3 and over, by type of occupation, Canada and regions, population aged 16 to 65, 2003

	Level 3		Level 4/5	
	%	Standard error	%	Standard error
Atlantic		**B. Document**		
Knowledge expert	42.0	(8.9)	45.4	(7.2)
Managers	42.5	(5.0)	23.2	(3.7)
Information high-skills	44.2	(4.8)	28.3	(3.8)
Information low-skills	42.0	(3.2)	20.7	(2.3)
Services low-skills	35.9	(3.5)	11.9	(2.8)
Goods	31.0	(2.2)	10.3	(2.3)
Quebec				
Knowledge expert	40.9	(5.2)	38.6	(5.5)
Managers	40.8	(3.6)	17.0	(2.9)
Information high-skills	43.3	(4.2)	26.3	(3.9)
Information low-skills	40.3	(3.6)	16.0	(1.6)
Services low-skills	29.6	(4.5)	7.7	(2.5)
Goods	29.4	(2.8)	9.2	(1.6)
Ontario				
Knowledge expert	40.9	(5.1)	44.6	(5.5)
Managers	37.6	(5.6)	29.3	(5.8)
Information high-skills	43.9	(6.3)	30.4	(4.5)
Information low-skills	43.0	(6.6)	18.4	(4.0)
Services low-skills	33.5	(4.6)	12.8	(3.6)
Goods	33.7	(4.4)	14.4	(3.0)
Prairies				
Knowledge expert	36.4	(4.5)	50.2	(5.0)
Managers	44.7	(5.5)	25.7	(4.4)
Information high-skills	43.8	(3.8)	35.8	(3.8)
Information low-skills	46.7	(3.9)	19.6	(2.5)
Services low-skills	38.4	(3.7)	13.3	(2.8)
Goods	38.3	(3.2)	17.8	(2.7)
British Columbia				
Knowledge expert	33.5	(6.6)	54.6	(7.3)
Managers	38.6	(7.7)	36.9	(5.8)
Information high-skills	44.2	(5.5)	44.0	(4.8)
Information low-skills	46.1	(5.6)	29.8	(4.2)
Services low-skills	32.9	(5.3)	18.0	(4.3)
Goods	34.8	(3.9)	17.1	(3.4)
Territories				
Knowledge expert	33.3	(7.2)	41.8	(5.9)
Managers	42.5	(5.8)	32.6	(4.6)
Information high-skills	47.0	(4.5)	27.2	(5.1)
Information low-skills	36.6	(4.2)	14.9	(3.4)
Services low-skills	29.9	(4.6)	14.6	(3.6)
Goods	28.5	(5.5)	14.2	(3.7)
Canada				
Knowledge expert	**39.3**	**(2.9)**	**45.5**	**(3.4)**
Managers	**40.1**	**(2.9)**	**26.6**	**(2.7)**
Information high-skills	**43.8**	**(2.7)**	**32.2**	**(2.3)**
Information low-skills	**43.2**	**(3.0)**	**19.6**	**(1.7)**
Services low-skills	**33.7**	**(2.7)**	**12.4**	**(1.6)**
Goods	**33.4**	**(2.1)**	**13.7**	**(1.5)**

Table 4.4 A to D (continued)

Percent of labour force population at proficiency Level 3 and over, by type of occupation, Canada and regions, population aged 16 to 65, 2003

	Level 3		Level 4/5	
	%	Standard error	%	Standard error
Atlantic		**C. Numeracy**		
Knowledge expert	44.6	(8.6)	39.6	(7.5)
Managers	41.5	(4.7)	20.0	(3.8)
Information high-skills	40.6	(3.9)	20.0	(3.3)
Information low-skills	38.4	(4.2)	12.2	(2.0)
Services low-skills	24.6	(4.3)	8.9	(2.7)
Goods	27.7	(2.6)	6.7	(1.3)
Quebec				
Knowledge expert	36.9	(4.8)	43.3	(5.0)
Managers	40.5	(4.6)	19.1	(2.7)
Information high-skills	40.7	(5.1)	24.6	(4.0)
Information low-skills	34.9	(2.8)	13.1	(1.7)
Services low-skills	28.9	(4.4)	6.3	(2.2) E
Goods	32.2	(2.7)	8.7	(2.0)
Ontario				
Knowledge expert	37.0	(4.4)	43.3	(5.6)
Managers	35.7	(5.5)	26.0	(5.0)
Information high-skills	41.3	(4.9)	23.8	(4.5)
Information low-skills	40.0	(3.7)	12.1	(2.6)
Services low-skills	23.5	(4.6)	11.4	(2.7)
Goods	28.3	(3.5)	11.6	(2.8)
Prairies				
Knowledge expert	34.1	(7.8)	48.7	(6.6)
Managers	40.1	(4.5)	25.0	(3.3)
Information high-skills	41.2	(5.4)	27.5	(4.2)
Information low-skills	41.3	(3.5)	13.9	(2.7)
Services low-skills	30.9	(3.6)	9.9	(3.3)
Goods	33.3	(3.6)	14.2	(2.3)
British Columbia				
Knowledge expert	35.9	(7.5)	49.5	(8.3)
Managers	39.7	(7.9)	29.9	(6.0)
Information high-skills	45.0	(6.0)	28.7	(6.0)
Information low-skills	42.5	(4.7)	18.7	(5.5)
Services low-skills	29.9	(4.9)	14.3	(3.6) E
Goods	33.8	(6.9)	10.8	(2.9) E
Territories				
Knowledge expert	33.8	(8.3)	33.7	(5.9)
Managers	41.5	(4.5)	25.7	(3.7)
Information high-skills	47.6	(5.5)	19.0	(4.7)
Information low-skills	31.0	(4.9)	11.4	(2.0)
Services low-skills	23.9	(3.8)	11.7	(3.6) E
Goods	26.8	(3.5)	11.7	(3.1)
Canada				
Knowledge expert	**36.7**	**(3.0)**	**44.7**	**(3.7)**
Managers	**38.5**	**(2.7)**	**24.4**	**(2.2)**
Information high-skills	**41.6**	**(2.0)**	**25.0**	**(1.8)**
Information low-skills	**39.1**	**(1.8)**	**13.5**	**(1.2)**
Services low-skills	**26.9**	**(2.8)**	**10.2**	**(1.5)**
Goods	**30.7**	**(1.8)**	**10.8**	**(1.7)**

Table 4.4 A to D (concluded)

Percent of labour force population at proficiency Level 3 and over, by type of occupation, Canada and regions, population aged 16 to 65, 2003

	Level 3		Level 4	
	%	Standard error	%	Standard error
Atlantic		**D. Problem solving**		
Knowledge expert	44.0	(7.8)	7.3	(3.5) E
Managers	28.9	(4.6)	5.0	(1.9) E
Information high-skills	32.4	(4.6)	5.5	(2.7) E
Information low-skills	26.7	(2.6)	5.3	(1.6) E
Services low-skills	16.9	(3.1)	2.8	(1.2) E
Goods	14.5	(2.6)	1.9	(0.9) E
Quebec				
Knowledge expert	37.8	(5.1)	16.8	(5.8)
Managers	28.0	(4.1)	5.3	(1.6) E
Information high-skills	31.6	(3.0)	8.4	(2.0) E
Information low-skills	27.5	(2.9)	4.7	(1.3)
Services low-skills	15.9	(3.1)	x	x
Goods	15.9	(1.8)	1.1	(0.5) E
Ontario				
Knowledge expert	42.1	(6.9)	12.8	(4.6) E
Managers	28.0	(5.4)	9.6	(4.5) E
Information high-skills	36.4	(5.6)	8.4	(2.4) E
Information low-skills	28.7	(3.5)	3.4	(2.1) E
Services low-skills	20.0	(4.1)	4.5	(2.6) E
Goods	17.4	(3.4)	2.7	(1.5) E
Prairies				
Knowledge expert	44.4	(4.2)	15.9	(3.8)
Managers	31.3	(4.4)	5.4	(2.2) E
Information high-skills	37.8	(3.8)	8.3	(2.6) E
Information low-skills	29.7	(4.5)	4.9	(1.3) E
Services low-skills	20.8	(3.4)	2.5	(1.4) E
Goods	23.6	(2.9)	3.8	(1.0) E
British Columbia				
Knowledge expert	46.5	(7.9)	16.5	(6.0) E
Managers	39.8	(6.8)	10.8	(3.5) E
Information high-skills	47.3	(6.7)	8.3	(2.9) E
Information low-skills	35.2	(5.1)	7.6	(3.8) E
Services low-skills	27.3	(4.8)	3.9	(2.8) E
Goods	22.4	(3.6)	2.8	(1.9) E
Territories				
Knowledge expert	36.7	(5.7)	13.2	(2.9) E
Managers	41.0	(5.8)	7.1	(2.9) E
Information high-skills	35.0	(4.5)	7.3	(2.6) E
Information low-skills	22.4	(3.4)	4.1	(2.0) E
Services low-skills	18.3	(4.2)	3.2	(2.4) E
Goods	16.8	(3.5)	0.8	(0.8) E
Canada				
Knowledge expert	**42.1**	**(3.8)**	**14.4**	**(2.7)**
Managers	**30.3**	**(2.7)**	**7.7**	**(1.9)**
Information high-skills	**36.8**	**(2.2)**	**8.2**	**(1.3)**
Information low-skills	**29.3**	**(2.0)**	**4.6**	**(1.1)**
Services low-skills	**19.9**	**(2.0)**	**3.3**	**(1.4)**
Goods	**18.4**	**(1.6)**	**2.4**	**(0.7)**

E. Use with caution.

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

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.5 A to C

Index scores of writing, reading and numeracy engagement at work with .95 confidence intervals and 25th and 75th percentile scores, by aggregated occupational types, Canada and regions, population aged 16 to 65, 2003

	25th percentile	Standard error	50th percentile	Standard error	75th percentile	Standard error
Atlantic			**A. Writing engagement at work**			
Knowledge experts	2.4	(0.0)	2.7	(0.1)	3.4	(0.2)
Managers	2.2	(0.1)	2.7	(0.1)	3.1	(0.2)
Information high-skill	2.1	(0.1)	2.5	(0.1)	2.9	(0.1)
Information low-skill	1.6	(0.1)	2.2	(0.0)	2.7	(0.1)
Services low-skill	0.9	(0.2)	1.6	(0.1)	2.3	(0.1)
Goods	0.2	(0.0)	1.6	(0.1)	2.3	(0.1)
Quebec						
Knowledge experts	2.2	(0.1)	2.6	(0.1)	2.9	(0.1)
Managers	2.1	(0.1)	2.6	(0.1)	2.9	(0.1)
Information high-skill	2.0	(0.0)	2.4	(0.1)	2.7	(0.1)
Information low-skill	1.3	(0.1)	2.1	(0.1)	2.7	(0.1)
Services low-skill	0.9	(0.2)	1.6	(0.1)	2.2	(0.1)
Goods	0.2	(0.0)	1.6	(0.1)	2.4	(0.1)
Ontario						
Knowledge experts	2.2	(0.1)	2.7	(0.0)	2.9	(0.1)
Managers	2.1	(0.1)	2.6	(0.1)	3.1	(0.1)
Information high-skill	2.1	(0.1)	2.4	(0.0)	2.9	(0.0)
Information low-skill	1.6	(0.1)	2.2	(0.1)	2.7	(0.1)
Services low-skill	0.2	(0.0)	1.3	(0.1)	2.2	(0.1)
Goods	0.2	(0.0)	1.6	(0.1)	2.4	(0.1)
Prairies						
Knowledge experts	2.3	(0.1)	2.6	(0.0)	2.9	(0.1)
Managers	2.0	(0.1)	2.5	(0.1)	2.9	(0.1)
Information high-skill	2.1	(0.1)	2.5	(0.1)	2.9	(0.0)
Information low-skill	1.5	(0.1)	2.2	(0.0)	2.6	(0.0)
Services low-skill	0.9	(0.2)	1.7	(0.1)	2.3	(0.1)
Goods	1.2	(0.1)	1.9	(0.1)	2.5	(0.1)
British Columbia						
Knowledge experts	2.3	(0.1)	2.6	(0.1)	2.9	(0.1)
Managers	2.2	(0.1)	2.5	(0.1)	3.0	(0.2)
Information high-skill	2.1	(0.1)	2.5	(0.1)	2.9	(0.1)
Information low-skill	1.6	(0.1)	2.2	(0.1)	2.7	(0.1)
Services low-skill	0.2	(0.0)	1.6	(0.1)	2.3	(0.1)
Goods	1.2	(0.3)	1.9	(0.1)	2.4	(0.1)
Territories						
Knowledge experts	2.3	(0.1)	2.6	(0.1)	2.9	(0.0)
Managers	2.3	(0.1)	2.8	(0.1)	3.2	(0.2)
Information high-skill	2.1	(0.1)	2.5	(0.1)	2.9	(0.1)
Information low-skill	1.6	(0.2)	2.2	(0.1)	2.7	(0.1)
Services low-skill	0.9	(0.2)	1.7	(0.1)	2.4	(0.1)
Goods	0.2	(0.0)	1.8	(0.1)	2.4	(0.1)
Canada						
Knowledge experts	**2.2**	**(0.0)**	**2.6**	**(0.0)**	**2.9**	**(0.0)**
Managers	**2.1**	**(0.0)**	**2.6**	**(0.0)**	**3.1**	**(0.1)**
Information high-skill	**2.1**	**(0.0)**	**2.4**	**(0.0)**	**2.9**	**(0.0)**
Information low-skill	**1.5**	**(0.1)**	**2.2**	**(0.0)**	**2.7**	**(0.0)**
Services low-skill	**0.2**	**(0.0)**	**1.5**	**(0.1)**	**2.2**	**(0.0)**
Goods	**0.9**	**(0.2)**	**1.7**	**(0.0)**	**2.4**	**(0.0)**

Table 4.5 A to C (continued)

Index scores of writing, reading and numeracy engagement at work with .95 confidence intervals and 25th and 75th percentile scores, by aggregated occupational types, Canada and regions, population aged 16 to 65, 2003

	25th percentile	Standard error	50th percentile	Standard error	75th percentile	Standard error
Atlantic			**B. Reading engagement at work**			
Knowledge experts	2.0	(0.1)	2.5	(0.1)	3.8	(0.2)
Managers	1.8	(0.1)	2.5	(0.1)	3.8	(0.3)
Information high-skill	1.9	(0.1)	2.4	(0.1)	3.0	(0.1)
Information low-skill	1.4	(0.1)	2.0	(0.1)	2.5	(0.0)
Services low-skill	0.8	(0.1)	1.4	(0.1)	2.2	(0.1)
Goods	0.9	(0.1)	1.7	(0.1)	2.5	(0.1)
Quebec						
Knowledge experts	2.1	(0.1)	2.5	(0.1)	3.8	(0.2)
Managers	1.8	(0.1)	2.4	(0.1)	3.8	(0.3)
Information high-skill	1.8	(0.1)	2.2	(0.1)	3.0	(0.1)
Information low-skill	1.3	(0.1)	2.0	(0.0)	2.5	(0.0)
Services low-skill	0.7	(0.1)	1.5	(0.1)	2.0	(0.0)
Goods	0.9	(0.1)	1.7	(0.0)	2.5	(0.1)
Ontario						
Knowledge experts	2.1	(0.1)	2.5	(0.1)	3.8	(0.2)
Managers	1.8	(0.1)	2.2	(0.1)	2.8	(0.3)
Information high-skill	2.0	(0.0)	2.5	(0.1)	3.0	(0.1)
Information low-skill	1.4	(0.1)	2.0	(0.1)	2.5	(0.0)
Services low-skill	0.7	(0.1)	1.4	(0.1)	2.0	(0.1)
Goods	0.9	(0.1)	1.8	(0.1)	2.8	(0.1)
Prairies						
Knowledge experts	2.0	(0.1)	2.5	(0.1)	3.8	(0.2)
Managers	1.8	(0.1)	2.4	(0.1)	3.8	(0.3)
Information high-skill	1.9	(0.1)	2.5	(0.1)	3.0	(0.1)
Information low-skill	1.3	(0.1)	1.8	(0.0)	2.4	(0.1)
Services low-skill	0.9	(0.1)	1.6	(0.1)	2.2	(0.1)
Goods	0.9	(0.0)	1.7	(0.1)	2.8	(0.1)
British Columbia						
Knowledge experts	2.1	(0.1)	2.5	(0.1)	3.8	(0.2)
Managers	1.8	(0.1)	2.5	(0.1)	3.8	(0.3)
Information high-skill	1.8	(0.1)	2.4	(0.1)	3.0	(0.3)
Information low-skill	1.4	(0.1)	2.0	(0.1)	2.5	(0.1)
Services low-skill	0.8	(0.1)	1.4	(0.1)	2.2	(0.2)
Goods	1.2	(0.1)	1.9	(0.1)	2.7	(0.1)
Territories						
Knowledge experts	1.9	(0.1)	2.4	(0.1)	3.0	(0.3)
Managers	2.0	(0.1)	2.5	(0.1)	3.8	(0.3)
Information high-skill	1.8	(0.1)	2.4	(0.1)	3.0	(0.0)
Information low-skill	1.6	(0.1)	2.1	(0.1)	2.5	(0.0)
Services low-skill	0.9	(0.1)	1.8	(0.1)	2.4	(0.1)
Goods	0.9	(0.2)	1.9	(0.1)	2.8	(0.1)
Canada						
Knowledge experts	**2.1**	**(0.1)**	**2.5**	**(0.1)**	**3.8**	**(0.2)**
Managers	**1.8**	**(0.0)**	**2.4**	**(0.1)**	**3.8**	**(0.2)**
Information high-skill	**1.9**	**(0.0)**	**2.4**	**(0.0)**	**3.0**	**(0.0)**
Information low-skill	**1.4**	**(0.0)**	**1.9**	**(0.0)**	**2.5**	**(0.0)**
Services low-skill	**0.8**	**(0.1)**	**1.4**	**(0.1)**	**2.0**	**(0.1)**
Goods	**1.0**	**(0.1)**	**1.7**	**(0.1)**	**2.7**	**(0.1)**

Table 4.5 A to C (concluded)

Index scores of writing, reading and numeracy engagement at work with .95 confidence intervals and 25th and 75th percentile scores, by aggregated occupational types, Canada and regions, population aged 16 to 65, 2003

	25th percentile	Standard error	50th percentile	Standard error	75th percentile	Standard error
Atlantic			**C. Numeracy engagement at work**			
Knowledge experts	2.0	(0.1)	2.5	(0.1)	3.1	(0.1)
Managers	2.2	(0.1)	2.8	(0.1)	3.1	(0.2)
Information high-skill	1.8	(0.1)	2.4	(0.1)	3.0	(0.1)
Information low-skill	1.4	(0.0)	2.0	(0.1)	2.5	(0.1)
Services low-skill	0.7	(0.1)	1.4	(0.1)	2.3	(0.1)
Goods	0.8	(0.1)	1.6	(0.1)	2.4	(0.0)
Quebec						
Knowledge experts	1.8	(0.1)	2.4	(0.1)	2.7	(0.1)
Managers	2.0	(0.0)	2.5	(0.1)	3.0	(0.0)
Information high-skill	1.4	(0.1)	2.0	(0.1)	2.5	(0.1)
Information low-skill	1.2	(0.1)	1.8	(0.1)	2.5	(0.0)
Services low-skill	0.5	(0.2)	1.3	(0.1)	1.8	(0.1)
Goods	0.6	(0.1)	1.4	(0.0)	2.1	(0.1)
Ontario						
Knowledge experts	2.0	(0.1)	2.5	(0.1)	3.1	(0.2)
Managers	2.1	(0.1)	2.7	(0.1)	3.7	(0.1)
Information high-skill	1.9	(0.1)	2.5	(0.1)	3.0	(0.1)
Information low-skill	1.4	(0.1)	2.1	(0.1)	2.7	(0.1)
Services low-skill	0.8	(0.4)	1.5	(0.1)	2.3	(0.1)
Goods	0.9	(0.1)	1.9	(0.1)	2.5	(0.1)
Prairies						
Knowledge experts	2.0	(0.1)	2.4	(0.1)	3.0	(0.1)
Managers	2.2	(0.1)	2.7	(0.1)	3.1	(0.0)
Information high-skill	2.0	(0.1)	2.5	(0.1)	3.0	(0.1)
Information low-skill	1.4	(0.1)	2.1	(0.1)	2.8	(0.1)
Services low-skill	1.1	(0.1)	1.9	(0.1)	2.5	(0.1)
Goods	1.2	(0.1)	1.9	(0.1)	2.6	(0.1)
British Columbia						
Knowledge experts	2.1	(0.1)	2.7	(0.1)	3.1	(0.2)
Managers	2.4	(0.1)	2.7	(0.1)	3.1	(0.2)
Information high-skill	2.1	(0.1)	2.4	(0.1)	3.1	(0.1)
Information low-skill	1.6	(0.1)	2.1	(0.1)	3.0	(0.1)
Services low-skill	1.2	(0.1)	1.8	(0.1)	2.5	(0.1)
Goods	1.3	(0.1)	1.9	(0.1)	2.7	(0.2)
Territories						
Knowledge experts	1.9	(0.1)	2.5	(0.1)	3.0	(0.1)
Managers	2.1	(0.1)	2.6	(0.1)	3.1	(0.2)
Information high-skill	1.9	(0.1)	2.4	(0.1)	2.9	(0.1)
Information low-skill	1.4	(0.1)	2.1	(0.1)	2.8	(0.1)
Services low-skill	1.1	(0.1)	1.8	(0.1)	2.5	(0.1)
Goods	1.3	(0.0)	1.9	(0.1)	2.5	(0.1)
Canada						
Knowledge experts	**2.0**	**(0.0)**	**2.5**	**(0.0)**	**3.0**	**(0.1)**
Managers	**2.1**	**(0.1)**	**2.6**	**(0.0)**	**3.1**	**(0.0)**
Information high-skill	**1.8**	**(0.1)**	**2.4**	**(0.0)**	**2.9**	**(0.1)**
Information low-skill	**1.4**	**(0.0)**	**2.1**	**(0.0)**	**2.7**	**(0.0)**
Services low-skill	**0.7**	**(0.1)**	**1.5**	**(0.1)**	**2.2**	**(0.1)**
Goods	**0.9**	**(0.1)**	**1.8**	**(0.1)**	**2.5**	**(0.0)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.6 A to D

Percent of labour force population[1] at proficiency Level 3 and over, by type of industry, Canada and regions, population aged 16 to 65, 2003

	Level 3		Level 4/5	
	%	Standard error	%	Standard error
Atlantic		**A. Prose**		
Knowledge-intensive market service activities	48.2	(5.1)	22.6	(4.1)
Public administration, defense, education and health	44.1	(2.3)	27.6	(2.4)
Other community, social and personal services	44.6	(6.3)	23.5 E	(4.4)
High and medium-high-techonology manufacturing industries	37.0 E	(10.9)	10.7 E	(6.7)
Low and medium-low-technology manufacturing industries	30.7	(3.5)	12.0 E	(2.5)
Utilities and Construction	33.0	(7.4)	10.1 E	(4.8)
Wholesale, retail, hotels and restaurants	40.5	(3.1)	15.5	(2.7)
Transport and storage	36.8 E	(8.1)	14.5 E	(5.9)
Primary industries	32.2	(5.6)	7.9 E	(2.5)
Quebec				
Knowledge-intensive market service activities	44.9	(2.7)	17.6	(3.5)
Public administration, defense, education and health	38.5	(3.6)	28.7	(2.8)
Other community, social and personal services	40.0	(6.5)	17.4	(3.5)
High and medium-high-techonology manufacturing industries	40.1	(5.8)	11.2 E	(4.2)
Low and medium-low-technology manufacturing industries	30.6	(4.8)	8.2 E	(2.4)
Utilities and Construction	38.8	(5.9)	8.2 E	(3.2)
Wholesale, retail, hotels and restaurants	37.5	(3.4)	10.6	(1.6)
Transport and storage	44.6	(8.9)	8.9 E	(4.1)
Primary industries	25.7 E	(8.0)	8.2 E	(5.0)
Ontario				
Knowledge-intensive market service activities	47.5	(4.7)	24.7	(3.3)
Public administration, defense, education and health	40.6	(3.5)	32.4	(3.6)
Other community, social and personal services	39.5	(9.6)	16.1 E	(7.0)
High and medium-high-techonology manufacturing industries	42.2	(11.0)	21.4	(8.8)
Low and medium-low-technology manufacturing industries	37.0	(4.7)	13.1 E	(4.4)
Utilities and Construction	40.5	(8.0)	16.1 E	(6.3)
Wholesale, retail, hotels and restaurants	35.1	(4.3)	15.5	(3.7)
Transport and storage	37.9	(8.3)	12.7 E	(5.2)
Primary industries	41.2 E	(14.1)	12.1 E	(8.3)
Prairies				
Knowledge-intensive market service activities	48.1	(4.1)	28.4	(3.8)
Public administration, defense, education and health	45.9	(3.9)	30.9	(2.4)
Other community, social and personal services	42.8	(10.6)	22.4	(5.6)
High and medium-high-techonology manufacturing industries	31.6 E	(12.4)	21.7 E	(8.9)
Low and medium-low-technology manufacturing industries	32.0	(5.2)	14.8 E	(4.3)
Utilities and Construction	39.8	(5.6)	17.8	(4.7)
Wholesale, retail, hotels and restaurants	42.5	(3.0)	15.6	(2.3)
Transport and storage	48.5	(7.5)	19.5 E	(4.5)
Primary industries	42.9	(5.7)	23.1	(4.2)
British Columbia				
Knowledge-intensive market service activities	41.4	(8.7)	39.9	(8.6)
Public administration, defense, education and health	43.9	(5.1)	41.5	(4.8)
Other community, social and personal services	41.0	(7.5)	29.4 E	(7.7)
High and medium-high-techonology manufacturing industries	57.8 E	(15.6)	x	x
Low and medium-low-technology manufacturing industries	31.8 E	(5.3)	20.5 E	(5.2)
Utilities and Construction	49.1	(8.1)	12.1 E	(5.1)
Wholesale, retail, hotels and restaurants	41.4	(4.5)	20.0	(3.9)
Transport and storage	38.0 E	(10.1)	25.7 E	(9.0)
Primary industries	33.0 E	(8.6)	18.0 E	(5.8)
Territories				
Knowledge-intensive market service activities	37.9	(4.6)	29.7	(4.6)
Public administration, defense, education and health	36.3	(2.9)	31.7	(2.5)
Other community, social and personal services	35.8	(6.3)	14.1 E	(5.7)
High and medium-high-techonology manufacturing industries	x	x	x	x
Low and medium-low-technology manufacturing industries	40.7 E	(21.4)	17.8 E	(11.5)
Utilities and Construction	28.6	(5.7)	13.0 E	(4.9)
Wholesale, retail, hotels and restaurants	38.9	(4.7)	10.7 E	(3.2)
Transport and storage	34.7	(9.1)	20.7 E	(7.7)
Primary industries	35.4 E	(12.1)	17.8 E	(7.7)

Table 4.6 A to D (continued)

Percent of labour force population[1] at proficiency Level 3 and over, by type of industry, Canada and regions, population aged 16 to 65, 2003

	Level 3		Level 4/5	
	%	Standard error	%	Standard error
Canada		**A. Prose**		
Knowledge-intensive market service activities	**46.2**	**(2.6)**	**25.6**	**(1.8)**
Public administration, defense, education and health	**41.7**	**(1.9)**	**32.0**	**(1.4)**
Other community, social and personal services	**40.8**	**(3.5)**	**20.2**	**(3.0)**
High and medium-high-techonology manufacturing industries	**41.6**	**(6.9)**	**18.9**	**(5.5)**
Low and medium-low-technology manufacturing industries	**33.5**	**(2.5)**	**12.7**	**(2.3)**
Utilities and Construction	**40.6**	**(2.9)**	**13.9**	**(2.7)**
Wholesale, retail, hotels and restaurants	**38.2**	**(2.0)**	**15.0**	**(1.3)**
Transport and storage	**41.5**	**(4.2)**	**15.0**	**(2.5)**
Primary industries	**37.1**	**(4.0)**	**15.7**	**(3.0)**
Atlantic		**B. Document**		
Knowledge-intensive market service activities	43.8	(4.7)	25.4	(3.8)
Public administration, defense, education and health	41.6	(2.3)	26.7	(2.7)
Other community, social and personal services	43.1	(5.4)	24.1	(5.7)
High and medium-high-techonology manufacturing industries	39.0 E	(10.5)	10.5 E	(5.2)
Low and medium-low-technology manufacturing industries	29.3	(3.8)	12.7	(3.1)
Utilities and Construction	31.2	(7.1)	10.5 E	(3.4)
Wholesale, retail, hotels and restaurants	38.2	(3.3)	15.8	(2.4)
Transport and storage	31.2 E	(10.2)	17.2 E	(7.8)
Primary industries	34.1	(5.1)	8.3 E	(3.5)
Quebec				
Knowledge-intensive market service activities	40.9	(3.0)	19.5	(3.1)
Public administration, defense, education and health	37.8	(2.6)	24.6	(2.6)
Other community, social and personal services	38.6	(5.8)	17.1	(3.7)
High and medium-high-techonology manufacturing industries	38.1	(4.4)	19.6 E	(5.1)
Low and medium-low-technology manufacturing industries	29.4	(3.9)	11.4	(2.4)
Utilities and Construction	40.3	(6.7)	10.2 E	(3.5)
Wholesale, retail, hotels and restaurants	35.2	(3.1)	12.6	(1.4)
Transport and storage	44.1	(8.9)	13.4 E	(4.2)
Primary industries	23.1 E	(7.2)	9.9 E	(3.9)
Ontario				
Knowledge-intensive market service activities	40.4	(4.1)	28.9	(3.0)
Public administration, defense, education and health	39.0	(4.3)	32.4	(4.5)
Other community, social and personal services	43.1	(11.4)	17.4 E	(9.1)
High and medium-high-techonology manufacturing industries	33.6	(7.5)	28.9	(6.3)
Low and medium-low-technology manufacturing industries	37.6	(5.4)	14.0	(3.6)
Utilities and Construction	40.9	(9.9)	20.5 E	(5.8)
Wholesale, retail, hotels and restaurants	37.5	(4.8)	15.0	(3.5)
Transport and storage	34.1	(8.7)	14.6 E	(6.3)
Primary industries	42.4 E	(15.0)	11.7 E	(9.8)
Prairies				
Knowledge-intensive market service activities	44.3	(3.4)	30.1	(4.0)
Public administration, defense, education and health	43.8	(3.5)	30.4	(2.7)
Other community, social and personal services	40.5	(6.1)	22.4	(4.7)
High and medium-high-techonology manufacturing industries	31.7	(11.4)	24.0 E	(6.9)
Low and medium-low-technology manufacturing industries	28.8	(4.8)	18.7	(4.9)
Utilities and Construction	41.6	(5.5)	19.9	(4.2)
Wholesale, retail, hotels and restaurants	41.7	(2.4)	17.9	(2.6)
Transport and storage	48.4	(13.3)	23.6 E	(8.3)
Primary industries	41.5	(6.3)	26.3	(4.3)
British Columbia				
Knowledge-intensive market service activities	39.0	(7.8)	41.7	(8.3)
Public administration, defense, education and health	40.9	(4.6)	42.5	(4.0)
Other community, social and personal services	39.5	(6.7)	29.0 E	(7.1)
High and medium-high-techonology manufacturing industries	43.9 E	(15.6)	34.1 E	(15.4)
Low and medium-low-technology manufacturing industries	32.3	(7.1)	22.8 E	(5.5)
Utilities and Construction	44.3	(8.2)	18.8 E	(7.2)
Wholesale, retail, hotels and restaurants	39.4	(5.9)	22.9	(4.5)
Transport and storage	42.8 E	(9.9)	24.3 E	(8.1)
Primary industries	27.4 E	(6.2)	23.8 E	(6.5)

Table 4.6 A TO D (continued)

Percent of labour force population[1] at proficiency Level 3 and over, by type of industry, Canada and regions, population aged 16 to 65, 2003

	Level 3		Level 4/5	
	%	Standard error	%	Standard error
Territories			**B. Document**	
Knowledge-intensive market service activities	37.4	(4.9)	30.1	(5.2)
Public administration, defense, education and health	36.7	(3.4)	28.1	(3.0)
Other community, social and personal services	29.8	(6.8)	17.4 E	(6.7)
High and medium-high-techonology manufacturing industries	x	x	x	x
Low and medium-low-technology manufacturing industries	53.8 E	(18.8)	x	x
Utilities and Construction	30.8	(4.9)	13.8 E	(4.2)
Wholesale, retail, hotels and restaurants	35.9	(4.5)	12.1 E	(3.1)
Transport and storage	34.2	(7.3)	23.9 E	(7.6)
Primary industries	31.2 E	(11.7)	22.1 E	(8.4)
Canada				
Knowledge-intensive market service activities	**41.1**	**(2.0)**	**28.5**	**(2.0)**
Public administration, defense, education and health	**40.0**	**(1.8)**	**31.0**	**(1.8)**
Other community, social and personal services	**41.1**	**(4.7)**	**20.6**	**(4.1)**
High and medium-high-techonology manufacturing industries	**35.2**	**(4.8)**	**26.1**	**(4.7)**
Low and medium-low-technology manufacturing industries	**32.9**	**(3.2)**	**14.8**	**(2.2)**
Utilities and Construction	**40.6**	**(4.6)**	**17.5**	**(2.9)**
Wholesale, retail, hotels and restaurants	**38.0**	**(2.2)**	**16.1**	**(1.4)**
Transport and storage	**40.2**	**(5.7)**	**17.6**	**(3.4)**
Primary industries	**35.8**	**(4.2)**	**18.0**	**(3.1)**
Atlantic			**C. Numeracy**	
Knowledge-intensive market service activities	43.4	(4.9)	17.3	(5.5)
Public administration, defense, education and health	35.6	(2.7)	19.5	(2.2)
Other community, social and personal services	38.0	(9.0)	14.9 E	(4.1)
High and medium-high-techonology manufacturing industries	34.1 E	(8.6)	9.4 E	(8.5)
Low and medium-low-technology manufacturing industries	27.5	(3.6)	9.5 E	(3.0)
Utilities and Construction	28.8	(5.2)	8.4 E	(2.4)
Wholesale, retail, hotels and restaurants	32.7	(3.0)	11.5	(1.6)
Transport and storage	31.6 E	(7.2)	11.2 E	(6.9)
Primary industries	27.9 E	(7.2) E	x	x
Quebec				
Knowledge-intensive market service activities	39.7	(4.1)	20.1	(4.1)
Public administration, defense, education and health	36.9	(3.8)	21.8	(2.6)
Other community, social and personal services	38.0	(8.9)	15.3 E	(5.4)
High and medium-high-techonology manufacturing industries	43.1	(7.3)	20.0 E	(4.6)
Low and medium-low-technology manufacturing industries	30.9	(5.0)	10.6	(2.4)
Utilities and Construction	36.9	(8.3)	15.4 E	(4.8)
Wholesale, retail, hotels and restaurants	31.2	(4.1)	11.3	(2.2)
Transport and storage	35.0	(7.9)	18.6 E	(5.9)
Primary industries	25.9 E	(7.3)	10.5 E	(3.7)
Ontario				
Knowledge-intensive market service activities	37.3	(4.1)	25.9	(3.4)
Public administration, defense, education and health	33.5	(3.8)	25.0	(3.4)
Other community, social and personal services	37.1	(12.1)	12.9 E	(6.1)
High and medium-high-techonology manufacturing industries	32.9	(11.5)	28.6	(10.2)
Low and medium-low-technology manufacturing industries	32.9	(6.3)	13.1	(3.7)
Utilities and Construction	33.2	(9.0)	17.5 E	(5.0)
Wholesale, retail, hotels and restaurants	33.6	(4.5)	10.4	(2.7)
Transport and storage	28.4	(9.1)	11.1 E	(5.0)
Primary industries	30.6 E	(10.2)	14.5 E	(10.0)
Prairies				
Knowledge-intensive market service activities	39.8	(5.7)	27.6	(4.0)
Public administration, defense, education and health	38.2	(4.2)	21.9	(2.7)
Other community, social and personal services	38.1	(6.0)	16.6	(5.2)
High and medium-high-techonology manufacturing industries	29.5 E	(13.3)	17.7 E	(8.5)
Low and medium-low-technology manufacturing industries	29.3	(4.9)	14.1 E	(3.6)
Utilities and Construction	34.9	(7.1)	15.4	(4.2)
Wholesale, retail, hotels and restaurants	36.5	(3.1)	15.1	(2.1)
Transport and storage	45.2	(6.9)	22.5 E	(6.7)
Primary industries	34.5	(5.4)	26.7	(5.1)

Table 4.6 A to D (continued)

Percent of labour force population[1] at proficiency Level 3 and over, by type of industry, Canada and regions, population aged 16 to 65, 2003

	Level 3		Level 4/5	
	%	Standard error	%	Standard error
British Columbia		**C. Numeracy**		
Knowledge-intensive market service activities	38.6	(5.0)	35.9	(5.2)
Public administration, defense, education and health	43.1	(4.1)	28.8	(3.9)
Other community, social and personal services	33.3	(7.9)	25.9 E	(6.7)
High and medium-high-techonology manufacturing industries	43.4 E	(9.9)	23.9 E	(13.7)
Low and medium-low-technology manufacturing industries	30.1 E	(9.1)	15.6 E	(6.3)
Utilities and Construction	42.6	(8.4)	11.4 E	(6.5)
Wholesale, retail, hotels and restaurants	37.3	(5.1)	15.1	(3.3)
Transport and storage	44.8 E	(10.5)	14.1 E	(7.8)
Primary industries	26.1 E	(10.0)	19.6 E	(6.8)
Territories				
Knowledge-intensive market service activities	30.3	(4.5)	27.6	(4.0)
Public administration, defense, education and health	35.6	(3.2)	20.9	(2.6)
Other community, social and personal services	29.7 E	(7.6)	13.6 E	(4.5)
High and medium-high-techonology manufacturing industries	x	x	x	x
Low and medium-low-technology manufacturing industries	39.3 E	(17.3)	x	x
Utilities and Construction	27.1	(5.3)	12.2 E	(5.1)
Wholesale, retail, hotels and restaurants	31.9	(5.7)	9.1 E	(3.2)
Transport and storage	34.5	(5.8)	16.0 E	(6.5)
Primary industries	33.2 E	(7.5)	15.6 E	(9.0)
Canada				
Knowledge-intensive market service activities	**38.7**	**(1.9)**	**25.7**	**(1.7)**
Public administration, defense, education and health	**36.6**	**(1.8)**	**23.7**	**(1.6)**
Other community, social and personal services	**36.9**	**(4.8)**	**16.3**	**(3.2)**
High and medium-high-techonology manufacturing industries	**35.6**	**(6.2)**	**24.9**	**(6.3)**
Low and medium-low-technology manufacturing industries	**31.1**	**(3.2)**	**12.5**	**(1.9)**
Utilities and Construction	**35.1**	**(3.4)**	**15.3**	**(2.5)**
Wholesale, retail, hotels and restaurants	**33.9**	**(2.2)**	**12.1**	**(1.3)**
Transport and storage	**35.6**	**(4.9)**	**15.5**	**(3.4)**
Primary industries	**30.1**	**(4.3)**	**18.0**	**(3.8)**

	Level 3		Level 4	
	%	Standard error	%	Standard error
Atlantic		**D. Problem solving**		
Knowledge-intensive market service activities	29.9	(4.3)	5.3 E	(1.9)
Public administration, defense, education and health	29.4	(3.1)	6.1	(1.8)
Other community, social and personal services	29.0	(6.0)	4.3 E	(2.0)
High and medium-high-techonology manufacturing industries	14.1 E	(6.5)	x	x
Low and medium-low-technology manufacturing industries	16.2	(4.7)	3.5	(2.0)
Utilities and Construction	14.4	(4.1)	x	x
Wholesale, retail, hotels and restaurants	22.6	(2.7)	3.0 E	(1.3)
Transport and storage	18.9 E	(6.4)	6.1 E	(5.1)
Primary industries	15.0 E	(2.5)	1.3 E	(1.1)
Quebec				
Knowledge-intensive market service activities	27.2	(3.7)	5.5 E	(1.7)
Public administration, defense, education and health	27.7	(2.5)	10.1	(2.7)
Other community, social and personal services	27.3 E	(6.2)	4.4 E	(1.6)
High and medium-high-techonology manufacturing industries	26.4	(5.7)	x	x
Low and medium-low-technology manufacturing industries	17.8	(2.7)	2.3 E	(1.0)
Utilities and Construction	22.5 E	(5.2)	3.1 E	(2.5)
Wholesale, retail, hotels and restaurants	23.9	(2.6)	3.2 E	(1.0)
Transport and storage	25.7	(9.9)	x	x
Primary industries	14.8 E	(5.9)	x	x

Table 4.6 A to D (concluded)

Percent of labour force population[1] at proficiency Level 3 and over, by type of industry, Canada and regions, population aged 16 to 65, 2003

	Level 3		Level 4	
	%	Standard error	%	Standard error
Ontario			**D. Problem solving**	
Knowledge-intensive market service activities	32.6	(4.5)	7.0 E	(3.2)
Public administration, defense, education and health	33.6	(4.3)	8.7	(2.5)
Other community, social and personal services	24.0	(9.5)	x	x
High and medium-high-techonology manufacturing industries	26.3	(7.5)	10.0 E	(8.0)
Low and medium-low-technology manufacturing industries	21.1	(7.3)	x	x
Utilities and Construction	24.4	(5.7)	3.6 E	(2.6)
Wholesale, retail, hotels and restaurants	23.5	(4.0)	4.1 E	(1.9)
Transport and storage	16.1 E	(9.3)	x	x
Primary industries	26.8 E	(11.6)	x	x
Prairies				
Knowledge-intensive market service activities	34.6	(4.3)	7.5	(2.7)
Public administration, defense, education and health	36.0	(3.5)	8.5	(1.6)
Other community, social and personal services	23.0	(4.3)	7.2 E	(3.4)
High and medium-high-techonology manufacturing industries	22.6 E	(7.4)	6.4	(3.8)
Low and medium-low-technology manufacturing industries	23.3	(6.0)	3.1 E	(1.8)
Utilities and Construction	26.3	(5.7)	4.1 E	(3.4)
Wholesale, retail, hotels and restaurants	26.3	(3.0)	3.0 E	(2.1)
Transport and storage	27.2	(8.2)	x	x
Primary industries	30.7	(5.4)	6.1 E	(2.7)
British Columbia				
Knowledge-intensive market service activities	42.0	(6.9)	12.2 E	(4.6)
Public administration, defense, education and health	45.3	(5.4)	10.2 E	(2.2)
Other community, social and personal services	30.6 E	(6.9)	8.9 E	(4.0)
High and medium-high-techonology manufacturing industries	27.4 E	(6.9)	x	x
Low and medium-low-technology manufacturing industries	25.3 E	(7.5)	5.9 E	(3.5)
Utilities and Construction	27.4 E	(6.9)	x	x
Wholesale, retail, hotels and restaurants	30.4	(3.8)	4.7 E	(2.5)
Transport and storage	26.7 E	(10.6)	x	x
Primary industries	24.1 E	(8.7)	x	x
Territories				
Knowledge-intensive market service activities	31.0	(5.0)	7.4 E	(3.7)
Public administration, defense, education and health	32.0	(2.7)	7.6	(1.3)
Other community, social and personal services	21.7 E	(5.2)	3.5 E	(3.2)
High and medium-high-techonology manufacturing industries	x	x	x	x
Low and medium-low-technology manufacturing industries	22.1 E	(16.2)	x	x
Utilities and Construction	19.0	(5.5)	x	x
Wholesale, retail, hotels and restaurants	19.6	(3.7)	x	x
Transport and storage	29.6 E	(7.3)	x	x
Primary industries	17.7 E	(8.0)	x	x
Canada				
Knowledge-intensive market service activities	**32.8**	**(2.6)**	**7.4**	**(1.6)**
Public administration, defense, education and health	**33.7**	**(1.4)**	**9.0**	**(1.1)**
Other community, social and personal services	**25.9**	**(4.0)**	**5.0**	**(1.6)**
High and medium-high-techonology manufacturing industries	**26.5**	**(4.3)**	**7.3**	**(4.8)**
Low and medium-low-technology manufacturing industries	**20.6**	**(3.0)**	**3.5**	**(1.3)**
Utilities and Construction	**24.1**	**(3.4)**	**3.2**	**(1.4)**
Wholesale, retail, hotels and restaurants	**24.9**	**(1.6)**	**3.7**	**(1.0)**
Transport and storage	**22.1**	**(5.4)**	**5.3**	**(2.2)**
Primary industries	**24.6**	**(4.2)**	**4.1**	**(1.6)**

1. The labour force population is defined as respondents who are either employed or unemployed (looking for work).

E. Use with caution.

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

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.7 A to D

Distribution of proficiency levels, by annual earnings, gender, Canada and regions, population aged 16 to 65, 2003

	Level 1/2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error
			A. Prose			
Atlantic						
Men						
Less than $20,000	53.5	(3.3)	34.7	(3.0)	11.8	(2.5)
$20,000 to $40,000	53.2	(4.0)	36.6	(4.5)	10.2	(2.1)
$40,000 to $60,000	30.0 E	(4.1)	45.8	(4.4)	24.2	(4.7)
$60,000 and more	19.5 E	(3.4)	50.9	(5.0)	29.5	(4.4)
Women						
Less than $20,000	44.1	(2.3)	38.7	(1.9)	17.2	(2.2)
$20,000 to $40,000	33.3	(3.3)	44.7	(4.3)	22.0	(2.3)
$40,000 to $60,000	13.1	(4.2)	42.5	(7.3)	44.4	(5.6)
$60,000 and more	x	x	35.7 E	(13.9)	55.9 E	(14.4)
Quebec						
Men						
Less than $20,000	52.5	(2.8)	35.6	(2.7)	11.9	(1.7)
$20,000 to $40,000	56.4	(5.2)	34.8	(5.6)	8.8	(2.6)
$40,000 to $60,000	43.2	(4.3)	40.9	(4.3)	15.9	(3.2)
$60,000 and more	29.2	(5.2)	43.4	(7.4)	27.5	(8.4)
Women						
Less than $20,000	54.5	(2.8)	33.3	(3.0)	12.2	(1.7)
$20,000 to $40,000	39.5	(2.6)	42.2	(4.6)	18.3	(3.7)
$40,000 to $60,000	31.7	(5.3)	43.3	(5.4)	25.0	(5.0)
$60,000 and more	17.7 E	(6.2)	41.6 E	(8.1)	40.8	(8.1)
Ontario						
Men						
Less than $20,000	48.5	(4.1)	35.6	(3.8)	15.9	(3.8)
$20,000 to $40,000	58.6	(7.9)	32.4	(7.4)	9.0 E	(3.3)
$40,000 to $60,000	30.0	(6.8)	52.4	(7.4)	17.6	(5.2)
$60,000 and more	27.2	(5.8)	42.9	(7.9)	29.9	(6.8)
Women						
Less than $20,000	44.2	(3.8)	35.3	(3.7)	20.5	(3.2)
$20,000 to $40,000	44.4	(4.7)	38.9	(4.0)	16.7	(4.0)
$40,000 to $60,000	16.5	(5.0)	50.6	(6.4)	33.0	(6.5)
$60,000 and more	7.6 E	(3.2)	41.6	(9.7)	50.8	(10.9)
Prairies						
Men						
Less than $20,000	42.2	(3.4)	42.0	(4.1)	15.8	(2.8)
$20,000 to $40,000	47.8	(5.9)	39.8	(5.3)	12.3	(3.6)
$40,000 to $60,000	29.7	(4.6)	46.1	(4.8)	24.2	(4.7)
$60,000 and more	20.6	(3.9)	47.9	(7.8)	31.5	(7.2)
Women						
Less than $20,000	38.0	(3.1)	41.3	(3.9)	20.7	(2.0)
$20,000 to $40,000	31.7	(3.9)	44.8	(4.2)	23.5	(3.4)
$40,000 to $60,000	12.6	(5.0)	46.8	(7.5)	40.6	(7.0)
$60,000 and more	2.0 E	(1.7)	38.5	(7.7)	59.6	(8.1)
British Columbia						
Men						
Less than $20,000	40.6	(4.0)	39.2	(5.3)	20.1	(4.4)
$20,000 to $40,000	44.7	(7.6)	35.4	(7.1)	19.9 E	(7.5)
$40,000 to $60,000	29.6	(5.4)	41.3	(7.7)	29.0 E	(6.8)
$60,000 and more	20.8 E	(4.8)	40.4	(7.2)	38.9	(8.2)
Women						
Less than $20,000	35.2	(2.9)	39.9	(3.6)	25.0	(2.5)
$20,000 to $40,000	25.7	(4.3)	45.2	(5.7)	29.1	(5.1)
$40,000 to $60,000	11.3 E	(4.2)	45.1	(8.5)	43.5	(8.3)
$60,000 and more	x	x	42.9 E	(18.5)	50.1 E	(17.4)

Table 4.7 A to D (continued)

Distribution of proficiency levels, by annual earnings, gender, Canada and regions, population aged 16 to 65, 2003

	Level 1/2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error
Territories			**A. Prose**			
Men						
Less than $20,000	58.4	(3.6)	30.5	(3.6)	11.1	(2.6)
$20,000 to $40,000	55.4	(5.8)	32.1	(6.8)	12.6 E	(4.9)
$40,000 to $60,000	38.9	(5.2)	38.2	(7.2)	22.8 E	(4.9)
$60,000 and more	23.0	(4.3)	39.9	(4.9)	37.1	(4.7)
Women						
Less than $20,000	48.0	(3.9)	33.9	(5.2)	18.1	(3.7)
$20,000 to $40,000	41.3	(4.6)	35.2	(6.1)	23.5	(5.3)
$40,000 to $60,000	28.8	(5.4)	42.0	(7.4)	29.2	(5.0)
$60,000 and more	16.2 E	(4.7)	40.8	(6.5)	43.1	(7.2)
Canada						
Men						
Less than $20,000	**47.4**	**(2.2)**	**37.3**	**(1.9)**	**15.3**	**(1.6)**
$20,000 to $40,000	**54.3**	**(3.9)**	**35.0**	**(3.6)**	**10.7**	**(2.2)**
$40,000 to $60,000	**33.3**	**(3.8)**	**46.8**	**(4.1)**	**19.9**	**(2.4)**
$60,000 and more	**25.2**	**(3.1)**	**43.8**	**(4.0)**	**31.1**	**(3.6)**
Women						
Less than $20,000	**44.2**	**(1.6)**	**36.8**	**(1.5)**	**19.0**	**(1.4)**
$20,000 to $40,000	**38.1**	**(2.0)**	**41.8**	**(2.4)**	**20.1**	**(2.1)**
$40,000 to $60,000	**18.4**	**(3.0)**	**47.1**	**(3.3)**	**34.5**	**(3.9)**
$60,000 and more	**8.5**	**(2.4)**	**41.2**	**(6.0)**	**50.3**	**(6.5)**
Atlantic			**B. Document**			
Men						
Less than $20,000	51.3	(2.9)	34.5	(3.4)	14.1	(2.6)
$20,000 to $40,000	50.7	(4.2)	35.9	(4.3)	13.4	(3.1)
$40,000 to $60,000	27.9	(4.7)	43.0	(5.6)	29.1	(4.4)
$60,000 and more	19.7	(4.4)	43.3	(5.4)	37.0	(6.5)
Women						
Less than $20,000	49.1	(2.8)	36.4	(3.1)	14.5	(2.2)
$20,000 to $40,000	39.8	(3.0)	40.0	(4.1)	20.2	(3.5)
$40,000 to $60,000	19.4	(4.7)	42.2	(7.8)	38.4	(6.2)
$60,000 and more	14.1 E	(11.4)	41.7	(14.9)	44.2 E	(15.6)
Quebec						
Men						
Less than $20,000	50.7	(2.5)	35.0	(2.6)	14.3	(2.1)
$20,000 to $40,000	55.4	(3.8)	33.3	(3.3)	11.2	(2.6)
$40,000 to $60,000	38.6	(4.3)	40.4	(4.5)	21.0	(3.3)
$60,000 and more	24.0	(5.1)	43.2	(5.5)	32.7	(6.7)
Women						
Less than $20,000	58.6	(2.4)	31.9	(2.5)	9.5	(1.1)
$20,000 to $40,000	45.1	(2.7)	36.9	(3.3)	18.0	(2.5)
$40,000 to $60,000	38.4	(5.1)	37.5	(5.1)	24.1	(4.1)
$60,000 and more	21.4 E	(6.5)	47.8 E	(7.3)	30.9	(7.0)
Ontario						
Men						
Less than $20,000	42.8	(5.0)	36.9	(4.1)	20.3	(3.8)
$20,000 to $40,000	53.8	(5.5)	34.1	(6.1)	12.1 E	(4.5)
$40,000 to $60,000	29.0	(5.9)	46.7	(7.8)	24.4	(5.9)
$60,000 and more	21.9	(5.8)	38.0	(7.8)	40.1	(7.1)
Women						
Less than $20,000	47.3	(4.3)	34.4	(4.1)	18.3	(2.8)
$20,000 to $40,000	50.9	(5.2)	36.4	(5.9)	12.6	(3.3)
$40,000 to $60,000	22.2	(6.2)	46.9	(7.3)	30.9	(7.0)
$60,000 and more	9.3 E	(3.8)	44.2	(9.2)	46.5	(8.4)

Table 4.7 A to D (continued)

Distribution of proficiency levels, by annual earnings, gender, Canada and regions, population aged 16 to 65, 2003

	Level 1/2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error
Prairies			**B. Document**			
Men						
Less than $20,000	38.9	(3.2)	40.0	(3.6)	21.1	(2.5)
$20,000 to $40,000	45.0	(4.1)	39.9	(3.9)	15.2	(3.6)
$40,000 to $60,000	27.0	(4.8)	42.7	(5.2)	30.4	(4.9)
$60,000 and more	17.1	(4.6)	43.9	(7.1)	39.0	(6.6)
Women						
Less than $20,000	40.8	(2.5)	40.5	(3.0)	18.7	(2.1)
$20,000 to $40,000	36.8	(4.7)	43.3	(5.9)	19.9	(4.4)
$40,000 to $60,000	16.9	(4.1)	44.7	(6.9)	38.4	(7.9)
$60,000 and more	5.3 E	(5.1)	41.4	(10.8)	53.3	(10.1)
British Columbia						
Men						
Less than $20,000	39.0	(4.4)	34.0	(3.5)	27.0	(2.9)
$20,000 to $40,000	35.6	(6.5)	38.6	(8.1)	25.8 E	(7.3)
$40,000 to $60,000	27.4	(5.5)	36.6	(7.6)	36.1 E	(6.7)
$60,000 and more	19.6 E	(7.4)	37.1	(8.9)	43.3	(7.8)
Women						
Less than $20,000	39.0	(3.5)	37.8	(4.6)	23.2	(3.9)
$20,000 to $40,000	28.7	(4.3)	46.3	(7.3)	24.9	(6.7)
$40,000 to $60,000	15.5 E	(5.8)	43.6	(8.2)	40.9 E	(8.3)
$60,000 and more	x	x	42.7 E	(11.5)	50.9 E	(11.1)
Territories						
Men						
Less than $20,000	56.1	(3.1)	29.9	(3.6)	13.9	(2.9)
$20,000 to $40,000	53.7	(6.1)	32.1	(6.6)	14.2 E	(5.0)
$40,000 to $60,000	38.8	(5.0)	36.6	(5.7)	24.5	(4.5)
$60,000 and more	21.8	(5.4)	36.7	(5.4)	41.5	(5.1)
Women						
Less than $20,000	53.5	(4.7)	30.1	(6.4)	16.4	(3.8)
$20,000 to $40,000	45.3	(4.9)	36.6	(5.7)	18.2	(5.4)
$40,000 to $60,000	33.7	(5.5)	41.4	(5.5)	24.9	(4.4)
$60,000 and more	18.8	(4.5)	48.7	(6.7)	32.5	(6.5)
Canada						
Men						
Less than $20,000	**44.0**	**(2.1)**	**36.4**	**(1.6)**	**19.6**	**(1.8)**
$20,000 to $40,000	**50.7**	**(2.6)**	**35.5**	**(2.7)**	**13.8**	**(2.3)**
$40,000 to $60,000	**30.9**	**(2.9)**	**43.1**	**(3.8)**	**26.0**	**(2.6)**
$60,000 and more	**21.1**	**(3.3)**	**40.0**	**(4.2)**	**39.0**	**(3.7)**
Women						
Less than $20,000	**47.8**	**(1.9)**	**35.5**	**(1.8)**	**16.7**	**(1.1)**
$20,000 to $40,000	**43.8**	**(2.3)**	**39.1**	**(2.6)**	**17.1**	**(1.6)**
$40,000 to $60,000	**23.9**	**(3.1)**	**43.7**	**(3.8)**	**32.4**	**(3.8)**
$60,000 and more	**10.5**	**(2.6)**	**44.2**	**(5.7)**	**45.3**	**(6.1)**
Atlantic			**C. Numeracy**			
Men						
Less than $20,000	57.7	(3.2)	30.7	(3.1)	11.7	(2.0)
$20,000 to $40,000	58.3	(4.0)	32.1	(4.1)	9.6	(2.3)
$40,000 to $60,000	37.7	(3.9)	39.4	(4.6)	22.9	(4.6)
$60,000 and more	22.0	(4.3)	41.2	(6.0)	36.8	(6.1)
Women						
Less than $20,000	60.6	(3.2)	30.3	(3.6)	9.0	(1.7)
$20,000 to $40,000	53.9	(3.3)	34.5	(2.8)	11.6	(2.8)
$40,000 to $60,000	30.5	(3.8)	44.1	(5.2)	25.4	(4.9)
$60,000 and more	x	x	54.0 E	(14.9)	22.5 E	(8.6)

Table 4.7 A to D (continued)

Distribution of proficiency levels, by annual earnings, gender, Canada and regions, population aged 16 to 65, 2003

	Level 1/2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error
Quebec			**C. Numeracy**			
Men						
Less than $20,000	49.1	(3.8)	34.3	(3.8)	16.6	(1.9)
$20,000 to $40,000	52.1	(4.0)	34.9	(5.3)	13.0	(2.9)
$40,000 to $60,000	35.8	(4.0)	41.3	(4.4)	22.9	(3.5)
$60,000 and more	19.7	(3.8)	43.3	(6.2)	37.0	(7.0)
Women						
Less than $20,000	67.1	(2.6)	25.3	(1.9)	7.7	(2.0)
$20,000 to $40,000	54.2	(3.1)	33.9	(2.8)	11.9	(2.2)
$40,000 to $60,000	41.7	(5.8)	39.8	(5.6)	18.5	(3.8)
$60,000 and more	24.0 E	(7.9)	49.2	(8.3)	26.8 E	(6.2)
Ontario						
Men						
Less than $20,000	49.5	(4.6)	29.8	(4.9)	20.7	(4.2)
$20,000 to $40,000	58.2	(7.3)	31.6	(6.6)	10.2 E	(4.0)
$40,000 to $60,000	31.0	(5.9)	45.7	(7.0)	23.3	(4.7)
$60,000 and more	27.5	(5.6)	33.2	(4.8)	39.4	(4.8)
Women						
Less than $20,000	58.0	(3.7)	30.6	(3.7)	11.4	(3.2)
$20,000 to $40,000	62.8	(4.8)	29.3	(4.4)	7.9	(2.1)
$40,000 to $60,000	38.2	(5.6)	40.8	(8.5)	20.9	(8.4)
$60,000 and more	24.3	(7.0)	42.2	(6.0)	33.5	(5.8)
Prairies						
Men						
Less than $20,000	42.3	(3.1)	36.3	(3.1)	21.4	(2.4)
$20,000 to $40,000	49.7	(3.8)	34.2	(4.3)	16.0	(3.9)
$40,000 to $60,000	35.3	(5.4)	42.5	(6.0)	22.2	(4.6)
$60,000 and more	23.9	(4.4)	35.3	(6.4)	40.8	(7.1)
Women						
Less than $20,000	52.9	(2.4)	34.5	(2.4)	12.6	(2.7)
$20,000 to $40,000	51.1	(5.1)	36.4	(5.1)	12.5	(2.7)
$40,000 to $60,000	34.6	(4.7)	39.6	(6.7)	25.8	(6.2)
$60,000 and more	10.6 E	(6.4)	50.4	(12.4)	39.0 E	(9.9)
British Columbia						
Men						
Less than $20,000	42.1	(3.8)	37.7	(5.1)	20.2	(4.4)
$20,000 to $40,000	47.8	(6.9)	33.7	(9.3)	18.5 E	(8.1)
$40,000 to $60,000	34.8	(6.4)	41.3	(7.9)	23.9 E	(5.6)
$60,000 and more	19.7 E	(5.9)	32.5	(7.1)	47.7	(7.6)
Women						
Less than $20,000	52.2	(5.0)	33.9	(5.1)	13.9	(2.5)
$20,000 to $40,000	43.6	(6.2)	40.5	(6.1)	16.0 E	(3.7)
$40,000 to $60,000	32.3 E	(6.8)	43.3	(7.4)	24.4 E	(6.8)
$60,000 and more	16.7 E	(8.4)	48.4 E	(9.9)	35.0 E	(12.9)
Territories						
Men						
Less than $20,000	59.8	(4.4)	25.7	(4.1)	14.5	(3.4)
$20,000 to $40,000	62.6	(5.4)	27.6	(7.2)	9.8 E	(4.4)
$40,000 to $60,000	43.2 E	(6.3)	36.9	(6.0)	19.8 E	(4.9)
$60,000 and more	26.7 E	(5.3)	39.3	(5.0)	34.1	(4.5)
Women						
Less than $20,000	59.7	(3.9)	28.3	(4.5)	12.0	(4.4)
$20,000 to $40,000	54.2	(4.0)	33.3	(4.4)	12.5	(4.8)
$40,000 to $60,000	49.5	(4.9)	35.5	(4.3)	15.0 E	(4.3)
$60,000 and more	29.3	(5.8)	47.2	(8.9)	23.5 E	(6.1)

Table 4.7 A to D (continued)

Distribution of proficiency levels, by annual earnings, gender, Canada and regions, population aged 16 to 65, 2003

	Level 1/2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error
Canada			**C. Numeracy**			
Men						
Less than $20,000	**47.6**	**(2.0)**	**33.3**	**(2.0)**	**19.1**	**(1.9)**
$20,000 to $40,000	**54.1**	**(3.4)**	**33.2**	**(3.9)**	**12.7**	**(2.0)**
$40,000 to $60,000	**33.8**	**(2.7)**	**43.2**	**(3.2)**	**23.0**	**(2.1)**
$60,000 and more	**24.1**	**(3.0)**	**35.6**	**(2.5)**	**40.3**	**(3.1)**
Women						
Less than $20,000	**58.6**	**(1.3)**	**30.5**	**(1.5)**	**10.9**	**(1.1)**
$20,000 to $40,000	**55.9**	**(2.2)**	**33.3**	**(2.1)**	**10.9**	**(1.2)**
$40,000 to $60,000	**37.2**	**(3.2)**	**40.9**	**(4.0)**	**21.9**	**(3.8)**
$60,000 and more	**20.8**	**(4.4)**	**46.0**	**(4.5)**	**33.1**	**(4.1)**

	Level 1/2		Level 3		Level 4	
	%	Standard error	%	Standard error	%	Standard error
Atlantic			**D. Problem solving**			
Men						
Less than $20,000	78.6	(2.3)	17.9	(2.1)	3.5 E	(1.1)
$20,000 to $40,000	80.2	(3.5)	16.9	(2.5)	2.9 E	(1.7)
$40,000 to $60,000	66.1 E	(5.2)	27.0	(4.5)	6.8 E	(3.3)
$60,000 and more	54.5 E	(8.0)	41.1	(9.9)	x	x
Women						
Less than $20,000	76.3	(2.6)	20.9	(2.4)	2.8	(1.1)
$20,000 to $40,000	67.4	(2.8)	28.3	(3.4)	4.3 E	(1.6)
$40,000 to $60,000	50.1	(6.3)	39.7	(4.2)	10.2 E	(4.4)
$60,000 and more	42.5 E	(16.0)	53.0 E	(14.4)	x	x
Quebec						
Men						
Less than $20,000	75.9	(2.8)	20.8	(2.7)	3.4	(1.0)
$20,000 to $40,000	78.3	(2.9)	20.0	(2.9)	1.6 E	(1.2)
$40,000 to $60,000	65.6	(3.2)	28.1	(3.4)	6.3 E	(2.5)
$60,000 and more	50.3	(8.7)	35.2	(6.6)	14.4 E	(8.0)
Women						
Less than $20,000	76.2	(2.6)	20.5	(2.5)	3.3	(1.1)
$20,000 to $40,000	70.5	(4.1)	25.2	(3.9)	4.3 E	(1.3)
$40,000 to $60,000	60.9	(4.5)	29.4	(4.5)	9.7 E	(3.5)
$60,000 and more	50.2	(7.3)	37.3	(7.6)	12.5 E	(5.1)
Ontario						
Men						
Less than $20,000	70.3	(4.3)	24.1	(4.9)	5.6 E	(2.4)
$20,000 to $40,000	83.2	(5.8)	14.4	(6.6)	x	x
$40,000 to $60,000	61.1	(6.2)	33.8	(6.3)	5.1 E	(2.5)
$60,000 and more	53.0	(6.8)	36.8	(6.3)	10.2 E	(4.7)
Women						
Less than $20,000	71.4	(2.6)	23.6	(3.6)	5.0 E	(2.7)
$20,000 to $40,000	75.4	(4.2)	21.5	(4.3)	3.1 E	(2.0)
$40,000 to $60,000	55.0	(6.5)	34.7	(6.9)	10.3 E	(5.5)
$60,000 and more	37.7	(8.5)	50.1	(7.7)	12.2 E	(5.4)
Prairies						
Men						
Less than $20,000	71.5	(3.5)	24.4	(3.0)	4.1 E	(1.4)
$20,000 to $40,000	74.2	(4.4)	21.7	(4.2)	4.2 E	(1.9)
$40,000 to $60,000	59.4	(5.0)	33.2	(5.3)	7.5 E	(2.9)
$60,000 and more	51.2 E	(8.0)	39.9	(8.1)	8.9 E	(4.0)

Table 4.7 A to D (concluded)

Distribution of proficiency levels, by annual earnings, gender, Canada and regions, population aged 16 to 65, 2003

	Level 1/2		Level 3		Level 4	
	%	Standard error	%	Standard error	%	Standard error
Prairies			**D. Problem solving**			
Women						
Less than $20,000	69.6	(2.6)	26.0	(2.2)	4.4	(1.4)
$20,000 to $40,000	64.2	(4.7)	30.7	(5.5)	5.2 E	(1.7)
$40,000 to $60,000	46.7 E	(6.0)	41.4 E	(6.3)	11.9 E	(4.3)
$60,000 and more	32.1 E	(10.5)	55.5 E	(11.1)	12.4 E	(6.3)
British Columbia						
Men						
Less than $20,000	64.9	(4.4)	28.8	(4.5)	6.3 E	(2.1)
$20,000 to $40,000	66.3	(7.4)	27.8 E	(8.8)	5.9 E	(7.5)
$40,000 to $60,000	58.8	(6.5)	35.3	(7.1)	x	x
$60,000 and more	48.1	(7.9)	37.2	(6.8)	14.7 E	(4.3)
Women						
Less than $20,000	62.6	(3.1)	31.4	(2.7)	6.0 E	(2.6)
$20,000 to $40,000	57.2	(5.8)	37.6	(5.6)	5.2 E	(1.9)
$40,000 to $60,000	41.2	(6.4)	47.8	(7.7)	11.0 E	(6.4)
$60,000 and more	40.8 E	(17.5)	47.4 E	(18.0)	x	x
Territories						
Men						
Less than $20,000	79.9	(2.8)	17.2	(3.0)	2.9 E	(1.7)
$20,000 to $40,000	81.0	(5.0)	16.7 E	(5.1)	x	x
$40,000 to $60,000	66.6	(5.4)	28.6	(6.5)	x	x
$60,000 and more	51.5	(6.0)	37.4	(6.2)	11.1 E	(2.6)
Women						
Less than $20,000	75.6	(2.7)	21.5	(2.8)	2.9 E	(1.4)
$20,000 to $40,000	69.5	(6.3)	25.3	(6.5)	5.1 E	(2.2)
$40,000 to $60,000	61.0	(5.0)	32.7	(3.6)	6.4 E	(2.8)
$60,000 and more	45.9	(5.9)	46.4	(6.3)	7.7 E	(3.1)
Canada						
Men						
Less than $20,000	**71.6**	**(2.0)**	**23.6**	**(2.2)**	**4.8**	**(1.1)**
$20,000 to $40,000	**78.5**	**(2.8)**	**18.7**	**(3.2)**	**2.8**	**(1.1)**
$40,000 to $60,000	**62.0**	**(2.6)**	**32.0**	**(3.1)**	**6.0**	**(1.6)**
$60,000 and more	**51.6**	**(4.5)**	**37.3**	**(3.8)**	**11.2**	**(2.7)**
Women						
Less than $20,000	**71.5**	**(1.1)**	**24.1**	**(1.6)**	**4.5**	**(1.4)**
$20,000 to $40,000	**69.6**	**(2.5)**	**26.3**	**(2.4)**	**4.1**	**(0.9)**
$40,000 to $60,000	**52.8**	**(3.8)**	**36.7**	**(3.3)**	**10.5**	**(2.6)**
$60,000 and more	**39.7**	**(6.1)**	**48.3**	**(5.4)**	**12.0**	**(3.0)**

E. Use with caution.

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

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.8

Percent of population receiving adult education and training the year preceding the interview, by type of participation, Canada and jurisdictions, population aged 16 to 65, 2003

	Total participation		Took program		Took course	
	%	Standard error	%	Standard error	%	Standard error
Newfoundland and Labrador	35.8	(1.5)	11.9	(1.0)	14.0	(1.4)
Prince Edward Island	44.6	(1.8)	15.2	(2.0)	20.7	(1.9)
Nova Scotia	53.1	(1.7)	17.8	(1.6)	29.3	(1.7)
New Brunswick	44.3	(2.4)	13.3	(1.5)	19.1	(2.1)
Quebec	43.1	(1.0)	11.8	(0.6)	23.9	(0.7)
Ontario	49.7	(1.4)	16.2	(1.2)	22.4	(1.1)
Manitoba	49.3	(1.7)	17.1	(1.2)	23.7	(1.5)
Saskatchewan	52.6	(3.0)	20.3	(2.3)	26.8	(1.9)
Alberta	54.3	(1.8)	16.7	(1.6)	30.6	(1.5)
British Columbia	57.0	(1.7)	20.2	(1.5)	31.1	(1.3)
Yukon	55.5	(2.8)	21.5	(2.0)	29.6	(2.5)
Northwest Territories	54.0	(2.3)	20.1	(1.7)	27.4	(1.7)
Nunavut	40.3	(2.4)	16.7	(1.7)	18.1	(2.0)
Canada	**49.3**	**(0.7)**	**15.8**	**(0.6)**	**24.9**	**(0.6)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.9

Average proficiency scores of population receiving adult education and training in the year preceding the interview, Canada and regions, population aged 16 to 65, 2003

	Prose		Document		Numeracy		Problem solving	
	Average	Standard error	Average	Standard error	Average	Standard error	Average	Standard error
Atlantic								
Did not participate in adult training	261	(1.8)	258	(1.9)	249	(1.8)	253	(1.7)
Participated in adult training	294	(1.3)	293	(1.4)	280	(1.4)	284	(1.4)
Did not take program	273	(1.3)	271	(1.4)	261	(1.3)	264	(1.3)
Took program	293	(2.9)	293	(2.9)	278	(3.0)	284	(2.9)
Did not take course	269	(1.7)	268	(1.8)	257	(1.5)	261	(1.6)
Took courses	300	(2.1)	296	(1.9)	286	(2.4)	289	(1.8)
Quebec								
Did not participate in adult training	260	(1.4)	257	(1.9)	254	(1.6)	255	(1.8)
Participated in adult training	290	(1.6)	288	(1.7)	284	(2.0)	286	(2.1)
Did not take program	270	(1.0)	269	(1.5)	265	(1.2)	265	(1.5)
Took program	292	(3.8)	284	(4.0)	284	(4.2)	287	(3.1)
Did not take course	267	(1.3)	264	(1.6)	261	(1.4)	262	(1.5)
Took courses	290	(2.5)	290	(2.3)	286	(2.8)	286	(2.4)
Ontario								
Did not participate in adult training	260	(2.8)	260	(2.7)	254	(2.9)	251	(2.6)
Participated in adult training	295	(2.1)	295	(2.1)	283	(2.2)	287	(2.1)
Did not take program	275	(1.8)	274	(1.8)	266	(1.7)	267	(1.9)
Took program	290	(4.1)	294	(3.8)	279	(5.2)	282	(4.2)
Did not take course	270	(1.9)	270	(1.9)	261	(2.0)	261	(2.0)
Took courses	305	(3.8)	303	(3.7)	294	(3.4)	298	(3.3)
Prairies								
Did not participate in adult training	272	(1.4)	272	(1.4)	263	(2.1)	258	(2.7)
Participated in adult training	303	(1.8)	303	(1.8)	292	(2.3)	297	(2.2)
Did not take program	286	(1.5)	286	(1.4)	277	(1.6)	277	(1.7)
Took program	298	(3.4)	302	(2.9)	288	(3.2)	292	(3.1)
Did not take course	280	(1.5)	281	(1.5)	271	(1.8)	272	(2.0)
Took courses	309	(2.3)	307	(2.5)	297	(3.4)	299	(2.3)
British Columbia								
Did not participate in adult training	264	(2.9)	265	(3.0)	258	(3.0)	258	(2.7)
Participated in adult training	305	(2.0)	307	(1.9)	294	(2.0)	296	(2.0)
Did not take program	283	(1.9)	284	(2.2)	275	(1.8)	276	(2.1)
Took program	305	(3.9)	308	(3.1)	294	(3.4)	297	(3.3)
Did not take course	275	(2.3)	277	(2.2)	267	(2.1)	269	(2.3)
Took courses	314	(2.4)	314	(2.6)	304	(2.7)	305	(2.2)
Territories								
Did not participate in adult training	253	(2.7)	253	(2.8)	244	(2.5)	245	(3.1)
Participated in adult training	295	(1.6)	294	(1.7)	281	(2.2)	285	(1.8)
Did not take program	271	(1.9)	269	(1.8)	259	(1.7)	261	(2.0)
Took program	293	(2.7)	294	(2.6)	278	(3.5)	282	(2.6)
Did not take course	264	(1.8)	264	(1.8)	253	(1.7)	256	(2.0)
Took courses	305	(2.3)	301	(2.1)	291	(2.9)	292	(2.5)
Canada								
Did not participate in adult training	**262**	**(1.4)**	**261**	**(1.3)**	**255**	**(1.5)**	**255**	**(1.5)**
Participated in adult training	**297**	**(1.1)**	**297**	**(1.1)**	**286**	**(1.3)**	**290**	**(1.3)**
Did not take program	**276**	**(0.8)**	**276**	**(0.8)**	**268**	**(0.7)**	**269**	**(1.1)**
Took program	**295**	**(2.0)**	**296**	**(1.7)**	**284**	**(2.5)**	**288**	**(1.9)**
Did not take course	**271**	**(0.9)**	**271**	**(0.9)**	**263**	**(1.0)**	**264**	**(1.2)**
Took courses	**303**	**(1.7)**	**302**	**(1.7)**	**294**	**(2.0)**	**296**	**(1.6)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.10 A to D

Percent of population receiving adult education and training during the year preceding the interview, by proficiency levels, Canada and regions, population aged 16 to 65, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
A. Prose								
Atlantic	18.7	(2.9)	36.4	(2.4)	56.1	(2.0)	66.9	(3.9)
Quebec	20.4	(2.4)	37.4	(2.6)	50.2	(2.2)	67.2	(4.4)
Ontario	20.7	(3.5)	45.2	(2.8)	58.4	(2.9)	64.6	(5.1)
Prairies	21.2	(3.3)	42.5	(3.0)	57.5	(2.2)	70.7	(3.0)
British Columbia	22.7	(3.7)	49.2	(3.7)	60.4	(2.9)	76.9	(3.6)
Territories	21.9	(1.8)	47.3	(3.2)	61.2	(3.0)	69.7	(3.8)
Canada	**20.8**	**(2.0)**	**42.1**	**(1.6)**	**56.5**	**(1.1)**	**68.6**	**(2.2)**
B. Document								
Atlantic	20.8	(2.3)	37.8	(2.7)	56.8	(2.4)	65.9	(3.4)
Quebec	21.2	(2.1)	38.9	(2.2)	50.3	(2.3)	65.9	(3.8)
Ontario	22.5	(3.5)	44.5	(3.5)	57.6	(3.0)	65.7	(4.8)
Prairies	23.5	(3.8)	42.6	(2.5)	56.9	(2.2)	71.4	(2.7)
British Columbia	22.5	(3.3)	48.3	(4.4)	61.2	(3.2)	75.6	(3.6)
Territories	22.4	(2.0)	48.6	(3.1)	61.3	(2.7)	69.5	(3.8)
Canada	**22.1**	**(1.8)**	**42.4**	**(1.4)**	**56.3**	**(1.0)**	**68.6**	**(2.4)**
C. Numeracy								
Atlantic	25.8	(2.7)	43.1	(2.6)	57.3	(2.4)	64.3	(3.1)
Quebec	22.3	(2.4)	39.5	(1.9)	52.4	(2.7)	62.9	(3.3)
Ontario	30.0	(3.1)	48.4	(3.2)	58.9	(3.1)	60.9	(4.8)
Prairies	30.0	(3.6)	46.6	(2.9)	60.3	(2.9)	68.2	(2.5)
British Columbia	29.7	(3.7)	52.5	(4.2)	64.0	(2.8)	74.2	(3.9)
Territories	29.7	(1.9)	53.2	(3.8)	61.2	(3.2)	66.6	(6.4)
Canada	**27.7**	**(1.8)**	**45.8**	**(1.6)**	**58.3**	**(1.6)**	**65.0**	**(2.2)**

	Level 1		Level 2		Level 3		Level 4	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
D. Problem solving								
Atlantic	26.7	(1.7)	50.5	(2.3)	64.9	(3.1)	67.5	(8.6)
Quebec	25.7	(1.5)	45.8	(1.6)	59.8	(3.2)	77.9	(6.1)
Ontario	30.2	(2.8)	53.6	(3.8)	65.2	(4.1)	68.8	(9.2)
Prairies	31.8	(2.4)	51.8	(1.7)	68.1	(2.2)	76.9	(4.8)
British Columbia	31.0	(3.1)	57.4	(3.9)	72.0	(4.1)	81.5	(5.8)
Territories	31.7	(1.8)	56.9	(2.8)	68.4	(4.2)	75.8	(9.8)
Canada	**29.0**	**(1.3)**	**51.6**	**(1.8)**	**65.8**	**(2.1)**	**74.2**	**(4.2)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.11

Percent of population participating in active and passive modes of learning in the year preceding the interview, by education level, Canada and regions, population aged 16 to 65, 2003

Education level	Active mode		Passive mode	
	%	Standard error	%	Standard error
Atlantic				
Less than high school	32.8	(2.3)	79.8	(1.7)
High school	53.3	(1.8)	90.1	(1.2)
Post-secondary, non university diploma	56.4	(3.1)	93.4	(1.9)
Post-secondary, university diploma[1]	80.3	(1.9)	97.1	(0.6)
Quebec				
Less than high school	26.3	(1.8)	80.1	(1.9)
High school	45.2	(2.3)	88.5	(1.5)
Post-secondary, non university diploma	60.8	(3.5)	95.8	(1.4)
Post-secondary, university diploma [1]	74.5	(1.6)	95.8	(0.6)
Ontario				
Less than high school	33.3	(4.1)	84.1	(2.4)
High school	57.6	(2.3)	91.5	(1.5)
Post-secondary, non university diploma	65.6	(4.5)	94.4	(2.3)
Post-secondary, university diploma[1]	80.2	(1.6)	97.4	(0.6)
Prairies				
Less than high school	52.5	(2.4)	88.7	(1.8)
High school	67.4	(2.1)	96.5	(0.8)
Post-secondary, non university diploma	77.5	(3.0)	96.6	(1.4)
Post-secondary, university diploma[1]	83.2	(1.4)	98.5	(0.4)
British Columbia				
Less than high school	52.5	(4.3)	91.7	(2.2)
High school	62.6	(3.0)	93.9	(1.3)
Post-secondary, non university diploma	66.7	(4.8)	98.1	(0.9)
Post-secondary, university diploma[1]	79.8	(1.6)	98.1	(0.6)
Territories				
Less than high school	42.4	(2.1)	93.0	(1.3)
High school	68.0	(3.5)	97.9	(0.8)
Post-secondary, non university diploma	61.8	(4.2)	96.7	(1.6)
Post-secondary, university diploma[1]	86.1	(1.6)	98.4	(0.5)
Canada				
Less than high school	**36.8**	**(1.8)**	**84.3**	**(1.1)**
High school	**56.7**	**(1.2)**	**91.8**	**(0.7)**
Post-secondary, non university diploma	**65.4**	**(1.7)**	**95.6**	**(0.9)**
Post-secondary, university diploma[1]	**79.4**	**(1.0)**	**97.3**	**(0.3)**

1. Including technical DEC diploma in Quebec province.

Source: International Adult Literacy and Skills Survey, 2003.

Table 4.12

Percent of population participating in informal learning activities during the year preceding the interview, by mode of engagement, Canada and regions, population aged 16 to 65, 2003

	Total participation		Active mode		Passive mode	
	%	Standard error	%	Standard error	%	Standard error
Atlantic	90.9	(0.8)	56.4	(1.1)	90.0	(0.8)
Quebec	91.0	(0.5)	53.8	(1.1)	90.2	(0.5)
Ontario	93.2	(0.7)	63.2	(1.2)	92.8	(0.8)
Prairies	96.2	(0.4)	71.7	(1.0)	95.8	(0.4)
British Columbia	95.8	(0.5)	67.8	(1.7)	95.6	(0.6)
Territories	96.9	(0.4)	65.8	(1.4)	96.5	(0.5)
Canada	**93.4**	**(0.3)**	**62.4**	**(0.6)**	**92.8**	**(0.3)**

Source: International Adult Literacy and Skills Survey, 2003.

Table 4.13 A to D

Percent of population participating in active and passive modes of informal learning in the year preceding the interview, by proficiency levels, Canada and regions, population aged 16 to 65, 2003

Region	Total participation		Active mode		Passive mode	
	%	Standard error	%	Standard error	%	Standard error
Atlantic			**A. Prose**			
Level 1	75.2	(2.3)	28.2	(2.4)	73.2	(2.3)
Level 2	88.8	(1.7)	47.8	(2.0)	87.9	(1.7)
Level 3	96.1	(0.8)	65.5	(2.1)	95.3	(0.8)
Level 4/5	98.7	(0.7)	79.9	(2.9)	98.5	(0.8)
Quebec						
Level 1	79.8	(2.4)	27.8	(2.4)	79.1	(2.5)
Level 2	89.5	(1.4)	48.6	(2.3)	88.7	(1.5)
Level 3	95.1	(1.0)	61.5	(2.5)	94.4	(1.1)
Level 4/5	98.2	(1.0)	79.0	(2.6)	97.2	(1.1)
Ontario						
Level 1	81.2	(2.9)	26.8	(2.7)	80.4	(3.1)
Level 2	92.4	(1.2)	57.3	(3.4)	91.7	(1.3)
Level 3	96.4	(0.9)	74.3	(2.2)	96.1	(0.9)
Level 4/5	99.0	(0.7)	81.6	(4.1)	98.9	(0.7)
Prairies						
Level 1	84.9	(3.2)	43.4	(3.3)	84.6	(3.1)
Level 2	95.2	(1.0)	65.1	(2.8)	94.5	(1.0)
Level 3	97.9	(0.6)	76.9	(1.8)	97.6	(0.6)
Level 4/5	99.1	(0.5)	82.4	(2.1)	99.0	(0.5)
British Columbia						
Level 1	85.2	(2.7)	36.8	(3.2)	84.7	(2.9)
Level 2	94.4	(1.6)	62.4	(4.6)	94.0	(1.7)
Level 3	97.9	(0.6)	71.6	(2.8)	97.9	(0.7)
Level 4/5	99.6	(0.5)	83.7	(3.2)	99.4	(0.7)
Territories						
Level 1	92.3	(2.0)	30.9	(3.3)	91.8	(2.2)
Level 2	95.3	(1.4)	62.2	(3.6)	94.5	(1.5)
Level 3	98.6	(0.8)	76.2	(3.7)	98.4	(0.7)
Level 4/5	98.8	(1.0)	83.0	(3.9)	98.3	(1.0)
Canada						
Level 1	**81.3**	**(1.4)**	**30.2**	**(1.5)**	**80.5**	**(1.5)**
Level 2	**91.9**	**(0.8)**	**55.6**	**(1.6)**	**91.1**	**(0.9)**
Level 3	**96.6**	**(0.4)**	**70.8**	**(1.0)**	**96.2**	**(0.4)**
Level 4/5	**99.0**	**(0.4)**	**81.6**	**(1.8)**	**98.7**	**(0.4)**
Atlantic			**B. Document**			
Level 1	76.5	(2.4)	30.9	(2.1)	74.7	(2.5)
Level 2	89.4	(1.3)	48.5	(2.7)	88.3	(1.3)
Level 3	96.4	(1.1)	66.0	(2.1)	95.8	(1.1)
Level 4/5	98.6	(0.7)	79.8	(2.8)	98.3	(0.7)
Quebec						
Level 1	80.4	(2.3)	30.3	(3.0)	79.7	(2.3)
Level 2	90.3	(1.2)	48.7	(2.2)	89.5	(1.3)
Level 3	94.9	(1.2)	62.3	(2.3)	94.2	(1.3)
Level 4/5	98.1	(0.7)	78.1	(2.4)	97.0	(0.8)
Ontario						
Level 1	82.3	(2.8)	27.9	(2.5)	81.8	(3.0)
Level 2	92.6	(1.6)	58.5	(2.6)	91.6	(1.8)
Level 3	95.8	(1.2)	71.9	(2.1)	95.6	(1.2)
Level 4/5	99.1	(0.6)	84.1	(3.0)	98.9	(0.8)

Table 4.13 A to D (continued)

Percent of population participating in active and passive modes of informal learning in the year preceding the interview, by proficiency levels, Canada and regions, population aged 16 to 65, 2003

Region	Total participation		Active mode		Passive mode	
	%	Standard error	%	Standard error	%	Standard error
Prairies			**B. Document**			
Level 1	86.7	(3.0)	45.7	(2.6)	86.5	(3.0)
Level 2	94.7	(1.2)	64.9	(2.9)	93.9	(1.2)
Level 3	98.0	(0.6)	76.4	(1.9)	97.7	(0.6)
Level 4/5	99.1	(0.5)	83.4	(2.5)	98.9	(0.5)
British Columbia						
Level 1	85.9	(2.5)	37.7	(3.3)	85.6	(2.4)
Level 2	94.3	(2.1)	63.7	(4.3)	93.7	(2.1)
Level 3	97.7	(0.8)	72.2	(3.1)	97.5	(0.9)
Level 4/5	99.6	(0.7)	80.5	(3.7)	99.4	(0.7)
Territories						
Level 1	91.6	(2.1)	31.3	(3.7)	91.1	(2.3)
Level 2	95.9	(1.4)	62.9	(3.9)	95.2	(1.5)
Level 3	98.5	(0.9)	75.6	(3.8)	98.1	(0.8)
Level 4/5	99.4	(0.8)	84.2	(4.8)	99.2	(1.0)
Canada						
Level 1	**82.2**	**(1.2)**	**31.9**	**(1.5)**	**81.6**	**(1.3)**
Level 2	**92.1**	**(0.7)**	**56.3**	**(1.4)**	**91.3**	**(0.8)**
Level 3	**96.3**	**(0.6)**	**70.2**	**(1.1)**	**96.0**	**(0.6)**
Level 4/5	**99.0**	**(0.3)**	**82.1**	**(1.5)**	**98.7**	**(0.4)**
Atlantic			**C. Numeracy**			
Level 1	79.4	(2.4)	35.0	(2.5)	78.1	(2.4)
Level 2	91.3	(1.5)	53.6	(2.0)	90.2	(1.5)
Level 3	96.4	(1.0)	66.6	(2.5)	95.8	(1.2)
Level 4/5	99.0	(0.7)	81.1	(4.0)	98.8	(0.7)
Quebec						
Level 1	81.6	(2.1)	30.2	(2.6)	80.8	(2.0)
Level 2	91.3	(1.3)	49.3	(2.4)	90.5	(1.3)
Level 3	94.7	(1.1)	63.8	(2.6)	94.0	(1.2)
Level 4/5	96.7	(1.5)	78.8	(3.0)	95.7	(1.4)
Ontario						
Level 1	84.2	(2.2)	34.1	(2.9)	83.0	(2.5)
Level 2	94.5	(1.4)	62.2	(2.9)	94.2	(1.6)
Level 3	95.8	(1.3)	73.7	(2.5)	95.6	(1.4)
Level 4/5	98.3	(1.3)	83.7	(3.1)	98.3	(1.3)
Prairies						
Level 1	88.2	(2.2)	52.2	(3.6)	87.8	(2.1)
Level 2	96.5	(1.5)	68.3	(3.1)	95.9	(1.4)
Level 3	97.9	(0.8)	76.7	(2.3)	97.6	(0.8)
Level 4/5	99.0	(0.8)	83.8	(3.3)	99.0	(0.8)
British Columbia						
Level 1	87.2	(2.6)	43.6	(3.2)	86.7	(2.7)
Level 2	95.9	(1.6)	64.8	(3.6)	95.5	(1.6)
Level 3	98.0	(0.7)	73.2	(3.0)	97.9	(0.7)
Level 4/5	99.3	(0.8)	83.6	(4.1)	99.1	(1.0)
Territories						
Level 1	92.5	(1.8)	37.1	(3.7)	92.1	(1.9)
Level 2	96.6	(1.4)	67.5	(3.7)	96.2	(1.3)
Level 3	98.5	(0.9)	75.4	(3.1)	97.9	(1.0)
Level 4/5	99.1	(1.1)	83.7	(6.3)	99.1	(1.1)
Canada						
Level 1	**84.0**	**(1.0)**	**36.6**	**(1.3)**	**83.0**	**(1.1)**
Level 2	**93.9**	**(0.7)**	**59.3**	**(1.4)**	**93.3**	**(0.8)**
Level 3	**96.3**	**(0.7)**	**71.4**	**(1.5)**	**95.9**	**(0.7)**
Level 4/5	**98.3**	**(0.5)**	**82.6**	**(1.5)**	**98.1**	**(0.5)**

Table 4.13 A to D (concluded)

Percent of population participating in active and passive modes of informal learning in the year preceding the interview, by proficiency levels, Canada and regions, population aged 16 to 65, 2003

Region	Total participation		Active mode		Passive mode	
	%	Standard error	%	Standard error	%	Standard error
Atlantic			**D. Problem solving**			
Level 1	81.3	(1.7)	37.1	(2.3)	79.8	(1.6)
Level 2	94.7	(0.8)	60.4	(2.1)	93.9	(0.8)
Level 3	98.4	(0.5)	75.3	(2.2)	98.0	(0.6)
Level 4	99.1	(1.6)	88.1	(4.9)	98.9	(1.8)
Quebec						
Level 1	84.1	(1.2)	36.3	(2.2)	83.2	(1.2)
Level 2	92.8	(1.1)	56.8	(2.3)	92.1	(1.1)
Level 3	97.6	(1.3)	70.9	(2.4)	97.0	(1.7)
Level 4	98.4	(1.2)	84.5	(5.7)	97.5	(1.6)
Ontario						
Level 1	85.9	(1.7)	38.6	(2.8)	85.2	(1.7)
Level 2	95.1	(1.2)	68.9	(2.5)	94.7	(1.5)
Level 3	98.6	(0.7)	81.8	(2.7)	98.4	(0.9)
Level 4	100.0	(0.0)	86.5	(8.0)	100.0	(0.0)
Prairies						
Level 1	89.8	(1.5)	54.1	(2.5)	89.2	(1.5)
Level 2	97.5	(0.5)	72.8	(1.9)	97.1	(0.5)
Level 3	99.1	(0.5)	82.5	(2.1)	99.0	(0.6)
Level 4	99.2	(0.6)	85.7	(4.3)	99.2	(0.6)
British Columbia						
Level 1	88.5	(2.2)	46.5	(3.3)	88.0	(2.3)
Level 2	97.4	(1.3)	69.8	(3.4)	97.2	(1.2)
Level 3	99.1	(0.7)	79.4	(3.3)	99.1	(0.7)
Level 4	99.6	(2.0)	82.9	(10.7)	99.3	(2.0)
Territories						
Level 1	93.0	(1.4)	41.2	(3.0)	92.6	(1.5)
Level 2	97.9	(1.1)	71.8	(4.0)	97.4	(1.1)
Level 3	99.2	(0.8)	84.3	(4.5)	98.7	(0.9)
Level 4	99.4	(1.4) E	91.5	(6.9) E	99.4	(1.4) E
Canada						
Level 1	**85.8**	**(0.8)**	**40.8**	**(1.5)**	**85.0**	**(0.8)**
Level 2	**95.2**	**(0.5)**	**66.0**	**(1.4)**	**94.7**	**(0.6)**
Level 3	**98.6**	**(0.3)**	**78.9**	**(1.5)**	**98.3**	**(0.4)**
Level 4	**99.4**	**(0.4)**	**85.5**	**(4.6)**	**99.2**	**(0.4)**

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.14

Average proficiency scores, by industry, Canada, population aged 16 to 65, 2003

	Prose		Document		Numeracy		Problem solving	
	Average	Standard error	Average	Standard error	Average	Standard error	Average	Standard error
Knowledge-intensive market service activities	297	(1.9)	298	(2.1)	292	(2.4)	288	(2.0)
Public administration, defense, education and health	303	(1.3)	300	(1.4)	287	(1.3)	291	(1.5)
Other community, social and personal services	286	(3.1)	287	(3.5)	277	(4.2)	279	(2.9)
High and medium-high-techonology manufacturing industries	283	(4.2)	287	(5.3)	285	(5.2)	277	(4.8)
Low and medium-low-technology manufacturing industries	265	(2.8)	267	(2.7)	262	(2.6)	261	(2.8)
Utilities and Construction	274	(2.3)	278	(2.7)	274	(2.8)	269	(2.7)
Wholesale, retail, hotels and restaurants	276	(2.2)	277	(2.2)	267	(2.3)	271	(2.5)
Transport and storage	281	(3.1)	282	(3.7)	277	(3.7)	274	(4.2)
Primary industries	271	(4.1)	273	(4.3)	269	(3.8)	267	(3.9)

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 4.15

Average proficiency scores by occupation, Canada and regions, population aged 16 to 65, 2003

	Prose		Document		Numeracy		Problem solving	
	Average	Standard error	Average	Standard error	Average	Standard error	Average	Standard error
Atlantic								
Knowledge experts	318	(4.8)	321	(4.5)	314	(5.5)	301	(4.1)
Managers	294	(2.8)	293	(2.9)	287	(3.5)	285	(2.8)
Information high-skills	301	(4.0)	301	(3.9)	288	(4.5)	288	(4.1)
Information low-skills	293	(2.7)	289	(2.6)	275	(2.4)	281	(2.3)
Services low-skills	273	(2.7)	269	(3.0)	254	(3.3)	263	(2.8)
Goods	262	(2.8)	263	(3.0)	255	(2.7)	257	(2.6)
Quebec								
Knowledge experts	310	(4.5)	313	(4.7)	315	(3.7)	307	(4.7)
Managers	285	(3.0)	284	(3.0)	285	(3.4)	284	(2.7)
Information high-skills	298	(3.1)	297	(3.5)	293	(3.5)	290	(3.2)
Information low-skills	286	(2.5)	282	(2.3)	274	(3.0)	280	(2.3)
Services low-skills	266	(2.5)	261	(2.8)	254	(3.2)	260	(2.9)
Goods	256	(2.6)	259	(2.9)	260	(2.8)	256	(2.4)
Ontario								
Knowledge experts	311	(4.3)	316	(4.4)	314	(4.2)	303	(4.1)
Managers	291	(6.2)	294	(7.3)	287	(6.2)	284	(7.0)
Information high-skills	304	(3.3)	302	(2.9)	291	(4.1)	291	(3.5)
Information low-skills	290	(3.3)	287	(3.7)	276	(3.5)	280	(4.0)
Services low-skills	268	(4.5)	268	(4.6)	255	(5.1)	264	(5.3)
Goods	258	(5.0)	262	(5.0)	254	(5.1)	252	(5.2)
Prairies								
Knowledge experts	323	(3.9)	325	(4.3)	321	(4.9)	311	(3.8)
Managers	293	(4.0)	295	(3.8)	291	(4.5)	284	(4.8)
Information high-skills	310	(3.3)	310	(3.9)	298	(4.5)	296	(3.7)
Information low-skills	293	(3.2)	291	(2.9)	279	(3.5)	284	(3.3)
Services low-skills	274	(3.4)	274	(3.6)	260	(3.7)	267	(3.6)
Goods	275	(2.7)	279	(3.1)	271	(3.6)	270	(2.6)
British Columbia								
Knowledge experts	323	(5.9)	328	(6.4)	322	(6.4)	312	(6.1)
Managers	306	(4.6)	308	(4.3)	301	(5.6)	299	(4.5)
Information high-skills	315	(3.3)	317	(4.2)	303	(5.9)	302	(4.3)
Information low-skills	301	(3.0)	301	(4.0)	287	(4.7)	292	(2.9)
Services low-skills	272	(5.7)	271	(5.8)	262	(5.0)	267	(5.5)
Goods	271	(3.6)	275	(3.2)	266	(3.0)	264	(3.0)
Territories								
Knowledge experts	309	(4.8)	309	(4.8)	298	(4.8)	295	(5.6)
Managers	306	(4.7)	303	(4.9)	296	(4.9)	293	(4.9)
Information high-skills	305	(3.7)	302	(3.9)	290	(4.0)	291	(4.4)
Information low-skills	275	(3.5)	272	(3.7)	259	(3.4)	266	(3.3)
Services low-skills	261	(4.5)	261	(4.8)	248	(5.1)	253	(4.2)
Goods	259	(3.3)	262	(3.3)	254	(3.4)	252	(3.0)
Canada								
Knowledge experts	**314**	**(2.4)**	**319**	**(2.6)**	**316**	**(2.8)**	**306**	**(2.1)**
Managers	**292**	**(2.6)**	**294**	**(3.1)**	**289**	**(2.8)**	**286**	**(3.2)**
Information high-skills	**305**	**(1.7)**	**304**	**(1.9)**	**294**	**(2.0)**	**293**	**(1.9)**
Information low-skills	**291**	**(1.6)**	**288**	**(1.5)**	**277**	**(1.8)**	**282**	**(2.0)**
Services low-skills	**270**	**(2.2)**	**268**	**(2.2)**	**257**	**(2.4)**	**264**	**(2.5)**
Goods	**262**	**(2.1)**	**266**	**(2.2)**	**260**	**(2.3)**	**258**	**(2.3)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Annex A

Tables for Chapter 5

Table 5.1

Civic engagement index by prose proficiency levels, Canada, population aged 16 and over, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
0	49.6	(1.6)	35.6	(1.4)	25.5	(1.0)	20.5	(1.7)
1	21.6	(1.4)	19.5	(1.2)	18.1	(1.1)	15.9	(1.6)
2	12.2	(1.1)	14.4	(1.0)	14.2	(0.8)	14.9	(1.3)
3	6.9	(0.7)	10.4	(0.7)	12.6	(0.9)	12.7	(1.0)
4	3.6	(0.6)	6.9	(0.6)	9.6	(0.7)	9.9	(1.0)
5	2.9	(0.6)	5.1	(0.6)	7.7	(0.7)	9.1	(1.0)
6	1.4	(0.5)	3.0	(0.4)	5.2	(0.5)	7.7	(1.3)
7	1.0	(0.3)	2.5	(0.4)	3.5	(0.5)	4.9	(0.8)
8	0.5	(0.2)	1.7	(0.4)	2.1	(0.3)	2.4	(0.4)
9	0.2 E	(0.1)	0.7	(0.1)	1.0	(0.3)	1.5	(0.5)
10	0.1 E	(0.1)	0.2 E	(0.1)	0.3	(0.1)	0.5 E	(0.2)
11	0.0 E	(0.0)	0.0 E	(0.0)	0.1 E	(0.1)	0.1 E	(0.1)
12	0.0 E	(0.0)	0.0 E	(0.0)	0.0 E	(0.0)	0.0 E	(0.0)

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 5.2

Civic engagement by prose proficiency levels, Canada and jurisdictions, population aged 16 and over, 2003

	Level 1		Level 2		Level 3		Level 4/5	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
Newfoundland and Labrador								
Not engaged	60.3	(2.6)	41.4	(3.7)	26.9	(2.7)	17.8	(5.7)
Engaged	39.7	(2.6)	58.6	(3.7)	73.1	(2.7)	82.2	(5.7)
Prince Edward Island								
Not engaged	45.8	(4.7)	28.9	(4.6)	19.1	(4.4)	10.1	(4.5)
Engaged	54.2	(4.7)	71.1	(4.6)	80.9	(4.4)	89.9	(4.5)
Nova Scotia								
Not engaged	45.5	(4.2)	33.7	(3.2)	22.3	(3.0)	16.5	(4.0)
Engaged	54.5	(4.2)	66.3	(3.2)	77.7	(3.0)	83.5	(4.0)
New Brunswick								
Not engaged	50.0	(4.1)	33.2	(4.1)	21.5	(3.9)	12.3E	(5.1)
Engaged	50.0	(4.1)	66.8	(4.1)	78.5	(3.9)	87.7E	(5.1)
Quebec								
Not engaged	52.9	(3.2)	41.1	(2.2)	35.4	(2.1)	31.3	(3.2)
Engaged	47.1	(3.2)	58.9	(2.2)	64.6	(2.1)	68.7	(3.2)
Ontario								
Not engaged	49.6	(3.1)	35.2	(3.1)	24.6	(2.4)	21.7	(3.5)
Engaged	50.4	(3.1)	64.8	(3.1)	75.4	(2.4)	78.3	(3.5)
Manitoba								
Not engaged	43.2	(4.2)	31.8	(4.4)	20.6	(2.7)	14.3	(2.7)
Engaged	56.8	(4.2)	68.2	(4.4)	79.4	(2.7)	85.7	(2.7)
Saskatchewan								
Not engaged	45.2	(6.2)	23.3	(3.3)	14.5	(4.2)	15.9	(4.1)
Engaged	54.8	(6.2)	76.7	(3.3)	85.5	(4.2)	84.1	(4.1)
Alberta								
Not engaged	42.7	(4.8)	32.9	(3.0)	22.6	(3.2)	12.1	(3.4)
Engaged	57.3	(4.8)	67.1	(3.0)	77.4	(3.2)	87.9	(3.4)
British Columbia								
Not engaged	47.3	(4.1)	29.6	(2.9)	19.9	(2.3)	16.8	(3.2)
Engaged	52.7	(4.1)	70.4	(2.9)	80.1	(2.3)	83.2	(3.2)
Yukon								
Not engaged	40.3	(6.9)	21.4	(4.5)	19.3	(3.1)	9.2E	(4.0)
Engaged	59.7	(6.9)	78.6	(4.5)	80.7	(3.1)	90.8E	(4.0)
Northwest Territories								
Not engaged	46.6	(5.1)	36.1	(4.5)	18.3	(4.0)	11.9E	(3.9)
Engaged	53.4	(5.1)	63.9	(4.5)	81.7	(4.0)	88.1E	(3.9)
Nunavut								
Not engaged	49.7	(3.8)	36.6	(4.6)	30.8	(6.3)	20.5E	(7.9)
Engaged	50.3	(3.8)	63.4	(4.6)	69.2	(6.3)	79.5E	(7.9)
Canada								
Not engaged	**49.6**	**(1.6)**	**35.6**	**(1.4)**	**25.5**	**(1.0)**	**20.5**	**(1.7)**
Engaged	**50.4**	**(1.6)**	**64.4**	**(1.4)**	**74.5**	**(1.0)**	**79.5**	**(1.7)**

E. Use with caution.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 5.3

Percent of population who report having access to a computer and the Internet at home, Canada and jurisdictions, population aged 16 to 65, 2003

	Computer access	Standard error	Internet access	Standard error
Newfoundland and Labrador	61.9	(1.3)	53.2	(1.5)
Prince Edward Island	67.3	(2.0)	57.4	(2.2)
Nova Scotia	70.1	(1.4)	62.4	(1.6)
New Brunswick	68.2	(1.7)	59.4	(2.1)
Quebec	69.7	(1.2)	61.4	(1.0)
Ontario	78.9	(1.2)	72.7	(1.3)
Manitoba	71.7	(1.4)	61.0	(1.8)
Saskatchewan	73.4	(2.2)	63.0	(2.5)
Alberta	81.0	(1.1)	71.3	(1.2)
British Columbia	78.6	(1.4)	72.5	(1.6)
Yukon	76.9	(1.8)	69.9	(2.1)
Northwest Territories	66.1	(1.8)	58.1	(1.8)
Nunavut	41.0	(2.0)	27.7	(1.8)
Canada	**75.5**	**(0.6)**	**68.1**	**(0.6)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 5.4

Average scores for three scales of the information and communication technologies use and familiarity index, Canada and jurisdictions, population aged 16 to 65, 2003

	Perceived usefulness and attitude toward computers	Standard error	Diversity and intensity of Internet use	Standard error	Use of computers for task-oriented purposes	Standard error
Newfoundland and Labrador	4.76	(0.1)	4.90	(0.0)	4.51	(0.0)
Prince Edward Island	4.72	(0.1)	5.07	(0.1)	4.82	(0.1)
Nova Scotia	4.82	(0.1)	5.25	(0.1)	4.93	(0.0)
New Brunswick	4.94	(0.1)	4.95	(0.1)	4.76	(0.1)
Quebec	5.05	(0.0)	4.96	(0.0)	4.87	(0.0)
Ontario	4.96	(0.0)	5.32	(0.0)	5.19	(0.0)
Manitoba	4.81	(0.1)	5.11	(0.1)	4.91	(0.1)
Saskatchewan	4.93	(0.1)	5.17	(0.1)	4.98	(0.1)
Alberta	4.98	(0.0)	5.32	(0.1)	5.27	(0.1)
British Columbia	4.98	(0.0)	5.42	(0.1)	5.23	(0.0)
Yukon	5.05	(0.1)	5.48	(0.1)	5.37	(0.1)
Northwest Territories	5.01	(0.1)	5.43	(0.1)	5.15	(0.1)
Nunavut	4.76	(0.1)	4.50	(0.1)	4.44	(0.1)
Canada	**4.97**	**(0.0)**	**5.21**	**(0.0)**	**5.08**	**(0.0)**

Note: Higher values indicate increased use and familiarity.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 5.5

Percent reporting having access to a computer and the Internet at home, by household income quartiles, Canada, population aged 16 to 65, 2003

	Lowest		3rd		2nd		Highest	
	quartile	Standard error	quartile	Standard error	quartile	Standard error	quartile	Standard error
Canada	**54.6**	**(1.5)**	**70.9**	**(1.3)**	**82.5**	**(1.1)**	**91.8**	**(0.9)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 5.6

Average index scores measuring the intensity of use of computers for task-oriented purposes, by prose proficiency levels, Canada, population aged 16 to 65, 2003

	Level 1	Standard error	Level 2	Standard error	Level 3	Standard error	Level 4/5	Standard error
Canada	**3.8**	**(0.1)**	**4.78**	**(0.0)**	**5.42**	**(0.0)**	**5.78**	**(0.1)**

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 5.7

Average scores for three scales of the information and communication technologies use and familiarity index, by age groups, Canada, population aged 16 to 65, 2003

	Use of computers for task-oriented purposes	Standard error	Perceived usefulness and attitude toward computers	Standard error	Diversity and intensity of Internet use	Standard error
16 to 25	5.5	(0.0)	5.3	(0.1)	5.9	(0.0)
26 to 35	5.4	(0.0)	5.2	(0.1)	5.6	(0.0)
36 to 45	5.1	(0.0)	4.9	(0.1)	5.2	(0.0)
46 to 55	4.9	(0.0)	4.7	(0.1)	4.9	(0.0)
56 to 65	4.2	(0.1)	4.5	(0.1)	4.3	(0.1)

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 5.8

Average scores for three scales of the information and communication technologies use and familiarity index, by gender, Canada, population aged 16 to 65, 2003

	Use of computers for task-oriented purposes	Standard error	Perceived usefulness and attitude toward computers	Standard error	Diversity and intensity of Internet use	Standard error
Male	5.2	(0.0)	5.0	(0.0)	5.3	(0.0)
Female	5.0	(0.0)	5.0	(0.0)	5.1	(0.0)

Source: *International Adult Literacy and Skills Survey, 2003.*

Table 5.9

Average scores for three scales of the information and communication technologies use and familiarity index, by educational attainment, Canada, population aged 16 to 65, 2003

	Use of computers for task-oriented purposes	Standard error	Perceived usefulness and attitude toward computers	Standard error	Diversity and intensity of Internet use	Standard error
Less than upper secondary	4.3	(0.1)	4.6	(0.1)	4.5	(0.1)
Upper secondary	5.0	(0.0)	4.8	(0.0)	5.2	(0.0)
Higher than upper seconday	5.5	(0.0)	5.2	(0.0)	5.6	(0.0)

Source: *International Adult Literacy and Skills Survey, 2003.*

Annex B

A construct-centered approach to understanding what was measured in the International Adult Literacy and Skills Survey (IALSS)

Overview

This annex offers a brief overview of the frameworks that were used to develop and interpret the scales used to measure prose and document literacy, numeracy, and problem solving in the International Adult Literacy and Skills Survey (IALSS). The importance of developing a framework is thought to be central in construct-based approaches to measurement. Among the things that should be included in any such framework are an agreed upon definition of what ought to be measured and the identification of characteristics that can be used in the construction and interpretation of tasks. In addition to describing these characteristics for each measure, this annex also includes sample items along with the identification of item features that are shown to contribute to item difficulty. Collectively this information provides a means for moving away from interpreting survey results in terms of discrete tasks or a single number and towards identifying levels of performance sufficiently generalized to have validity across assessments and groups.

Introduction

In 1992, the Organization for Economic Co-operation and Development (OECD) (OECD, 1992) concluded that low literacy levels were a serious threat to economic performance and social cohesion on an international level. But a broader understanding of literacy problems across industrialized nations – and consequent lessons for policy makers – was hindered due to a lack of comparable international data. Statistics Canada and Educational Testing Service (ETS) teamed up to build and deliver an international comparative study of literacy.

The International Adult Literacy Survey (IALS) was the first comparative survey of adults designed to profile and explore comparative literacy distributions among participating countries. In 2000, a final report was released (OECD and Statistics Canada, 2000) which included the results from three rounds of assessments involving some 23 country/language groups representing just over 50 percent of the

world's GDP. While IALS laid an important foundation for international comparative surveys of adults, there were also calls to expand what was being measured. There was a growing concern among governments and policy makers as to what additional competencies are relevant for an individual to participate fully and successfully in a modern society and for a society to meet the challenges of a rapidly changing world. One project aimed at addressing this issue was entitled *Definition and Selection of Key Competencies* (DeSeCo) and was carried out under the leadership of Switzerland. Its goal was to lay out, from a theoretical perspective, a set of key competencies that are believed to contribute to a successful life and a well-functioning society (Rychen and Salganik, 2003).

In response to these calls for broader measures, the IALSS survey commissioned the development of frameworks to use as the basis for introducing new measures into the comparative assessments of adults. Those responsible for the development of IALSS recognized that the design of any reliable and valid instrument should begin with a strong theoretical underpinning that is represented by a framework that characterizes current thinking in the field. According to Messick (1994) any framework that takes a construct-centered approach to assessment design should: begin with a general definition or statement of purpose – one that guides the rationale for the survey and what should be measured in terms of knowledge, skills or other attributes; identify various performances or behaviours that will reveal those constructs, and; identify task characteristics and indicate how these characteristics will be used in constructing the tasks that will elicit those behaviours.

This annex provides an overview of the frameworks used to develop tasks that measure prose and document literacy, numeracy, and problem solving in the IALSS survey. In characterizing these frameworks this annex also provides a scheme for understanding the meaning of what has been measured in IALSS and for interpreting levels along each of the scales. It borrows liberally from more detailed chapters that were developed in conjunction with the IALSS survey (Murray, Clermont and Binkley, in press).

Scaling the literacy, numeracy and problem solving tasks in IALSS

The results of the IALSS survey are reported along four scales – two literacy scales (prose and document), a single numeracy scale, and a scale capturing problem solving – with each ranging from 0 to 500 points. One might imagine these tasks arranged along their respective scale in terms of their difficulty for adults and the level of proficiency needed to respond correctly to each task. The procedure used in IALSS to model these continua of difficulty and ability is Item Response Theory (IRT). IRT is a mathematical model used for estimating the probability that a particular person will respond correctly to a given task from a specified pool of tasks (Murray, Kirsch and Jenkins, 1998).

The scale value assigned to each item results from how representative samples of adults in participating countries perform on each item and is based on the theory that someone at a given point on the scale is equally proficient in all tasks at that point on the scale. For the IALSS survey, as for the IALS, proficiency was determined to mean that someone at a particular point on the proficiency scale would have an 80 percent chance of answering items at that point correctly.

Just as adults within each participating country in IALSS are sampled from the population of adults living in households, each task that was constructed and used in the assessment represents a type of task sampled from the domain or construct

defined here. Hence, it is representative of a particular type of literacy, numeracy or problem solving task that is associated with adult contexts.

One obvious question that arises once one looks at the distributions of tasks along each of the described scales is, what distinguishes tasks at the lower end of each scale from those in the middle and upper ranges of the scale? Do tasks, that fall around the same place on each scale share some set of characteristics that result in their having similar levels of difficulty? Even a cursory review of the items reveals that tasks at the lower end of each scale differ from those at the higher end.

In an attempt to display this progression of complexity and difficulty, each proficiency scale was divided into levels. Both the literacy and numeracy scales used five levels where Level 1 represents the lowest level of proficiency and Level 5 the highest. These levels are defined as follows: Level 1 (0-225), Level 2 (226-275), Level 3 (276-325), Level 4 (326-375) and Level 5 (376-500). The scale for problem solving used four levels where Level 1 is the lowest level of proficiency and Level 4 the highest. These four levels are defined as follows: Level 1 (0-250), Level 2 (251–300), Level 3 (301–350), and Level 4 (351–500).

Since each level represents a progression of knowledge and skills, individuals within a particular level not only demonstrate the knowledge and skills associated with that level but the proficiencies associated with the lower levels as well. In practical terms, this means that individuals performing at 250 (the middle of Level 2 on one of the literacy or numeracy scales) are expected to be able to perform the average Level 1 and Level 2 task with a high degree of proficiency. A comparable point on the problem solving scale would be 275. In IALSS, as in IALS, a high degree of proficiency is defined in terms of a response probability of 80 (RP80).[1] This means that individuals estimated to have a particular scale score are expected to perform tasks at that point on the scale correctly with an 80 percent probability. It also means they will have a greater than 80 percent chance of performing tasks that are lower on the scale. It does not mean, however, that individuals with given proficiencies can never succeed at tasks with higher difficulty values; they may do so some of the time. It does suggest that their probability of success is "relatively" low – i.e., the more difficult the task relative to their proficiency, the lower the likelihood of a correct response.

An analogy might help clarify this point. The relationship between task difficulty and individual proficiency is much like the high jump event in track and field, in which an athlete tries to jump over a bar that is placed at increasing heights. Each high jumper has a height at which he or she is proficient – that is, the jumper can clear the bar at that height with a high probability of success, and can clear the bar at lower heights almost every time. When the bar is higher than the athlete's level of proficiency, however, it is expected that the athlete will be unable to clear the bar consistently.

Measuring prose and document literacy in IALSS

Defining prose and document literacy

The National Adult Literacy Survey (NALS), which was funded by the National Center for Education Statistics (NCES) as part of its overall assessment program in adult literacy, was the largest and most comprehensive study of adult literacy ever conducted in the United States (Kirsch, Jungeblut, Jenkins and Kolstad, 1993). Like all large-scale assessments funded by NCES, NALS was guided by a committee,

which was comprised of a group of nationally recognized scholars, practitioners, and administrators who adopted the following definition of literacy:

> *"Literacy is using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential."*

This definition captures the initial work of the committee guiding the development of the assessment and provides the basis for creating other aspects of the framework to be discussed. It was also reviewed and adopted by the countries participating in the first round of IALS and was carried forward in IALSS. This definition includes several assumptions made by panel members and, thus, it is important to consider various parts of this definition in turn.

Beginning with "*Literacy is…*", the term literacy is used in preference to "reading" because it is likely to convey more precisely to a non-expert audience what the survey is measuring. "Reading" is often understood as simply decoding, or reading aloud, whereas the intention of the adult surveys is to measure something broader and deeper. Researchers studying literacy within particular contexts noted that different cultures and groups may value different kinds of literacy practices (Sticht, 1975; Heath, 1980; Szwed, 1981). Heath, for example, found that uses for reading could be described in terms of instrumental, social interactional, news-related, memory supportive, substitutes for oral messages, provision of a permanent record, and personal confirmation. The fact that people read different materials for different purposes implies a range of proficiencies that may not be well captured by signing one's name, completing a certain number of years of schooling, or scoring at an 8th-grade level on a test of academic reading comprehension.

The phrase "… *using printed and written information*" draws attention to the fact that panel members view literacy not as a set of isolated skills associated with reading and writing, but more importantly as the application of those skills for specific purposes in specific contexts. When literacy is studied within varying contexts, diversity becomes its hallmark. First, people engage in literacy behaviours for a variety of uses or purposes (Sticht, 1978; Heath, 1980; Cook-Gumperz and Gumperz, 1981; Mikulecky, 1982). These uses vary across contexts (Heath, 1980; Venezky, 1983) and among people within the same context (Kirsch and Guthrie, 1984a). This variation in use leads to an interaction with a broad range of materials that have qualitatively different linguistic forms (Diehl, 1980; Jacob, 1982; Miller, 1982). In some cases, these different types of literacy tasks have been associated with different cognitive strategies or reading behaviours (Sticht, 1978, 1982; Crandall, 1981; Scribner and Cole, 1981; Kirsch and Guthrie, 1984b).

The phrase "… *to function in society, to achieve one's goals, and to develop one's knowledge and potential* " is meant to capture the full scope of situations in which literacy plays a role in the lives of adults, from private to public, from school to work, to lifelong learning and active citizenship. "To achieve one's goals and to develop one's knowledge and potential" points to the view that literacy enables the fulfillment of individual aspirations—those that are defined such as graduation or obtaining a job, and those less defined and less immediate which extend and enrich one's personal life. The phrase "to function in society" is meant to acknowledge that literacy provides individuals with a means of contributing to as well as benefiting from society. Literacy skills are generally recognized as important for nations to maintain or improve their standard of living and to compete in an increasingly global market place. Yet, they are equally as important for individual participation in technologically advancing societies with their formal institutions, complex legal systems, and large government programs.

Identifying task characteristics

The task characteristics represent variables that can be used in a variety of ways in developing an assessment and interpreting the results. Almond and Mislevy (1998) have identified five roles that variables can take on. They can be used to limit the scope of the assessment, characterize the features that should be used for constructing tasks, control the assembly of tasks into booklets or test forms, characterise examinees' performance on or responses to tasks, or help to characterise aspects of competencies or proficiencies. IALS focused on variables that can be used to help in the construction of tasks as well as in the characterization of performance along one or more proficiency scales.

Each task in the assessment represents a piece of evidence about a person's literacy (Mislevy, 2000). While the goal of the assessment will be to develop the best possible picture of an individual's skills and abilities, the test cannot include an infinite number of tasks nor can an infinite number of features of those tasks be manipulated. Therefore, decisions need to be made about which features should be part of the test development process. Three task characteristics were identified and used in the construction of tasks for the IALS. These characteristics include:

Adult contexts/content. Since adults do not read written or printed materials in a vacuum, but read within a particular context or for a particular purpose, materials for the literacy assessment are selected that represent a variety of contexts and contents. This is to help ensure that no one group of adults is either advantaged or disadvantaged due to the context or content included in the assessment. Six adult context/content categories have been identified as follows:

- Home and family: may include materials dealing with interpersonal relationships, personal finance, housing, and insurance.
- Health and safety: may include materials dealing with drugs and alcohol, disease prevention and treatment, safety and accident prevention, first aid, emergencies, and staying healthy.
- Community and citizenship: may include materials dealing with staying informed and community resources.
- Consumer economics: may include materials dealing with credit and banking, savings, advertising, making purchases, and maintaining personal possessions.
- Work: may include materials that deal in general with various occupations but not job specific texts, finding employment, finance, and being on the job.
- Leisure and recreation: may include materials involving travel, recreational activities, and restaurants.

Materials/texts. While no one would doubt that a literacy assessment should include a range of material, what is critical to the design and interpretation of the scores that are produced are the range and specific features of the text material which are included in constructing the tasks. A key distinction among texts that is at the heart of the IALS survey is their classification into continuous and non-continuous texts. Conventionally, continuous texts are formed of sentences organized into paragraphs. In these texts, organization occurs by paragraph setting, indentation, and the breakdown of text into a hierarchy signalled by headings that help the reader to recognize the organization of the text. The primary classification of continuous texts is by rhetorical purpose or text type. For IALS, these included: expository, descriptive, argumentative, and injunctive.

Non-continuous texts are organized differently than continuous texts and so allow the reader to employ different strategies for entering and extracting information from them. On the surface, these texts appear to have many different organizational patterns or formats, ranging from tables and schedules to charts and graphs, and from maps to forms. However, the organizational pattern for these types of texts, which Mosenthal and Kirsch (1998) refer to as documents, is said to have one of four basic structures: a simple list; a combined list; an intersected list; and a nested list. Together, these four types of documents make up what they have called matrix documents, or non-continuous texts with clearly defined rows and columns. They are also closely related to other non-continuous texts that these authors refer to as graphic, locative, and entry documents.

The distinction between continuous and non-continuous texts formed the basis for two of the three literacy scales used in IALS. Continuous texts were the basis for tasks that were placed along the prose scale while non-continuous texts formed the basis for tasks along the document scale. The quantitative scale included texts that were both continuous and non-continuous. The distinguishing characteristic for this scale was that respondents needed to identify and perform one or more arithmetic operations based on information contained in the texts. This scale was replaced in IALSS with the numeracy scale, which is discussed in more detail later in this annex.

Processes/strategies. This task characteristic refers to the way in which examinees process text to respond correctly to a question or directive. It includes the processes used to relate information in the question (the given information) to the necessary information in the text (the new information) as well as the processes needed to either identify or construct the correct response from the information available. Three variables used to investigate tasks from national and international surveys will be summarized here. These are: type of match, type of information requested, and plausibility of distracting information.

Type of match

Four types of matching strategies were identified: locating, cycling, integrating, and generating. *Locating* tasks require examinees to match one or more features of information stated in the question to either identical or synonymous information provided in the text. *Cycling* tasks also require examinees to match one or more features of information, but unlike locating tasks, they require respondents to engage in a series of feature matches to satisfy conditions stated in the question.

Integrating tasks require examinees to pull together two or more pieces of information from the text according to some type of specified relation. For example, this relation might call for examinees to identify similarities (i.e., make a comparison), differences (i.e., contrast), degree (i.e., smaller or larger), or cause-and-effect relations. This information may be located within a single paragraph or it may appear in different paragraphs or sections of the text. In integrating information, examinees draw upon information categories provided in a question to locate the corresponding information in the text. They then relate the text information associated with these different categories based upon the relation term specified in the question. In some cases, however, examinees must *generate* these categories and/or relations before integrating the information stated in the text.

In addition to requiring examinees to apply one of these four strategies, the type of match between a question and the text is influenced by several other processing conditions which contribute to a task's overall difficulty. The first of these is the number of phrases that must be used in the search. Task difficulty increases with the amount of information in the question for which the examinee must search in the

text. For instance, questions that consist of only one independent clause tend to be easier, on average, than those that contain several independent or dependent clauses. Difficulty also increases with the number of responses that examinees are asked to provide. Questions that request a single answer are easier than those that require three or more answers. Further, questions which specify the number of responses tend to be easier than those that do not. For example, a question which states, "List the 3 reasons…" would be easier than one which said, "List the reasons…". Tasks are also influenced by the degree to which examinees have to make inferences to match the given information in a question to corresponding information in the text, and to identify the requested information.

Type of information requested

This refers to the kinds of information that readers need to identify to answer a test question successfully. The more concrete the requested information, the easier the task is judged to be. In previous research based on large-scale assessments of adults' and children's literacy (Kirsch and Mosenthal, 1994; Kirsch, Jungeblut, and Mosenthal, 1998), the type of information variable was scored on a 5-point scale. A score of one represented information that was the most concrete and therefore the easiest to process, while a score of five represented information that was the most abstract and therefore the most difficult to process.

For instance, questions which asked examinees to identify a person, animal, or thing (i.e., imaginable nouns) were said to request highly concrete information and were assigned a value of one. Questions asking respondents to identify goals, conditions, or purposes were said to request more abstract types of information. Such tasks were judged to be more difficult and received a value of three. Questions that required examinees to identify an "equivalent" were judged to be the most abstract and were assigned a value of five. In such cases, the equivalent tended to be an unfamiliar term or phrase for which respondents had to infer a definition or interpretation from the text.

Plausibility of distractors

This concerns the extent to which information in the text shares one or more features with the information requested in the question but does not fully satisfy what has been requested. Tasks are judged to be easiest when no distractor information is present in the text. They tend to become more difficult as the number of distractors increases, as the distractors share more features with the correct response, and as the distractors appear in closer proximity to the correct response. For instance, tasks tend to be judged more difficult when one or more distractors meet some but not all of the conditions specified in the question and appear in a paragraph or section of text other than the one containing the correct answer. Tasks are judged to be most difficult when two or more distractors share most of the features with the correct response and appear in the same paragraph or node of information as the correct response.

Characterizing prose literacy tasks

There are 55 tasks ordered along the 500-point prose literacy scale representing 19 IALS prose literacy tasks and 36 new prose literacy tasks designed and developed for the IALSS survey. These tasks range in difficulty value from 169 to 439. One of the easiest tasks (receiving a difficulty value of 188 and falling in Level 1) directs the reader to look at a medicine label to determine the "maximum number of days you should take this medicine." In terms of our process variables, type of match was

scored as easy because the reader was required to locate a single piece of information that was literally stated in the medicine label. The label contained only one reference to number of days and this information was located under the label dosage. Type of information was scored as easy because it asked for a number of days and plausibility of distractor was judged to be easy because there is no other reference to days in the medicine label.

MEDCO ASPIRIN 500

INDICATIONS: Headaches, muscle pains, rheumatic pains, toothaches, earaches. RELIEVES COMMON COLD SYMPTOMS.

DOSAGE: ORAL. 1 or 2 tablets every 6 hours, preferably accompanied by food, for not longer than 7 days. Store in a cool, dry place.

CAUTION: Do not use for gastritis or peptic ulcer. Do not use if taking anticoagulant drugs. Do not use for serious liver illness or bronchial asthma. If taken in large doses and for an extended period, may cause harm to kidneys. Before using this medication for chicken pox or influenza in children, consult with a doctor about Reyes Syndrome, a rare but serious illness. During lactation and pregnancy, consult with a doctor before using this product, especially in the last trimester of pregnancy. If symptoms persist, or in case of an accidental overdose, consult a doctor. Keep out of reach of children.

INGREDIENTS: Each tablet contains
500 mg acetylsalicicylic acid.
Excipient c.b.p. 1 tablet.
Reg. No. 88246

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1600 Industrial Blvd., Montreal, Quebec H9J 3P1

0 67736 11079

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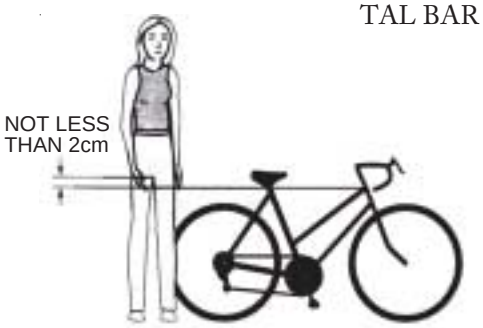
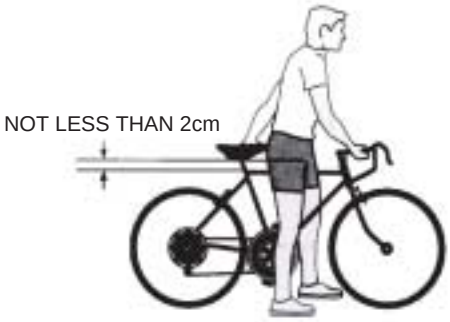
A second prose literacy task directs the reader to look at an article about impatiens. This task falls in the middle of Level 2 and has a difficulty value of 254. It asks the reader to identify "what the smooth leaf surfaces and the stems suggest about the plant." Again, the task directed the reader to locate information contained in the text so it was scored easy for type of information. The last sentence in the second paragraph under the heading *Appearance* states: "The smooth leaf surfaces and the stems indicate a great need of water." Type of information was scored as being moderate because it directs the reader to identify a condition. Plausibility of distractor was scored as being moderate also because the same paragraph contained a sentence which serves to distract a number of readers. This sentence states, "… stems are branched and very juicy, which means, because of the tropical origin, that the plant is sensitive to cold."

PROPER FRAME FIT

RIDER MUST BE ABLE TO STRADDLE BICYCLE WITH AT LEAST 2 cm CLEARANCE ABOVE THE HORIZONTAL BAR WHEN STANDING.





NOTE: Measurement for a female should be determined using a men's model as a basis.

PROPER SIZE OF BICYCLE

FRAME SIZE	LEG LENGTH OF RIDER
430mm	660mm-760mm
460mm	690mm-790mm
480mm	710mm-790mm
530mm	760mm-840mm
560mm	790mm-860mm
580mm	810mm-890mm
635mm	860mm-940mm

OWNER'S RESPONSIBILITY

1. **Bicycle Selection and Purchase:** Make sure this bicycle fits the intended rider. Bicycles come in a variety of sizes. Personal adjustment of seat and handlebars is necessary to assure maximum safety and comfort. Bicycles come with a wide variety of equipment and accessories . . . make sure the rider can operate them.
2. **Assembly:** Carefully follow all assembly instructions. Make sure that all nuts, bolts and screws are securely tightened.
3. **Fitting the Bicycle:** To ride safely and comfortably, the bicycle must fit the rider. Check the seat position, adjusting it up or down so that with the sole of rider's foot on the pedal in its lowest position the rider's knee is slightly bent.

Note: Specific charts illustrated at left detail the proper method of deter-mining the correct frame size.

The manufacturer is not responsible for failure, injury, or damage caused by improper completion of assembly or improper maintenance after shipment.

Tasks which fall at higher levels along the scale present the reader with more varied demands in terms of the type of match that is required and in terms of the number and nature of distractors that are present in the text. One such task (with a difficulty value of 281 or the beginning of Level 3) refers the reader to a page from a bicycle's owner's manual to determine how to ensure the seat is in the proper position. Type of information was scored as moderate because the reader needed to identify and state two conditions that needed to be met in writing. In addition, they were not told how many features they needed to provide from among those stated. Type of information was also scored as moderate also because it involved identifying a condition and plausibility of distractor received a score indicating it was relatively easy.

A somewhat more difficult task (318), one near the top of Level 3, involves an article about cotton diapers and directs the reader to "list three reasons why the author prefers to use disposable rather than cotton diapers." This task is made more

difficult because of several of our process variables. First, type of match was scored as difficult because the reader had to provide multiple responses, each of which required a text-based inference. Nowhere in the text does the author say, "I prefer cotton diapers because…". These inferences are made somewhat more difficult because the type of information being requested is a "reason" rather than something more concrete. This variable also was coded as difficult because of its abstractness. Finally, plausibility of distractor was scored as moderate because the text contains information that may serve to distract the reader.

An additional task falling in Level 4 on the Prose literacy scale (338) directs the reader to use the information from a pamphlet about hiring interviews to "write in your own words one difference between the panel and the group interview." Here the difficulty does not come from locating information in the text. Rather than merely locating a fact about each type of interview, the reader needs to integrate what they have read to infer a characteristic on which the two types of interviews differ. Experience from other surveys of this kind reveal that tasks in which readers are asked to contrast information are more difficult, on average, than tasks in which they are asked to find similarities. Thus, type of match was scored as complex and difficult. Type of information was scored as being difficult as well because it directs the reader to provide a difference. Differences tend to be more abstract in that they ask for the identification of distinctive or contrastive features related in this case to an interview process. Plausibility of distractor was judged as being easy because no distracting information was present in the text. Thus this variable was not seen as contributing to the overall difficulty of this task.

The most difficult task on the prose literacy scale (377) falls in the lower range of Level 5 and required readers to look at an announcement from a personnel department and to "list two ways in which CIEM (an employee support initiative within a company) helps people who lose their jobs because of departmental reorganization." Type of match was scored difficult because the question contained multiple phrases that the reader needed to keep in mind when reading the text. In addition, readers had to provide multiple responses and make low text-based inferences. Type of information received a moderate score because readers were looking for a purpose or function and plausibility of distractor was scored as relatively difficult. This task is made somewhat more difficult because the announcement is organized around information that is different from what is being requested in the question. Thus while the correct information is listed under a single heading, this information is embedded under a list of headings describing CIEM's activities for employees looking for other work. Thus, this list of headings in the text serves as an excellent set of distractors for the reader who does not search for or locate the phrase in the question containing the conditional information – those who lose their jobs because of a departmental reorganization.

The Hiring Interview

Preinterview

Try to learn more about the business. What products does it manufacture or services does it provide? What methods or procedures does it use? This information can be found in trade directories, chamber of commerce or industrial directories, or at your local employment office.

Find out more about the position. Would you replace someone or is the position newly created? In which departments or shops would you work? Collective agreements describing various standardized positions and duties are available at most local employment offices. You can also contact the appropriate trade union.

The Interview

Ask questions about the position and the business. Answer clearly and accurately all questions put to you. Bring along a note pad as well as your work and training documents.

The Most Common Types of Interview

One-on-one: Self explanatory.

Panel: A number of people ask you questions and then compare notes on your application.

Group: After hearing a presentation with other applicants on the position and duties, you take part in a group discussion.

Postinterview

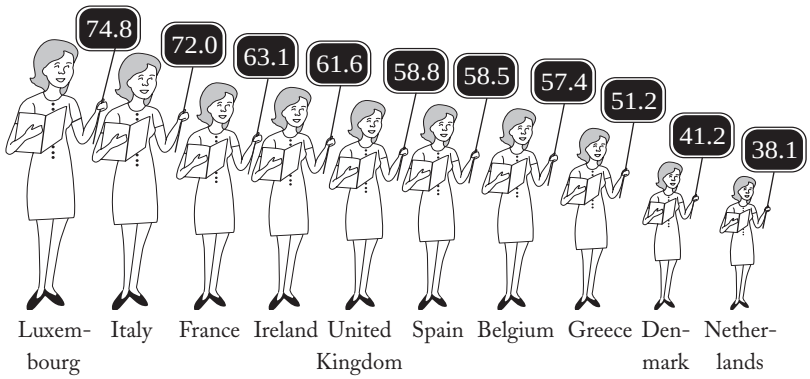
Note the key points discussed. Compare questions that caused you difficulty with those that allowed you to highlight your strong points. Such a review will help you prepare for future interviews. If you wish, you can talk about it with the placement officer or career counsellor at your local employment office.

Characterizing document literacy tasks

There are 54 tasks ordered along the 500-point document literacy scale. These 54 tasks comprise 19 items from IALS and 35 new tasks developed for IALSS. Together, these tasks range in difficulty value from 157 to 444. A Level 1 document literacy task with a difficulty value of 188 directs the reader to identify from a chart the percentage of teachers from Greece who are women. The chart shown here displays the percentage of teachers from various countries who are women. In terms of our process variables, type of match was judged to be easy because the reader was required to locate a single piece of information that was literally stated in the chart; type of information was judged to be relatively easy because it was an amount; and plausibility of distractor is also judged to be relatively easy because there are distractors for the requested information.

FEW DUTCH WOMEN AT THE BLACKBOARD

There is a low percentage of women teachers in the Netherlands compared to other countries. In most of the other countries, the majority of teachers are women. However, if we include the figures for inspectors and school principals, the proportion shrinks considerably and women are in a minority everywhere.

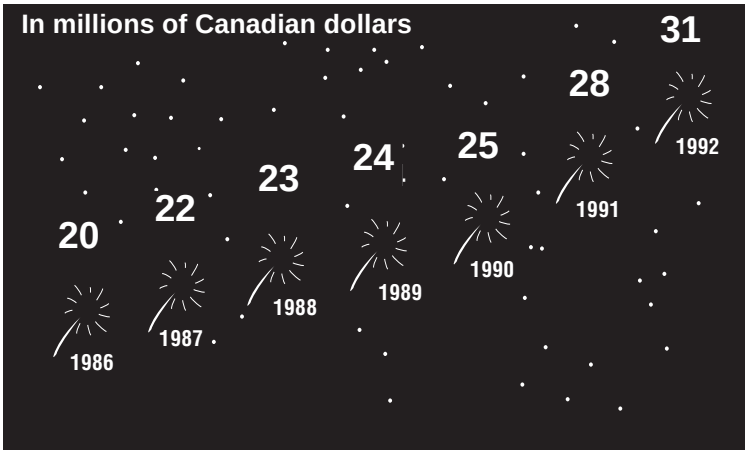


Percentage of women teachers (kindergarten, elementary, and secondary).

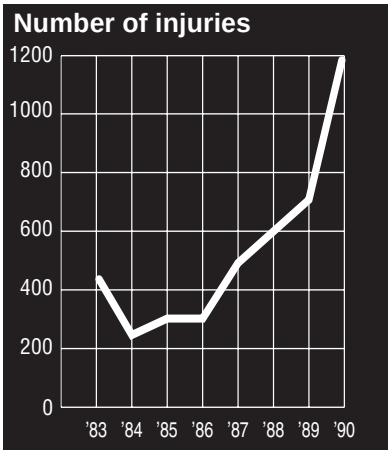
A second document task involving this same chart directs the reader to identify the country other than the Netherlands in which women teachers are in the minority. This item falls in the middle of Level 2 and received a difficulty value of 234. This task was made a bit more difficult than the first because rather than searching for a country and locating a percentage, the reader had to know that minority means less than 50 percent. Then they had to cycle through to identify the countries in which the percentage of women teachers were less then 50 percent. In addition, they had to remember the condition "other than the Netherlands"; otherwise they might have chosen it over the correct response. As a result, type of match was scored as moderately difficult; type of information as easy because the requested information is a country or place; and plausibility of distractor as relatively easy because there are distractors associated with the requested information.

A somewhat more difficult task, with a difficulty value of 295 and falling in the middle of Level 3 directs the reader to look at charts involving fireworks from the Netherlands and to write a brief description of the relationship between sales and injuries based on the information shown. Here the reader needs to look at and compare the information contained in the two charts and integrate this information making an inference regarding the relationship between the two sets of information. As a result, it was judged as being relatively difficult in terms of type of match. Type of information also was judged to be relatively difficult because the requested information is asking for a pattern or similarity in the data. Plausibility of distractor was scored moderately difficult primarily because both given and requested information is present in the task. For example, one of the things that may have contributed to the difficulty of this task is the fact that the sales graph goes from 1986 to 1992 while the injuries graph goes from 1983 to 1990. The reader needed to compare the information from the two charts for the comparable period time.

Fireworks in the Netherlands



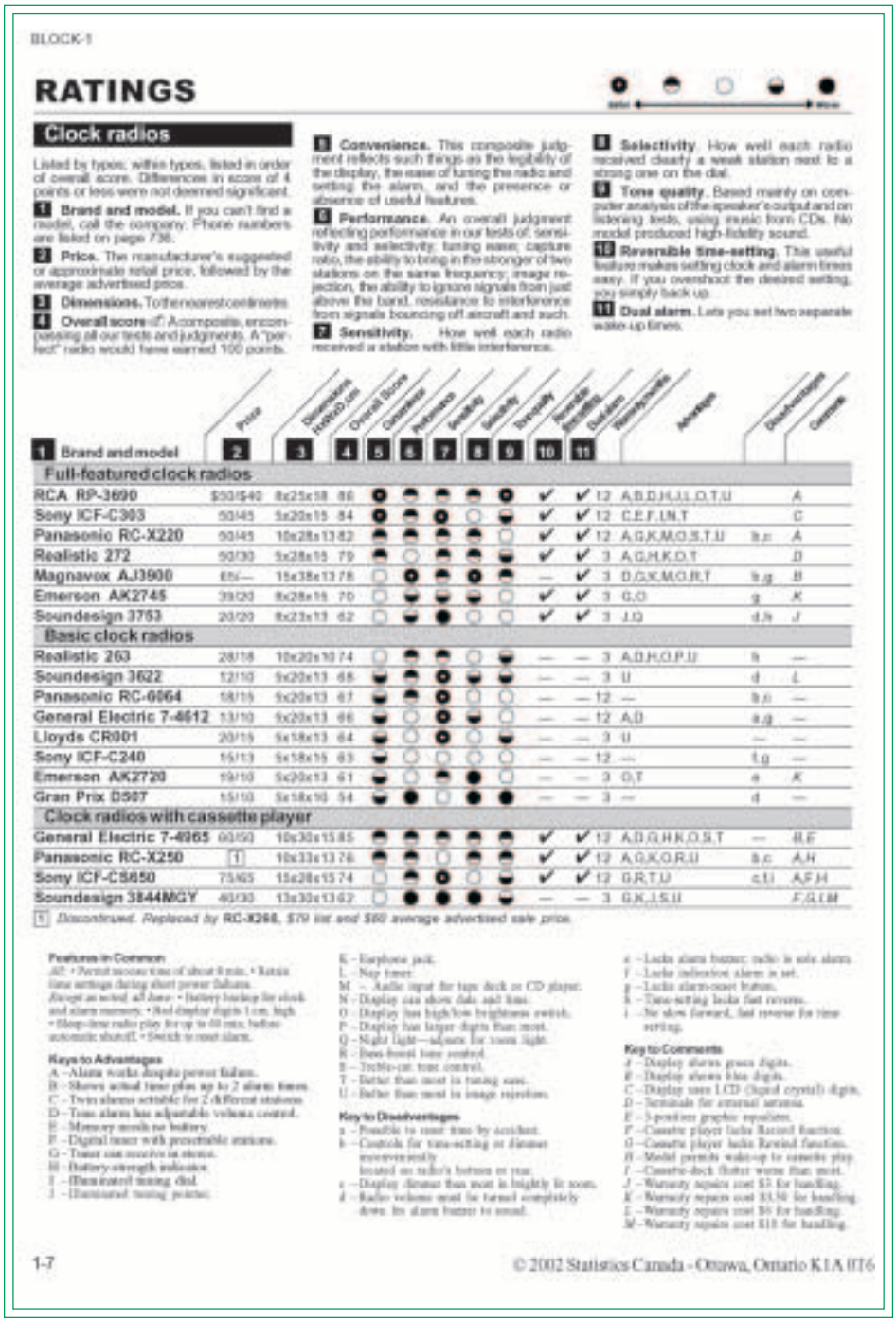
Victims of fireworks



Another set of tasks covering a range of difficulty on the document scale involved a rather complicated document taken from a page in a consumer magazine rating clock radios. The easiest of the three tasks, receiving a difficulty value of 287 and falling in Level 3, asks the reader "which two features are not on any basic clock radio." In looking at the document, the reader has to cycle through the document, find the listing for basic clock radios, and then determine that a dash represents the absence of a feature. They then have to locate the two features indicated by the set of dashes. As a result, type of match was judged as being relatively difficult because it is a cycle requiring multiple responses with a condition or low text based inference. Type of information was scored as relatively easy because its features are an attribute of the clock radio and plausibility of distractor is relatively easy because there are some characteristics that are not associated with other clock radios.

A somewhat more difficult task associated with this document and falling in the lower end of Level 4 received a difficulty value of 327. It asks the reader "which full-featured clock radio is rated highest on performance." Here the reader must make a three-feature match (full-featured, performance, and highest) where one of the features requires them to process conditional information. It is possible, for example, that some readers were able to find the full-featured radios and the column listed under performance but selected the first radio listed assuming it was the one rated highest. In this case, they did not understand the conditional information which is a legend stating what the symbols mean. Others may have gone to the column labelled overall score and found the highest numerical number and chosen the radio associated with it. For this reason, plausibility of distractor was scored as moderately difficult. Type of information was judged as being easy because the requested information is a thing.

The most difficult task associated with this document, with a difficulty level of 408, and falling in Level 5 asks the reader to identify the average advertised price for the basic clock radio receiving the highest overall score. This task was made more difficult because the reader had to match four rather than three features; they also had to process conditional information and there was a highly plausible distractor in the same node as the correct answer. As a result of these factors, type of match was judged to be relatively difficult, type of information relatively easy and plausibility of distractor as having the highest level of difficulty.



BLOCK-1

RATINGS

Clock radios

Listed by types, within types, listed in order of overall score. Differences in score of 4 points or less were not deemed significant.

1 Brand and model. If you can't find a model, call the company. Phone numbers are listed on page 736.

2 Price. The manufacturer's suggested or approximate retail price, followed by the average advertised price.

3 Dimensions. To the nearest centimetre.

4 Overall score of: A composite, encompassing all our tests and judgments. A "perfect" radio would have earned 100 points.

5 Convenience. This composite judgment reflects such things as the legibility of the display, the ease of tuning the radio and setting the alarm, and the presence or absence of useful features.

6 Performance. An overall judgment reflecting performance in our tests of: sensitivity and selectivity; tuning ease; capture ratio, the ability to bring in the stronger of two stations on the same frequency; image rejection, the ability to ignore signals from just above the band; resistance to interference from signals bouncing off aircraft and such.

7 Sensitivity. How well each radio received a station with little interference.

8 Selectivity. How well each radio received clearly a weak station next to a strong one on the dial.

9 Tone quality. Based mainly on computer analysis of the speaker's output and on listening tests, using music from CDs. No model produced high-fidelity sound.

10 Reversible time-setting. This useful feature makes setting clock and alarm times easy. If you overshoot the desired setting, you simply back up.

11 Dual alarm. Lets you set two separate wake-up times.

1 Brand and model	2 Price	3 Dimensions HxWxD, cm	4 Overall Score	5 Convenience	6 Performance	7 Sensitivity	8 Selectivity	9 Tone quality	10 Reversible time-setting	11 Dual alarm	Advantages	Disadvantages	Comments
Full-featured clock radios													
RCA RP-3690	$30/$40	8x25x18	86	●	◓	◓	◓	●	✔	✔ 12	A,B,D,H,J,L,O,T,U		A
Sony ICF-C303	50/45	5x20x15	84	●	◓	○	◒	◒	✔	✔ 12	C,E,F,I,N,T		C
Panasonic RC-X220	50/45	10x28x13	82	◓	◓	◓	◓	□	✔	✔ 12	A,G,K,M,O,S,T,U	b,c	A
Realistic 272	50/30	5x28x15	79	◓	○	◓	◓	◒	✔	✔ 3	A,G,H,K,O,T		D
Magnavox AJ3900	65/—	15x38x13	78	□	●	◓	●	◓	—	✔ 3	D,G,K,M,O,R,T	b,g	B
Emerson AK2745	39/20	8x28x15	70	□	◒	◒	◒	□	✔	✔ 3	G,O	g	K
Soundesign 3753	20/20	8x23x13	62	□	◒	●	○	□	✔	✔ 3	J,O	d,h	J
Basic clock radios													
Realistic 263	28/18	10x20x10	74	□	◓	◓	□	◒	—	— 3	A,D,H,O,P,U	h	—
Soundesign 3622	12/10	5x20x13	68	◒	◓	●	◒	◒	—	— 3	U	d	L
Panasonic RC-6064	18/15	5x20x13	67	◒	◓	●	□	□	—	— 12	—	b,c	—
General Electric 7-4612	13/10	5x20x13	66	◒	○	●	◒	□	—	— 12	A,D	a,g	—
Lloyds CR001	20/15	5x18x13	64	◒	○	●	□	◒	—	— 3	U	—	—
Sony ICF-C240	15/13	5x18x15	63	◒	○	□	□	□	—	— 12	—	f,g	—
Emerson AK2720	19/10	5x20x13	61	◒	○	◓	●	□	—	— 3	O,T	e	K
Gran Prix D507	15/10	5x18x10	54	◒	●	□	●	●	—	— 3	—	d	—
Clock radios with cassette player													
General Electric 7-4965	60/50	10x30x15	85	◓	◓	◓	◓	◓	✔	✔ 12	A,D,G,H,K,O,S,T	—	B,E
Panasonic RC-X250	[1]	10x33x13	76	◓	◓	□	◓	◓	✔	✔ 12	A,G,K,O,R,U	b,c	A,H
Sony ICF-CS650	75/65	15x28x15	74	□	◓	●	○	◒	✔	✔ 12	G,R,T,U	c,i	A,F,H
Soundesign 3844MGY	40/30	13x30x13	62	□	●	●	●	◒	—	— 3	G,K,J,S,U		F,G,I,M

[1] *Discontinued. Replaced by* **RC-X268**, *$79 list and $60 average advertised sale price.*

Features in Common

All: • Permit snooze time of about 8 min. • Retain time settings during short power failures. *Except as noted, all have:* • Battery backup for clock and alarm memory. • Red display digits 1 cm. high. • Sleep-time radio play for up to 60 min. before automatic shutoff. • Switch to reset alarm.

Keys to Advantages

A – Alarm works despite power failure.
B – Shows actual time plus up to 2 alarm times.
C – Two alarms settable for 2 different stations.
D – Tone alarm has adjustable volume control.
E – Memory needs no battery.
F – Digital tuner with presettable stations.
G – Tuner can receive in stereo.
H – Battery-strength indicator.
I – Illuminated tuning dial.
J – Illuminated tuning pointer.
K – Earphone jack.
L – Nap timer.
M – Audio input for tape deck or CD player.
N – Display can show date and time.
O – Display has high/low brightness switch.
P – Display has larger digits than most.
Q – Night light—adjusts for room light.
R – Bass-boost tone control.
S – Treble-cut tone control.
T – Softer than most in tuning sure.
U – Softer than most in image rejection.

Keys to Disadvantages

a – Possible to reset time by accident.
b – Controls for time-setting or dimmer inconveniently located on radio's bottom or rear.
c – Display dimmer than most in brightly lit room.
d – Radio volume must be turned completely down for alarm buzzer to sound.
e – Lacks alarm buzzer; radio is sole alarm.
f – Lacks indicator alarm is set.
g – Lacks alarm-reset button.
h – Time-setting lacks fast reverse.
i – No slow forward, fast reverse for time setting.

Key to Comments

A – Display shows guess digits.
B – Display shows blue digits.
C – Display uses LCD (liquid crystal) digits.
D – Terminals for external antenna.
E – 5-position graphic equalizer.
F – Cassette player lacks Record function.
G – Cassette player lacks Rewind function.
H – Model permits wake-up to cassette play.
I – Cassette deck flutter worse than most.
J – Warranty repairs cost $5 for handling.
K – Warranty repairs cost $3.50 for handling.
L – Warranty repairs cost $6 for handling.
M – Warranty repairs cost $10 for handling.

Measuring numeracy in IALSS

Defining numeracy in IALSS

The conception of numeracy developed for IALSS is built upon recent research and work done in several countries on functional demands of different life contexts, on the nature of adults' mathematical and statistical knowledge and skills, and on how such skills are applied or used in different circumstances. In light of the general intention of the IALSS survey to provide information about a diverse set of life skills, this framework defines numeracy as follows:

Numeracy is the knowledge and skills required to effectively manage and respond to the mathematical demands of diverse situations.

This definition implies that numeracy is broader than the construct of quantitative literacy defined by IALS[2]. Further, adult numeracy should be viewed as different from "knowing school mathematics". Although a universally accepted definition of "numeracy" does not exist (Baker and Street, 1994), an examination of some perspectives on the meaning of adult numeracy shows that they contain many commonalities. Below are two examples, both from work in Australia:

Numeracy is the mathematics for effective functioning in one's group and community, and the capacity to use these skills to further one's own development and of one's community (Beazley, 1984).

Numeracy involves abilities that include interpreting, applying and communicating mathematical information in commonly encountered situations to enable full, critical and effective participation in a wide range of life roles (Queensland Department of Education, 1994)

All these definitions are quite similar, in their broad scope, to the IALSS definitions of prose and document literacy presented in a prior section. Many conceptions of numeracy emphasize the practical or functional application and use of mathematical knowledge and skills to cope with the presence of mathematical elements in real situations. Adults are expected to possess multiple ways of responding flexibly to a mathematical situation in a goal-oriented way, dependent on the needs and interests of the individual within the given context (i.e., home, community, workplace, etc...), as well as on his or her attitudes and beliefs toward numeracy (Gal, 2000; Coben, O'Donoghue and FitzSimons, 2000).

Thus, numeracy involves more than just applying arithmetical skills to information embedded in printed materials, which was the focus of assessment in IALS. Adult numeracy extends to a possession of number sense, estimation skills, measurement and statistical literacy. Given the extent to which numeracy pervades the modern world, it is not necessarily just commonly encountered situations that require numerate behaviour, but also *new* situations.

Another important element in defining numeracy is the role of communication processes. Numeracy not only incorporates the individual's abilities to use and apply mathematical skills efficiently and critically, but also requires the person to be able to interpret textual or symbolic messages as well as to communicate mathematical information and reasoning processes (Marr and Tout, 1997; Gal, 1997).

Definitions of numeracy explicitly state that numeracy not only refers to operating with numbers, as the word can suggest, especially to those familiar with conceptions of children's numeracy, but covers a wide range of mathematical skills and understandings. Further, in recent years there has been much discussion and debate about the relationship between mathematics and numeracy and about the concept of "critical" numeracy (Frankenstein, 1989; Steen, 2001). Johnston, for example, has argued that:

To be numerate is more than being able to manipulate numbers, or even being able to 'succeed' in school or university mathematics. Numeracy is a critical awareness which builds bridges between mathematics and the real-world, with all its diversity (Johnston, 1994).

Many authors argue that a discussion of functional skills should also address supporting or enabling attitudes and beliefs. In the area of adults' mathematical skills, "at homeness" with numbers or "confidence" with mathematical skills is expected, as these affect how skills and knowledge are actually put into practice (Cockroft, 1982; Tobias, 1993).

The brief definition of numeracy developed for IALSS and presented earlier above is complemented by a broader definition of *numerate behaviour* which was developed by the ALL Numeracy Team to serve as the basis for the development of numeracy items for IALSS:

> *Numerate behaviour is observed when people manage a situation or solve a problem in a real context; it involves responding to information about mathematical ideas that may be represented in a range of ways; it requires the activation of a range of enabling knowledge, factors and processes.*

This conception of numerate behaviour implies that in order to assess people's numeracy, it is necessary to generate tasks and items which vary in terms of contexts, the responses called for, the nature of the mathematical information involved, and the representations of this information. These task characteristics are elaborated below. This conception is much broader than the definition of quantitative literacy used in IALS. Its key elements relate in a broad way to situation management and to a need for a range of responses (not only to responses that involve numbers). It refers to a wide range of skills and knowledge (not only to application of arithmetical knowledge and computational operations) and to the use of a wide range of situations that present respondents with mathematical information of different types (not only those involving *numbers* embedded in *printed* materials).

The item development process aimed to ensure that a certain proportion of the item pool would place a minimum reading burden on the respondents, i.e., that some of the stimuli would be text-free or almost so, allowing even respondents with limited mastery of the language of the test to comprehend the situation described. Other parts of the item pool included items requiring varying amounts of essential texts as dictated by the situation which the item aimed to represent.

As implied by the literature and ideas reviewed earlier, the nature of a person's responses to the mathematical and other demands of a situation will depend critically on the activation of various enabling knowledge bases (understanding of the context; knowledge and skills in the areas of mathematics, statistics and literacy), on reasoning processes and on their attitudes and beliefs with respect to numeracy. In addition, numerate behaviour requires the integration of mathematical knowledge and skills with broader literacy and problem solving skills along with the prior experiences and practices that each person brings to every situation. It is clear that numerate behaviour will involve an attempt to engage with a task and not delegate it to others or deal with it by intentionally ignoring its mathematical content.

Identifying task characteristics

Four key characteristics of numerate behaviour were used to develop and represent the numeracy tasks built for IALSS – type of purpose/context, type of response, type of mathematical or statistical information, and type of representation of mathematical or statistical information. Each of these is described next.

Type of purpose/context. People try to manage or respond to a numeracy situation because they want to satisfy a purpose or reach a goal. Four types of purposes and goals are described below. To be sure, these are not mutually exclusive and may involve the same underlying mathematical themes.

Everyday life

The numeracy tasks that occur in everyday situations are often those that one faces in personal and family life, or revolve around hobbies, personal development, or interests. Representative tasks are handling money and budgets, comparison shopping, planning nutrition, personal time management, making decisions involving travel, planning trips, mathematics involved in hobbies like quilting or wood-working, playing games of chance, understanding sports scoring and statistics, reading maps and using measurements in home situations such as cooking or home repairs.

Work-related

At work, one is confronted with quantitative situations that often are more specialized than those seen in everyday life. In this context, people have to develop skills in managing situations that might be narrower in their application of mathematical themes. Representative tasks are completing purchase orders, totalling receipts, calculating change, managing schedules, using spreadsheets, organizing and packing different shaped goods, completing and interpreting control charts or quality graphs, making and recording measurements, reading blueprints, tracking expenditures, predicting costs and applying formulas.

Societal or community

Adults need to know about processes happening in the world around them, such as trends in crime, wages and employment, pollution, medical or environmental risks. They may have to take part in social or community events, or in political action. This requires that adults can read and interpret quantitative information presented in the media, including statistical messages and graphs. They may have to manage situations like organizing a fund-raiser, planning fiscal aspects of a community program, or interpreting the results of a study about risks of the latest health fad.

Further learning

Numeracy skills enable a person to participate in further study, whether for academic purposes or as part of vocational training. In either case, it is important to be able to know some of the more formal aspects of mathematics that involve symbols, rules, and formulas and to understand some of the conventions used to apply mathematical rules and principles.

Type of responses. In different types of real-life situations, people may have to respond in one or more of the following ways. (The first virtually always occurs; others will depend on the interaction between situational demands and the goals, skills, dispositions, and prior learning of the person):

Identify or locate some mathematical information present in the task or situation confronting them that is relevant to their purpose or goal.

Act upon or react to the information in the situation. Bishop (1988), for example, proposed that there are six modes of mathematical actions that are common in all cultures: counting, locating, measuring, designing, playing and explaining. Other types of actions or reactions may occur, such as doing some calculations ("in the head" or with a calculator), ordering or sorting, estimating, measuring, or modeling (such as by using a formula).

Interpret the information embedded within the situation (and the results of any prior action) and comprehend what it means or implies. This can include making a judgment about how mathematical information or known facts actually apply to the situation or context. Contextual judgment may have to be used in deciding whether an answer makes sense or not in the given context, for example, that a result of "2.35 cars" is not a valid solution to how many cars are needed to transport a group. It can also incorporate a critical aspect, where a person questions the purpose of the task, the validity of the data or information presented, and the meaning and implications of the results, both for them as an individual and possibly for the wider community.

Communicate about the mathematical information given, or the results of one's actions or interpretations to someone else. This can be done orally or in writing (ranging from a simple number or word to a detailed explanation or analysis) and/or through drawing (a diagram, map, graph).

Type of mathematical or statistical information. Mathematical information can be classified in a number of ways and on different levels of abstraction. One approach is to refer to fundamental "big ideas" in the mathematical world. Steen (1990), for example, identified six broad categories pertaining to: quantity, dimension, pattern, shape, uncertainty, and change. Rutherford and Ahlgren (1990) described networks of related ideas: numbers, shapes, uncertainty, summarizing data, sampling and reasoning. Dossey (1997) categorized the mathematical behaviours of quantitative literacy as: data representation and interpretation, number and operation sense, measurement, variables and relations, geometric shapes and spatial visualization, and chance. The IALSS Numeracy Team drew from these and other closely tied categorizations (e.g., National Council of Teachers of Mathematics, 2000) to arrive at a set of five fundamental ideas that characterize the mathematical demands facing adults in diverse situations at the beginning of the 21st century.

Quantity and number

Quantity is described by Fey (1990) as an outgrowth of people's need to quantify the world around us, using attributes such as: length, area and volume of rivers or land masses; temperature, humidity and pressure of our atmosphere; populations and growth rates of species; motions of tides; revenues or profits of companies, etc…

Number is fundamental to quantification and different types of number constrain quantification in various ways: whole numbers can serve as counters or estimators; fractions, decimals and percents as expressions of greater precision, or as indications of parts-of-whole which are useful when comparing proportions. Positive and negative numbers serve as directional indicators. In addition to quantification, numbers are used to put things in order and as identifiers (e.g., telephone numbers or zip codes). Facility with quantity, number, and operation on number requires a good "sense" for magnitude and the meaning of very large or very small numbers, and sometimes a sense for the relative magnitude of different proportions.

Money and time management, the ubiquitous mathematics that is part of every adult's life, depends on a good sense of number and quantity. Contextual judgment comes into play when deciding how precise one should be when conducting certain computations or affects the choice of which tool (calculator, mental math, a computer) to use. A low level numeracy task might be figuring out the cost of one can of soup, given the cost of four for $2.00; a task with a higher cognitive demand could involve "harder numbers" such as when figuring out the cost per kilo while buying 0.783 kg of cheese for 12,95 Euros.

Dimension and shape

Dimension includes "big ideas" related to one, two and three dimensions of "things". Understanding of dimensions is called for when encountering or generating spatial or numerical descriptions of objects, making projections, or working with lengths, perimeters, planes, surfaces, location, etc… Facility with each dimension requires a sense of "benchmark" measures, direct measurement, and estimations of measurements.

Shape is a category describing real or imaginary images and entities that can be visualized (e.g., houses and buildings, designs in art and craft, safety signs, packaging, knots, crystals, shadows and plants). Direction and location are fundamental qualities called upon when reading or sketching maps and diagrams. A basic numeracy task in this fundamental aspect could be shape identification whereas a more complex task might involve describing the change in the size or volume of an object when one dimension is changed, such as when choosing between different boxes for packaging certain objects.

Pattern, functions and relationships

It is frequently written that mathematics is the study of patterns and relationships. Pattern is seen as a wide-ranging concept that covers patterns encountered all around us, such as those in musical forms, nature, traffic patterns, etc… It is argued by Senechal (1990) that our ability to recognize, interpret and create patterns is the key to dealing with the world around us. The human capacity for identifying relationships and for thinking analytically underlies mathematical thinking. Algebra – beyond symbolic manipulation – provides a tool for representing relationships between amounts through the use of tables, graphs, symbols and words. The ability to generalize and to characterize functions, relationships between variables, is a crucial gateway to understanding even the most basic economic, political or social analyses. A relatively simple pattern-recognition task might require someone to describe the pattern in a sequence of given numbers or shapes, and in a functional context to understand the relationship between lists or variables (e.g., weight and volume of objects); having to develop a formula for an electronic spreadsheet would put a higher level of demand on the individual.

Data and chance

Data and chance encompass two related but separate topics. *Data* covers "big ideas" such as variability, sampling, error, or prediction, and related statistical topics such as data collection, data analysis, and common measures of center or spread, or the idea of a statistical inference. Modern society demands that adults are able to interpret (and at times even produce) frequency tables, basic charts and graphs, information about averages and medians, as well as identify questionable statistical claims (Gal, 2002).

Chance covers "big ideas" related to probability and relevant statistical concepts and tools. Few things in the world are 100 percent certain; thus the ability to attach a number that represents the likelihood of an event (including risks or side-effects) is a valuable tool whether it has to do with the weather, the stock-market, or the decision to use a certain drug. In this category, a simple numeracy skill might be the interpretation of a simple pie chart or comprehension of a statement about an average; a more complex task would be to infer the likelihood of occurrence of an event based upon given information.

Change

This term describes the mathematics of how the world changes around us. Individual organisms grow, populations vary, prices fluctuate, objects traveling speed up and slow down. Change and rates of change help provide a narration of the world as time marches on. Additive, multiplicative or exponential patterns of change can characterize steady trends; periodic changes suggest cycles and irregular change patterns connect with chaos theory. Describing weight loss over time is a relatively simple task, while calculating compounded interest is a relatively complex task.

Type of representation of mathematical information. Mathematical information in an activity or a situation may be available or represented in many forms. It may appear as concrete objects to be counted (e.g., sheep, people, buildings, cars, etc…) or as pictures of such things. It may be conveyed through symbolic notation (e.g., numerals, letters, or operation signs). Sometimes, mathematical information will be conveyed by formulas, which are a model of relationships between entities or variables.

Further, mathematical information may be encoded in visual displays such as *diagrams* or *charts*; *graphs*, and *tables* may be used to display aggregate statistical or quantitative information. Similarly, *maps* of real entities (e.g., of a city or a project plan) may contain numerical data but also information that can be quantified or mathematized.

Finally, a person may have to extract mathematical information from various types of texts, either in prose or in documents with specific formats (such as in tax forms). Two different kinds of text may be encountered in functional numeracy tasks. The first involves mathematical information represented in textual form, i.e., with words or phrases that carry mathematical meaning. Examples are the use of number words (e.g., "five" instead of "5"), basic mathematical terms (e.g., fraction, multiplication, percent, average, proportion), or more complex phrases (e.g., "crime rate cut by half") that require interpretation. The second involves cases where mathematical information is expressed in regular notations or symbols (e.g., numbers, plus or minus signs, symbols for units of measure, etc…), but is surrounded by text that despite its non-mathematical nature also has to be interpreted in order to provide additional information and context. An example is a bank deposit slip with some text and instructions in which numbers describing monetary amounts are embedded.

Characterizing numeracy tasks

A total of 40 numeracy tasks were selected and used in the IALSS survey. These tasks range along the numeracy scale from 174 to 380 and their placement was determined by how well adults in participating countries responded to each task. Described below are sample tasks that reflect some of the conceptual facets of the numeracy construct and scale design principles described earlier, such as computations, spatial and proportional reasoning, measurement, and statistical knowledge.

As expected, the easiest task on the numeracy scale required adults to look at a photograph containing two cartons of coca cola bottles (174). They were directed to find the total number of bottles in the two full cases being shown. Part of what made this task easy is the fact that content was drawn from everyday life and objects of this kind would be relatively familiar to most people. Second, what adults were asked to do was apparent and explicit – this tasked used a photograph depicting concrete objects and required the processing of no text. A third contributing factor is that respondents could approach the task in a variety of ways that differ in sophistication, such as by multiplying rows and columns, but also by simple counting. This task requires that adults make a conjecture since the full set of bottles in the lower case is not visible, but as can be seen from the low difficulty level of the task,

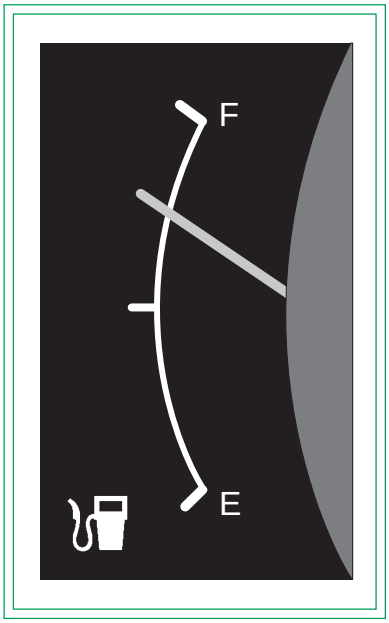
this feature did not present a problem for the vast majority of adults in all participating countries.

A second task that was also quite easy directed adults to look at a short text depicting the results of an election involving three candidates and determine the total number of votes cast. This task received a difficulty value of 192, falling in Level 1 on the numeracy scale. Again, respondents were asked to deal with a realistic type of situation where simple numerical information is displayed in a simple column format showing the name of each candidate and the number of votes that the candidate received. No other numerical information was present that can be a distractor. Finding the total number of votes cast in the election requires a single addition operation that is made explicit in the question by the use of the keyword "total", and the computation involves relatively small whole numbers.

A more complex numeracy task falling in the middle of Level 2 and receiving a difficulty value of 248 directs adults to look at a gas (petrol) gauge. This gauge has three lines or ticks on it with one showing an "F", one showing an "E" and the third in the middle between the two. A line on the gauge, representing the gauge's needle, shows a level that is roughly halfway between the middle tick and the tick indicating "F", suggesting that the tank is about three-quarters full. The directive states that the tank holds 48 gallons and asks the respondent to determine "how many gallons remain in the tank." This task is drawn from an everyday context and requires an adult to interpret a display that conveys quantitative information but carries virtually no text or numbers. No mathematical information is present other than what is given in the question.

What makes this task more difficult than the previous ones described above is the fact that adults must first estimate the level of gas remaining in the tank, by converting the placement of the needle to a fraction. Then they need to determine how many gallons this represents from the 48 gallon capacity stated in the question or directive. Thus, this task requires adults to apply multiple operations or procedures

to arrive at a correct response, without specifying what the operations may be. Nonetheless, this task, like many everyday numeracy tasks, does not require an exact computation but allows an approximation that should fall within reasonable boundaries.



A somewhat more difficult numeracy task, falling at the top of Level 2 and receiving a difficulty value of 275, requires adults to look at a diagram of a container on which there are four markings or lines; respondents are asked to draw a line on the container indicating where one-third would be. The top line is marked "1" while the middle line is marked with "1/2". There are two other lines with no markings - one line midway between "1" and "1/2" and another midway between the line marked "1/2" and the bottom of the container. To respond correctly, adults need to mark a line on the container that is between the line marked "1/2" and the line below it indicating where one-quarter would be (although this line does not say "1/4" – this has to be inferred). Here the context may be less familiar to the respondent but again the visual image used is simple and realistic with virtually no text; the response expected does not involve writing a symbol or text, just drawing a line in a certain region on the drawing of the container. To answer this task correctly, adults need to have some working knowledge of fractions and a sense for proportions: they have to be familiar with the symbols for "1/2" and "1/3", know how to order fractions in terms of their relative size and be able to relate them to the existing markings on the container.

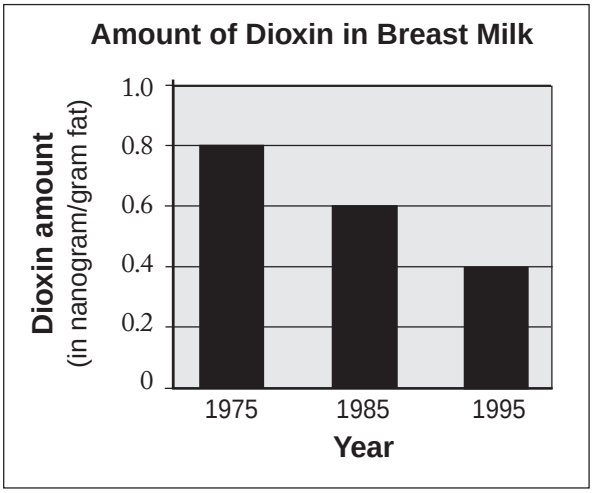
Some numeracy tasks were developed around a short newspaper article titled "Is breast milk safe?" which relates to environmental hazards and food safety. The article contained two brief text paragraphs describing a toxin, Dioxin, found in fish in the Baltic Sea plus a graph with bars indicating the levels of Dioxin found at three points in time, namely 1975, 1985, and 1995, in the breast milk of North European women. One question asked adults to describe how the amount of Dioxin changed from 1975 to 1995, i.e., provide a straightforward interpretation of data presented in a graph. Adults were not required to actually calculate the amount of change over each of the periods, just describe in their own words the change in the levels of Dioxin (e.g., decreased, increased, stayed the same).

This task received a difficulty value of 280, the lower end of Level 3. The graph clearly indicates that the amount of Dioxin decreased over each of the three time periods, yet some adults have difficulty coping with such a task, which is based on a stimulus with a structure that commonly appears in newspapers, i.e., brief text plus a graph. The increased difficulty level of this item may be attributable in part to the need for adults to generate their own description, to the moderate amount of dependence on text needed to comprehend the context to which the graph refers, or to the need to understand the direction of the decimal values on the vertical axis (which is common in reporting on concentrations of contaminating chemicals).

Is breast milk safe?

Since the 1970s, scientists have been worried about the amount of Dioxin, a toxin in fish caught in the Baltic sea. Dioxin tends to accumulate in breast milk and can harm newborn babies.

The diagram shows the amount of Dioxin in the breast milk of North European women, as found in studies done from 1975 to 1995.



A second and more difficult task using this same stimulus directed adults to compare the percent of change in Dioxin level from 1975 to 1985 to the percent of change in Dioxin level from 1985 to 1995, determine which percent of change is larger, and explain their answer. This task was considerably more difficult for adults in participating countries and received a difficulty value of 377 on the numeracy scale. Here the necessary information is embedded within the graph and requires a level of transformation and interpretation. To arrive at a correct response, adults have to look at the rate of change expressed in percents, not just the absolute size of the change. Further, they have to work with percents of entities smaller than one (i.e., the decimal values on the vertical axis) and realize that the base for the computation of percent change shifts for each pair. It seems that the need to cope with such task features, use formal mathematical procedures, or deal with the abstract notion of rate of change, adds considerable difficulty to such tasks.

The most difficult numeracy task in this assessment, receiving a difficulty value of 380 (Level 5), presented adults with an advertisement claiming that it is possible for an investor to double an amount invested in seven years, based on a 10 percent fixed interest rate each year. Adults were asked if it is possible to double $1000 invested at this rate after seven years and had to support their answer with their calculations. A range of responses was accepted as correct as long as a reasonable justification was provided, with relevant computations. Respondents were free to perform the calculation any way they wanted, but could also use a "financial hint" which accompanied the advertisement and presented a formula for estimating the

worth of an investment after any number of years. Those who used the formula had to enter information stated in the text into variables in the formula (principal, interest rate and time period) and then perform the needed computations and compare the result to the expected amount if $1000 is doubled.

All respondents could use a hand-held calculator provided as part of the assessment. This task proved difficult because it involved percents and the computation, whether with or without the formula, required the integration of several steps and several types of operations. Performing the computations without the formula required understanding of compound interest procedures. This task allowed adults to use a range of reasoning strategies, including informal or invented procedures. Yet, like the previous task involving the comparison of rates of change, it required the use of formal mathematical information and deeper understanding of non-routine computational procedures, all of which may not be familiar or accessible to many adults.

Measuring problem solving in IALSS

Defining problem solving in IALSS

Research on problem solving has a long tradition within both academic psychology and applied human resources research. A very general definition of problem solving that reflects how it is generally understood in the psychological literature (Hunt, 1994; Mayer, 1992; Mayer and Wittrock, 1996; Smith, 1991) is presented here:

> ***Problem solving is goal-directed thinking and action in situations for which no routine solution procedure is available.*** **The problem solver has a more or less well-defined goal, but does not immediately know how to reach it. The incongruence of goals and admissible operators constitutes a problem. The understanding of the problem situation and its step-by-step transformation, based on planning and reasoning, constitute the process of problem solving.**

One major challenge while developing a framework for problem solving that is to be used in a survey such as IALSS is how best to adapt the psychological literature to the constraints imposed by a large-scale international comparative study. In order to do this, a decision was made to focus on an essential subset of problem solving – analytical problem solving. Our notion of analytical problem solving is not to be confused with the intuitive everyday use of the term or with the clinical-psychological concept in which problem solving is associated with the resolution of social and emotional conflicts. Nevertheless, social context is also relevant for our definition of analytical problem solving, for example when problems have to be approached interactively and resolved through co-operation. Motivational factors such as interest in the topic and task-orientation also influence the problem-solving process. However, the quality of problem solving is primarily determined by the comprehension of the problem situation, the thinking processes used to approach the problem, and the appropriateness of the solution.

The *problem* itself can be characterized by different aspects:

- The *context* can reflect different domains, which may be of a theoretical or a practical nature, related to academic situations or to the real world. Within these domains, problems can be more or less authentic.

- The *scope* of a problem can range from working on limited, concrete parts of a task to planning and executing complex actions or evaluating multiple sequences of actions.
- The problem can have a well-defined or an ill-defined goal, it can have transparent (explicitly named) or non-transparent constraints, and involve few independent elements or numerous interconnected ones. These features determine the *complexity* of the problem.

How familiar the context is to the target population, whether the problem involves concrete tasks or complex actions, how well the goal is defined, how transparent the constraints are, how many elements the problem solver has to take into account and how strongly they are interconnected – are all features that will determine the level of problem-solving competency required to solve a certain problem. The empirical difficulty, i.e., the probability of giving a correct solution, will depend on the relation between these problem features on the one hand, and the subjects' competency level on the other hand.

The *cognitive processes* that are activated in the course of problem solving are diverse and complex, and they are likely to be organized in a non-linear manner. Among these processes, the following five components may be identified:

1. Searching for information, and structuring and integrating it into a mental representation of the problem ("situational model").
2. Reasoning, based on the situational model.
3. Planning actions and other solution steps.
4. Executing and evaluating solution steps.
5. Continuous processing of external information and feedback.

Baxter and Glaser (1997) present a similar list of cognitive activities labelled "general components of competence in problem solving": problem representation, solution strategies, self-monitoring, and explanations. Analytical problem solving in everyday contexts, as measured by the IALSS problem-solving instrument, focuses on the components 1 to 3 listed above (and to some extent 4).

One of the most important insights of recent research in cognitive psychology is that solving demanding problems requires at least some knowledge of the domain in question. The concept of a problem space through which a General Problem Solver moves by means of domain-independent search strategies (Newell and Simon, 1972) proved to be too simple to describe how problem situations are understood and the process of finding a solution. Efforts to identify a general, domain-independent competence for steering dynamic systems (operative intelligence) within the framework of complex problem-solving research were also unsuccessful; performance on such systems can only partially be transferred to other systems (Funke, 1991). However, research on grade 3 to grade 12 students showed that problem-solving skills clearly improve under well-tuned training conditions and that a substantial transfer across different problems can be achieved (Reeff et al. 1989, 1992, 1993; Regenwetter, 1992; Regenwetter and Müller, 1992; Stirner, 1993).

Problem solving is dependent on knowledge of concepts and facts (declarative knowledge) and knowledge of rules and strategies (procedural knowledge) in a given subject domain. Although it is evident from past research that declarative knowledge in the problem domain can substantially contribute to successful problem-solving strategies, procedural knowledge is crucial as well. The amount of relevant previous knowledge available could also account for the relation between intelligence and problem-solving performance, as shown in the work of Raaheim (1988) and Leutner

(1999). People with no relevant previous knowledge at all are unable to explore the problem situation or plan a solution in a systematic manner and are forced to rely on trial and error instead. Those who are already very familiar with the task are able to deal with it as a matter of routine. General intellectual ability, as measured by reasoning tasks, plays no role in either of these cases. When problem solvers are moderately familiar with the task, analytical reasoning strategies can be successfully implemented.

The approach taken for the assessment of problem solving in IALSS relies on the notion of (moderately) familiar tasks. Within a somewhat familiar context the problems to be solved are inexplicit enough so as not to be perceived as pure routine tasks. On the other hand, the domain-specific knowledge prerequisites are sufficiently limited as to make analytical reasoning techniques the main cognitive tool for solving the problems.

Identifying task characteristics

How can contextualized, real-life problems be defined and transformed into a set of assessment tasks? After reviewing the various approaches that have been taken in previous research to measure problem solving, a decision was made to use a project approach in IALSS. The project approach has the potential to be a powerful means for assessing analytical problem solving skills in real world, everyday contexts for several reasons. Solving problems in project-like settings is important and relevant for adults in both their professional and their private life. In addition, the project approach has been successfully implemented in other large-scale assessments, and it can be realized as a paper-and-pencil-instrument, which is of crucial importance for contemporary large-scale surveys. Furthermore, the project approach uses different problem-solving stages as a dimension along which to generate the actual test items. Following Pólya (1945, 1980), the process of problem solving has been frequently described in terms of the following stages:

- Define the goal.
- Analyze the given situation and construct a mental representation.
- Devise a strategy and plan the steps to be taken.
- Execute the plan, including control and – if necessary – modification of the strategy.
- Evaluate the result.

The different action steps define the course of action for an "everyday" project. One or more tasks or items are generated to correspond to each of these action steps. Respondents are expected to work on individual tasks that have been identified as steps that need to be carried out as a part of their project (a sample project, for example, might involve "planning a reunion" or "renovating a clubhouse"). Embedding the individual tasks in a project is believed to yield a high degree of context authenticity. Although they are part of a comprehensive and coherent project, the individual tasks are designed so that they can be solved independently of one another and are expected to vary in complexity and overall difficulty for adults.

Since assessing problem solving skills in large-scale assessments is a relatively new endeavour, it might be helpful to provide a detailed account of the construction process. Table B1 provides an overview of the problem solving steps as they correspond to the action steps identified above. Different components and aspects of each of the problem solving steps are listed.

Table B1

Problem-solving steps and instantiations

Define the goals	• Set goals. • Recognize which goals are to be reached and specify the essential reasons for the decision. • Recognize which goals/wishes are contradictory and which are compatible. • Assign priorities to goals/wishes.
Analyze the situation	• Select, obtain and evaluate information. ⇒ What information is required, what is already available, what is still missing, and what is superfluous? ⇒ Where and how can you obtain the information? ⇒ How should you interpret the information? • Identify the people (e.g. with what knowledge and skills) who are to be involved in solving the problem. • Select the tools to be used. • Recognize conditions (e.g. time restrictions) that need to be taken into account.
Plan the solution	• Recognize which steps need to be taken. • Decide on the sequence of steps (e.g. items on the agenda). • Coordinate work and deadlines. • Make a comparative analysis of alternative plans (recognize which plan is suitable for reaching the goals). • Adapt the plan to changed conditions. • Opt for a plan.
Execute the plan	• Carry out the individual steps (e.g., write a letter, fill in a form, make calculations).
Evaluate the results	• Assess whether and to what extent the target has been reached. • Recognize mistakes. • Identify reasons for mistakes. • Assess consequences of mistakes.

The construction of a pool of assessment tasks that could be mapped back to these five action steps involved several phases of activities. First was the identification of appropriate projects that would be suitable for adults with varying educational backgrounds and relevant to the greatest number of people in the target group. Next, developers had to identify and sketch out the problem situation and the sequence of action steps that relate back to the model. Third, they had to develop a pool of items that were consistent with the action steps and that tapped into particular processes including the development of correct responses and appropriate distractors for multiple choice items and solution keys and scoring guides for open-ended tasks.

Characterizing problem solving tasks

IALSS included a total of 4 projects involving 20 tasks in the assessment of problem solving. These resulted in 19 scorable items than ranged from 199 to 394 along the scale and, like the literacy and numeracy tasks, their placement was determined by the patterns of right and wrong responses among adults in participating countries. Rather than release one of the four projects that were used in IALSS, we will characterize the hypothesized proficiency scale for analytical problem solving that was tested using pilot data and present an example from the pilot data that was not used in the main assessment[3]. Similar models have been described within the frameworks of other large-scale assessments of problem-solving competencies such as the project test for Hamburg/Germany (Ebach, Klieme and Hensgen, 2000) and the PISA 2003 assessment of cross-curricular problem solving (OECD, in press).

In IALSS, four levels of problem-solving proficiency are postulated:

Level 1

At a very elementary level, concrete, limited tasks can be mastered by applying content-related, practical reasoning. At this level, people will use specific content-related schemata to solve problems.

Level 2

The second level requires at least rudimentary systematical reasoning. Problems at this level are characterized by well-defined, one-dimensional goals; they ask for the evaluation of certain alternatives with regard to transparent, explicitly stated constraints. At this level, people use concrete logical operations.

Level 3

At the third level of problem-solving proficiency, people will be able to use formal operations (e.g., ordering) to integrate multi-dimensional or ill-defined goals, and to cope with non-transparent or multiple dependent constraints.

Level 4

At the final and highest level of competency, people are capable of grasping a system of problem states and possible solutions as a whole. Thus, the consistency of certain criteria, the dependency among multiple sequences of actions and other "meta-features" of a problem situation may be considered systematically. Also, at this stage people are able to explain how and why they arrived at a certain solution. This level of problem-solving competency requires a kind of critical thinking and a certain amount of meta-cognition.

The following example illustrates a concrete realization of a project. For this purpose a project that is not included in the final ALL instrument is introduced and one typical problem-solving task is shown. The project is about "Planning a trip and a family reunion".

In the introductory part of the project, the respondent is given the following summary describing the scenario and overall problem:

> *"Imagine that you live in City A. Your relatives are scattered throughout the country and you would like to organize a family reunion. The reunion will last 1 day. You decide to meet in City B, which is centrally located and accessible to all. Since you and your relatives love hiking, you decide to plan a long hike in a state park close to City B. You have agreed to be responsible for most of the organization."*

The respondent is then given a list of steps he or she needs to work through, in this example the following list:

- *Set the date for the reunion*
- *Consider your relatives' suggestions for the hike*
- *Plan what needs to be done before booking your flight*
- *Answer your relative's questions about traveling by plane*
- *Book your flight*
- *Make sure your ticket is correct*

- *Plan the trip from City B to the airport*

The first task of this project "Set the date for the reunion" is a good example of a typical problem-solving task and is shown here as it would appear in a test booklet.

Example task: Set the date for the reunion

The family reunion should take place sometime in July.

You asked all your relatives to tell you which dates would be suitable. After talking to them, you made a list of your relatives' appointments during the month of July. Your own appointment calendar is lying in front of you. You realize that some of your relatives will have to arrive a day early in order to attend the family reunion and will also only be able to return home on the day after the meeting.

Please look at the list of your relatives' appointments and your own appointment calendar.

List of your relatives' appointments in July 1999

Henry	Karen	Peter	Janet	Anne	Frank
Vacation in City E beginning on July 26; Appointment on July 11	Every day of the week is okay except Thursdays and on July 16	Business appoint-ments on July 2, July 13, and between July 27 and 29	Doesn't have any appoint-ments	Unable to attend reunion on July 5, July 20, or July 24	Has to be away sometime during the 1st full week in July on business, but will find out the exact dates shortly before

Henry, Karen, and Peter could arrive on the same day as the reunion whereas Janet, Anne, and Frank can only arrive on the afternoon before and return home on the day after the reunion.

Example task (cont.)

Your appointment calendar for July 1999

July 1999

	Thurs.	1	Meeting with David
	Fri.	2	
	Sat.	3	
	Sun.	4	
	Mon.	5	
	Tue.	6	
	Wed.	7	
	Thurs.	8	
	Fri.	9	
	Sat.	10	*Hike in City C*
	Sun.	11	
	Mon.	12	
	Tue.	13	
	Wed.	14	
	Thurs.	15	
	Fri.	16	
	Sat	17	
	Sun.	18	
	Mon.	19	
	Tue.	20	
	Wed.	21	
	Thurs	22	
	Fri.	23	
	Sat.	24	
	Sun.	25	
	Mon.	26	
	Tue.	27	
	Wed.	28	Vacation
	Thurs	29	Vacation
	Fri.	30	Vacation
	Sat.	31	

Question 1. Which of the following dates are possible for the family reunion?

Please select all possible dates.

- [a] July 4
- [b] July 7
- [c] July 14
- [d] July 18
- [e] July 25
- [f] July 29

This project illustrates nicely how the action steps logic is actually "translated" into a concrete thematic action flow. The underlying plot – planning a trip and a family reunion – constitutes a very typical everyday-type of action that presumably a large majority of people in different countries will be able to relate to. The action steps themselves and their sequence can deviate from the normative complete action model, as is the case here. The normative model is used as a guideline that is adapted to each specific context. In this case, for example, the task "Consider your relatives' suggestions for the hike" corresponds approximately to the action step "Analyze the situation", the task "Plan what needs to be done before booking your flight" corresponds to the action step "Plan the solution", and "Book your flight" is a typical example for the action step "Execute the plan".

The example task gives a first indication of item structures and formats. The tasks typically start off with a short introduction to the situation, followed by varying types and amounts of information that need to be worked through. In the example task, in order to set the date for the family reunion, the respondent needs to process, compare and integrate the information provided in the list of the relatives' appointments, including the addendum to this list, and their own appointment calendar. Here the information is mostly textual and in the form of tables. The answer format is a multiple-choice format with more than one correct response alternatives, although the number of correct response alternative is not specified.

Conclusion

This Annex offers a brief overview of the frameworks that have been used for both developing the tasks used to measure prose and document literacy, numeracy and problem solving in IALSS as well as for understanding the meaning of what is being reported with respect to the comparative literacy proficiencies of adults. The frameworks identify a set of variables that have been shown to influence successful performance on a broad array of tasks. Collectively, they provide a means for moving away from interpreting survey results in terms of discrete tasks or a single number, and towards identifying levels of performance sufficiently generalized to have validity across assessments and groups. As concern ceases to center on discrete behaviours or isolated observations and focuses more on providing meaningful interpretations of performance, a higher level of measurement is reached (Messick, 1989).

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Annex C

Survey methodology

Survey methodology

As a country participating in the first round of data collection for the international Adult Literacy and Life Skills (ALL) survey, the Canadian component, under the heading of the International Adult Literacy and Skills Survey (IALSS), was implemented according to the standards provided in the document '*Standards and Guidelines for the Design and Implementation of the Adult Literacy and Life Skills Survey*'. These standards establish the minimum design and implementation requirements covering the complete range from survey planning to survey documentation.

Assessment design

The elements of functional literacy and life skills in IALSS are evaluated through psychometric measures of proficiency in the skill domains of prose literacy, document literacy, numeracy, and problem solving. Every question, or set of related questions, is based on an item. The set of all items are organized into smaller sets of tasks, or blocks: four 30-minute blocks of literacy items (i.e., prose and document literacy), two 30-minute blocks of numeracy items, and two 30-minute blocks of problem solving items. The blocks are combined in pairs using a Balanced Incomplete Block (BIB) assessment design to arrive at 28 booklets.

The booklets were distributed amongst the sample according to the design for the entire Canadian sample, over and beyond the minimum requirement of respondents from each language tested. As each booklet can take upwards of an hour to administer, each respondent was asked to complete only one; no one was required to take the entire set of tasks. The method of spreading the blocks across booklets substantially reduced the burden on respondents. The data collection activity was also closely monitored in order to obtain approximately the same number of complete cases for each task booklet, except for four task booklets containing either only numeracy items or only problem solving items: these booklets required a larger number of complete cases.

Target population and sample frame

The target population is comprised of all Canadian residents who were 16 years of age or older at the time of data collection, excluding long-term institutional residents, families of members of the armed forces on military bases, and individuals living on Indian Reserves.

Residents of sparsely populated regions were also excluded from the survey population for operational reasons. Even when combined with the exclusions listed above, this represented no more than 2 percent of the total population, well within the international 5 percent minimum under-coverage requirement. It is estimated that the coverage for the survey was 98.5 percent nationally, with provincial coverage ranging from 95 percent to nearly 100 percent. In the northern territories, reduced levels of coverage (70 to 90 percent) were obtained because only the communities covered in the national Labour Force Survey were included. Table C1 provides the estimated coverage rate by province and territory.

Table C1

Estimated coverage rate by jurisdiction, IALSS 2003

	Estimated coverage rate (%)
Newfoundland and Labrador	98.1
Prince Edward Island	99.7
Nova Scotia	99.3
New Brunswick	98.8
Quebec	98.9
Ontario	99.3
Manitoba	95.3
Saskatchewan	95.3
Alberta	98.2
British Columbia	97.1
Yukon	90.0
Northwest Territories	86.0
Nunavut	70.0
Canada	**98.5**

Source: *International Adult Literacy and Skills Survey, 2003.*

Canada was the only country that opted to include adults over the age of 65 in its target population; a liberty that was available as the sample design already satisfied the minimum suggested international sample size requirement for those aged 16 to 65 years.

Sample frame

The most recent Census of Population and Housing, with a reference date of May 15th 2001, was chosen as the frame for the survey. This already existing frame offered the ability to use reported household-level characteristics to identify dwellings with greater probability of containing an individual belonging to specific target sub-populations of interest. This auxiliary information greatly assisted the efficiency of the sample design. Specifically, the survey frame consisted of households enumerated by the Census long-form (20 percent) sample.

The survey's national base sample, provincial top-up samples to the base, and supplementary samples related to age could have been selected from short-form households from the Census, but the long form data were required to identify the

remainder of the special subpopulations. In the case of minority language samples, the quality of the long form responses is judged to be superior to that of the short form. The presence of questions on the knowledge of, and the use of languages, in addition to the mother tongue (language first learned and still understood) provide respondents with more opportunities to properly characterize their linguistic profile.

Sample design

A stratified multi-stage probability sample design was used to select the sample from the Census Frame. The sample was designed to yield separate samples for the two official languages, English and French. In addition, the sample size was increased to produce estimates for a number of population subgroups. Provincial ministries and other organizations sponsored supplementary samples to increase the base or to target specific subpopulations such as youth (ages 16 to 24 in Quebec and 16 to 29 in British Columbia), adults aged 25 to 64 in Quebec, linguistic minorities (English in Quebec and French elsewhere), recent and established immigrants, urban aboriginal peoples, and residents of the northern territories.

In each of the 10 provinces the Census Frame was further stratified into an urban stratum and a rural stratum. The urban stratum was restricted to urban centers of a particular size, as determined from the previous census. The remainder of the survey frame was delineated into primary sampling units (PSUs) by Statistics Canada's Generalised Area Delineation System (GArDS). The PSUs were created to contain a sufficient population in terms of the number of dwellings within a limited area of reasonable compactness. In addition, a general indication of the education level of the population from the 1996 Census was incorporated to create PSUs that reflected the educational distribution of their province.

A second, implicit, stratification was used in the systematic selection of households for each sample. The highest level of education for each adult in the household, as recorded in the Census frame, was used to determine a representation of the dominant class from four broad levels: 1) less than high school, 2) high school graduate or some post-secondary education, 3) college graduate, and 4) university graduate. Formal educational attainment is not the only, but is the main, determinant of performance in evaluations of literacy (OECD and Statistics Canada, 2000). Ordering the households by education within geographic regions before sample selection increased the ability to represent a range of educational backgrounds.

The sample was allocated between strata under a Neyman allocation, incorporating a conservative design effect of 2 for the rural stratum and 1.5 for the urban stratum. After allocation, it became apparent that several PSUs in the rural strata were sufficiently important that they were effectively being sampled with certainty. These PSUs were converted to a new pseudo-urban stratum, to be treated similar to the urban stratum in terms of sample selection.

As a final step before sample selection, the negotiated sample sizes were inflated to account for an international target minimum response rate of 70 percent and for mobility in terms of the characteristics of interest for each subpopulation covered by a supplementary sample. A blended rate was calculated using reported 1-year and 5-year mobility variables from the Census as proxy variables, and applied to the time lag between the Census and the start of collection in March of 2003. These rates were adjusted downward in each stratum to reflect the expected replacement of movers by others with the same target characteristics for each supplementary sample.

Within the urban stratum, two stages of sampling were used. In the first stage, households were selected systematically with probability proportional to size. The size measure was constructed in terms of the number of adults in a household, using

a maximum cap at four for the base sample and at three for supplementary samples. During the second stage, a simple random sample algorithm was used by the CAPI application to select an individual from the demographic roster of eligible household adults. Three stages were used to select the sample in the rural stratum. In the first stage, primary sampling units (PSUs) were selected with probability proportional to population size as measured by the total number of adults for each sample's survey population in the 2001 Census. The second and third stages for the rural stratum repeated the same methodology employed in the two-stage selection for the urban stratum.

Sample size

Each province had a base sample that covered the general population. Additionally, provincial ministries and other organisations sponsored supplementary samples to increase the base or to target specific subpopulations. Table C2 shows the expected number of respondents in each sample: the base, youth (ages 16 to 24 in Quebec and 16 to 29 in British Columbia), adults aged 25 to 64 in Quebec, linguistic minorities (English in Quebec and French elsewhere), recent and established immigrants, urban aboriginals, and residents (specifically Inuit and non-Inuit for Nunavut) of the territories.

Table C2

Expected distribution of responses from base and supplementary samples prior to fielding, IALSS 2003

Jurisdiction	Base sample	Youth[1]	Adult[2]	Language	Immigrant	Aboriginal populations	Non-Aboriginal populations[3]	Total
Newfoundland and Labrador	1,350	…	…	…	…	…	…	1,350
Prince Edward Island	650	…	…	…	…	…	…	650
Nova Scotia	1,350	…	…	…	…	…	…	1,350
New Brunswick	650	…	…	760	…	…	…	1,410
Quebec	1,110	815	1,885	570	270	…	…	4,650
Ontario	1,690	…	…	3,000	1,060	…	…	5,750
Manitoba	1,350	…	…	450	…	700	…	2,500
Saskatchewan	650	…	…	…	…	700	…	1,350
Alberta	1,350	…	…	…	70	…	…	1,420
British Columbia	1,350	490	…	…	280	…	…	2,120
Yukon	…	…	…	…	…	700	700	1,400
Northwest Territories	…	…	…	…	…	450	450	900
Nunavut	…	…	…	…	…	700	180	880
Canada	**11,500**	**1,305**	**1,885**	**4,780**	**1,680**	**3,240**	**1,340**	**25,730**

1. Youth = 16 to 24 in Quebec, 16 to 29 in British Columbia.
2. Adults are defined as being 25 to 64.
3. Non-Aboriginal population in Nunavut is defined as anyone who is Non-Inuit.

… Not applicable.

Source: *International Adult Literacy and Skills Survey, 2003.*

After adjusting for non-response and the anticipated mobility of the target sub-populations, an overall sample size of over 40,000 was achieved. The samples were selected sequentially, one after another, starting with the base sample. After the selection of each sample, chosen households were removed from the frame before the next selections, thereby making the samples dependent. The sequential selection of multiple samples in a province can be viewed as multiple phase sampling.

A respondent's data is considered complete for the purposes of the scaling of psychometric assessment data provided that at least the Background Questionnaire variables for age, gender and education have been completed.

Data collection

The ALL survey design combined educational testing techniques with those of household survey research to measure literacy and provide the information necessary to make these measures meaningful. The main task booklets were the last of a series of collection instruments to be applied. Initially, respondents were asked to complete a survey entry component, or screener, which constructed a roster for each sampled dwelling. This screener collected enough demographic data to identify target sub-populations for the survey and to permit the random selection of one member from each dwelling. The background questionnaire was then asked of the selected respondent, encompassing several modules of information required to relate the tested skills to individuals' economic and social situations. The respondents were asked a series of questions on educational attainment, literacy practices at home and at work, labour force information, information communications technology uses, adult education participation and literacy self-assessment. As a result, the background questionnaire required a median time of about 35 minutes to administer.

Once the background questionnaire had been completed, the interviewer presented a short core task booklet of six relatively simple tasks (Core task booklet). Respondents who passed the Core tasks were given a more difficult main task booklet, with a much larger variety of tasks involving about 45 items. No time limit was imposed on respondents, and they were urged to try each item in their booklets. Respondents were given a maximum leeway to demonstrate their skill levels, even if their measured skills were minimal. All respondents were to attempt the Core task, and then if indicated, the main task booklet (median completed time of 58 minutes) immediately after completing the background questionnaire in order to control the impact of fatigue on the assessment tools.

The core and main task booklets were paper and pencil assessments; however the screener, background questionnaire, and even the administration of the core and the main task booklets were handled in a computer-assisted personal interview (CAPI) environment. As a benefit of an extensive match of the census frame to the central Address Register, telephone numbers were available for approximately 74 percent of the survey file. In such a case, interviewers were permitted to make an initial contact by telephone to complete the screener and to then schedule an appointment for a personal interview with the selected respondent.

Data collection began in 2003 with the planning of interviewer assignments by the regional offices coordinating the collection activities. The first contacts with respondents were initiated in March 2003 across the country and the last interviews were completed in August, with all survey-related materials being returned to head office by September of 2003.

To ensure high quality data, the international Survey Administration Guidelines were followed and supplemented by adherence to Statistics Canada's own internal policies and procedures. The interviews were conducted in the respondent's home in a neutral, non-pressured manner. Interviewer training and supervision were provided, emphasizing the importance of precautions against non-response bias. Interviewers were specifically instructed to return several times to non-respondent households in order to obtain as many responses as possible. Extensive effort was expended to ensure that the address information provided to interviewers was as complete as possible, in order to reduce potential household identification problems. Finally, the

interviewers' work was supervised by using frequent quality checks at the beginning of data collection, fewer quality checks throughout collection and having help available to interviewers during the data collection period. In total, Canada used 317 interviewers with an average assignment size of 62 respondents.

As a condition of participation in the international study, it was required to capture and process files using procedures that ensured logical consistency and acceptable levels of data capture error. Specifically, complete verification of the captured scores (i.e., enter each record twice) was done in order to minimize error rates. Because the process of accurately capturing the task scores was essential to high data quality, 100 percent keystroke verification was required.

Industry, occupation, and education variables were required to be coded using standard schemes such as the International Standard Industrial Classification (ISIC), the International Standard Classification of Occupations (ISCO) and the International Standard Classification for Education (ISCED). Coding schemes were provided for all open-ended items, as were specific instructions about coding of such items.

Scoring of tasks

Persons charged with scoring received intense training in scoring responses to the open-ended items using the ALL scoring manual. As well, they were provided a tool for capturing closed format questions. To aid in maintaining scoring accuracy and comparability between countries, the ALL survey introduced the use of an electronic bulletin board, where countries could post their scoring questions and receive scoring decisions from the domain experts. This information could be seen by all participating countries, and they could then adjust their scoring. To further ensure quality, monitoring of the scoring was done in two ways.

First, at least 20 percent of the tasks had to be re-scored. Guidelines for intra-country rescoring involved rescoring a larger portion of booklets at the beginning of the scoring process to identify and rectify as many scoring problems as possible. In a second phase, a smaller portion of the next third of the scoring booklets was selected; the last phase was viewed as a quality monitoring measure, which involved rescoring a smaller portion of booklets regularly to the end of the re-scoring activities. The two sets of scores needed to match with at least 95 percent accuracy before the next step of processing could begin. In fact, most of the intra-country scoring reliabilities were above 95 percent. Where errors occurred, a country was required to go back to the booklets and rescore all the questions with problems and all the tasks that belonged to a problem scorer.

Second, an international re-score was performed. Each country had 10 percent of its sample re-scored by scorers in another country. For example, a sample of task booklets from the United States was re-scored by the persons who had scored Canadian English booklets, and vice-versa. The main goal of the re-score was to verify that no country scored consistently differently from another. Inter-country score reliabilities were calculated by Statistics Canada and the results were evaluated by the Educational Testing Service based in Princeton. Again, strict accuracy was demanded: a 90 percent correspondence was required before the scores were deemed acceptable. Any problems detected had to be re-scored. Table C3 shows the high level of inter-country score agreement that was achieved.

Table C3

Scoring percent reliability by domain

	Domain			
	Prose and document	Numeracy	Problem solving	Total
			%	
Canada English scoring Canada French	95	95	92	95
Canada French scoring Canada English	95	97	94	95

Source: *International Adult Literacy and Skills Survey, 2003.*

Survey response and weighting

The Canadian IALSS sample has a very complex design, involving stratification, multiple phases, multiple stages, systematic sampling, probability proportional to size sampling, and several overlapping samples. Furthermore, there is a need to compensate for the non-response that occurred at varying levels. Therefore, the estimation of population parameters and the associated standard errors is dependent on the survey weights. Two types of weights were calculated: population weights that are required for the production of population estimates, and jackknife replicate weights that are used to derive the corresponding standard errors.

Population weights

The population weights were derived in four steps: 1) calculation of the design weights, 2) weighting adjustments for non-response, 3) integration of the weights from the different samples, and 4) calibration.

The design weights were defined as the inverse of the probabilities of selection. The overall probability of selection of a sample unit was the product of its probabilities of selection at each phase and stage of selection. The sequential selection of multiple samples in a province was taken into account by factoring in the probability that a unit selected in a given sample was not selected in any of the samples already selected.

The weighting adjustments for non-response were calculated by first categorizing the sample units either as respondents, out-of-scope households, non-respondent households (those without data from the screener), and non-respondent individuals (screener completed, but no data for the selected respondent). The CHAID algorithm in Knowledge-Seeker software was used successively to form weighting classes (response homogeneous groups) to adjust for non-respondent households and non-responding persons in two separate stages for each province and sample type. Afterward, the design weights of the respondents were adjusted by the factors calculated from each step in order to represent all individuals.

With the overlap in coverage from the various samples, it was necessary to integrate the weights to be able to produce estimates using all units from all samples. The situation is comparable to a multiple frame situation, except that here the samples are dependent. The weights were integrated using Hartley's method for multiple frames: the entire sample was partitioned according to the sub-populations targeted in the supplementary samples, and the weights were adjusted by coefficients proportional to the realized sample sizes of the various samples within the partition.

Finally, the weights were calibrated separately in each province or territory using the benchmark variables given in Table C4. Attempts to include household size and education variables proved unsatisfactory and were abandoned. Variables

that were used had been validated through matches of the collected survey data with available frame information. Small amounts of missing data for the calibration variables were imputed. Census counts for all calibration variables at the enumeration area level were inflated according to the growth measured between provincial age and gender totals from the Census and the corresponding official demographic counts as of June 21, 2003. This reference date represented an approximation of the midpoint of collection both in terms of calendar days, and in terms of completed response.

Table C4

Benchmark variables by province or territory

Jurisdiction	Calibration variables
Newfoundland and Labrador	Age group x Gender, Stratum x Gender, CMA/CA (St. John's)
Prince Edward Island	Age group x Gender
Nova Scotia	Age group x Gender, Stratum x Gender, CMA/CA (Halifax)
New Brunswick	Age group x Gender, Stratum x Gender, Francophone x Gender
Quebec	Age group x Gender, Stratum x Gender, CMA/CA (Montréal, Québec), Anglophone x Gender, Immigrant x Gender
Ontario	Age group x Gender, Stratum x Gender, CMA/CA (Toronto, Ottawa, group of 6 CMAs), Francophone x Gender, Immigrant x Gender
Manitoba	Age group x Gender, Stratum x Gender, CMA/CA (Winnipeg), Francophone x Gender, Urban Aboriginal x Gender
Saskatchewan	Age group x Gender, Stratum x Gender, CMA/CA (Regina, Saskatoon), Urban Aboriginal x Gender
Alberta	Age group x Gender, Stratum x Gender, CMA/CA (Calgary, Edmonton), Immigrant x Gender
British Columbia	Age group x Gender, Stratum x Gender, CMA/CA (Vancouver), Immigrant x Gender
Yukon	Age group x Gender, CMA/CA (Whitehorse), Aboriginal x Gender
Northwest Territories	Age group x Gender, CMA/CA (Yellowknife), Aboriginal x Gender
Nunavut	Age group x Gender, Inuit x Gender

Note: Age group was defined as 16 to 25, 26 to 35, 36 to 45, 46 to 55, 56 to 65, 66 and over, except that the younger age groups were defined as 16 to 24, 25 to 35 for Quebec, and 16 to 29, 30 to 45 for British Columbia.

Source: *International Adult Literacy and Skills Survey, 2003.*

Table C5 summarizes the sample sizes and response rates for each province:

Table C5

Achieved sample and response rates by province

Region	Sample size and response rate summary				
	Target population	Initial sample size	Out-of-scope cases[1]	Number of respondents[2]	Response rate[3]
Newfoundland and Labrador	431,646	2,001	98	1,299	68.3
Prince Edward Island	111,274	929	48	645	73.2
Nova Scotia	747,447	1,928	103	1,272	69.7
New Brunswick	599,679	2,126	181	1,466	75.4
Quebec	5,994,042	7,327	939	4,166	65.2
Ontario	9,621,290	9,600	1,613	4,946	61.9
Manitoba	852,805	4,186	767	2,267	66.3
Saskatchewan	741,829	2,542	640	1,234	64.9
Alberta	2,428,842	2,067	130	1,307	67.5
British Columbia	3,313,115	3,291	429	1,849	64.6
Yukon	20,739	2,000	249	1,092	62.4
Northwest Territories	26,541	1,286	110	818	69.6
Nunavut	12,592	1,257	119	677	59.5
Canada	**24,901,841**	**40,540**	**5,426**	**23,038**	**65.6**

1. Out-of-scope cases are those that were coded as residents not eligible, unable to locate the dwelling, dwelling under construction, vacant or seasonal dwelling, or duplicate cases.
2. A respondent's data is considered complete for the purposes of the scaling psychometric assessment data provided that at least the Background Questionnaire variables for age, gender and education have been completed.
3. The response rate is calculated as number of respondents divided by the initial sample size minus the out-of-scope cases.

Source: *International Adult Literacy and Skills Survey, 2003.*

Jackknife weights

Thirty jackknife replicate weights were developed for use in determining the standard errors of the survey estimates. The 30 replicates cut across strata – 30 replicates were created within each province by sample type and by stratum.

In the urban strata, households were selected systematically in the first stage of sample selection. The replicates were formed by sorting the households in the order that was used for the systematic sample selection, and by assigning replicate numbers sequentially from 1 to 30 to the households, restarting back to 1 after reaching 30.

In the rural strata, PSUs were selected in the first stage of selection. Since fewer than 30 PSUs were selected in all strata, the PSUs were split to form the replicates. As much as possible, the PSUs were split into an equal number of replicates. If this was not possible, the PSUs with a larger number of respondents were split into more replicates. For example, if 11 PSUs were selected for a particular province and sample, then the 8 PSUs with the greatest number of respondents would each be split into 3 replicates, and the remaining 3 PSUs would each be split into 2 replicates, to obtain a total of 30 replicates.

The replicates were formed using the initial IALSS sample of over 40,000 units. Initial jackknife weights were calculated, based on the design weights. The entire weighting process was repeated for each of the 30 jackknife weights, including non-response weighting adjustments, integration of the weights, and calibration.

Reference

OECD and Statistics Canada (2000), *Literacy in the information age: Final results of the International Adult Literacy Survey*. Paris and Ottawa: Authors.

Annex D

List of partners

A study of the size and magnitude of the IALSS cannot be efficiently conducted by a single agency. The expense and workload is such that efforts of this scope can only be successful with the help of dedicated professionals working in agencies from across the country and, indeed, given its international scope, from around the world. While the international report acknowledged the international partnerships, a few of which are repeated below, this national report would like to gratefully acknowledge our transnational supporters.

The following includes a list of Federal, Provincial and Territorial partners who, through funding, analysis and various other forms of support, were instrumental in making this study a reality. Statistics Canada and Human Resources and Skills Development Canada would like to thank them for their support and encouragement.

While all of our partners provided important support for the study, special mention should be made of the *Institut de la statistique du Québec (Direction Santé Québec)* for their help and support across all operational phases of the study. They participated in international meetings and greatly helped with the adaptation of the assessment materials into French, translation of survey materials, the scoring of the assessments returning from our collection and with in-depth analysis of data quality. The *National Literacy Secretariat* of *Human Resources and Skills Development Canad*a must also be acknowledged for assuming leadership role, over several years, in supporting, championing and promoting the survey. Securing the participation of provincial and territorial partners was only one of the Secretariat's important contributions, and we are grateful for the Secretariat's consistent commitment to improving and understanding literacy in Canada.

Federal partners and contributors

Human Resources and Skills Development Canada
Statistics Canada
Canadian Heritage
Citizenship and Immigration Canada

Provincial and territorial contributors

Newfoundland Statistics Agency

Department of Education, Government of Newfoundland and Labrador

Nova Scotia Department of Education

Nova Scotia Provincial Literacy Coalition

Institut de la statistique du Québec, Direction Santé Québec

Ontario Ministry of Training, Colleges and Universities

Manitoba Education, Training and Youth

Saskatchewan Learning

Saskatchewan Post-Secondary Education and Skills Training

The Saskatchewan Literacy Network

Alberta Learning

Literacy Coordinators of Alberta

C2T2, British Columbia

Ministry of Advanced Education, Training and Technology, Government of British Columbia

Ministry of Advanced Education, Government of British Columbia

Yukon Department of Education

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Department of Executive and Intergovernmental Affairs, Government of Nunavut

Nunavut Literacy Council

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