



***LITERACY IN New Brunswick  
Implications of Findings  
from IALSS 2003***

*Presented by*

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**February 2006**

## Key Questions

- What is the level of literacy proficiency in English/French in New Brunswick?
- How does New Brunswick compare to Canada, the provinces and other territories?
- How proficient are residents of New Brunswick in the different component skills?
- How is literacy performance distributed in the working age population of New Brunswick/Atlantic?
- How do age and education affect the literacy and numeracy performance?
- How is literacy performance distributed in the labor force, immigration, occupations, industries and earning groups?
- What are the demographic characteristics of people with low literacy proficiency and where are they located in New Brunswick?

**Literacy proficiency: the ability to *understand* and *employ* printed information in daily activities, at home, at work and in the community. It is not about whether or not one can read but how well one reads.**

#### 4 Domains, measure skills at five levels :

- **Prose:** The knowledge and skills needed to understand and use information from texts including editorials, news stories, brochures and instruction manuals.
- **Document:** 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 apply arithmetic operations, either alone or sequentially, to numbers embedded in printed materials, such as balancing an account, figuring out a tip, completing an order form or determining the amount of interest on a loan from an advertisement .
- **Problem Solving:** Involves goal-directed thinking and action in situations for which no routine solution procedure is available. The understanding of the problem situation and its step-by-step transformation, based on planning and reasoning constitute the process of problem solving. (Only four proficiency levels)

•Level 1	0 - 225 points
•Level 2	226 -275 points
•Level 3	<b>276-325 points*</b>
•Level 4	326 -375 points
•Level 5	376 -500 points

\* Proficiency level for modern economy and knowledge-based society

## Background information of importance for IALSS results: New Brunswick

Total population (2003)	752,000
Population/square km	10 app.
Population 15-64 (2005)	525,800
Population 65 and over (2005)	104,700

### Gender Distribution

Males	371,200
Females	380,900

### Population by mother tongue (Census 2001)

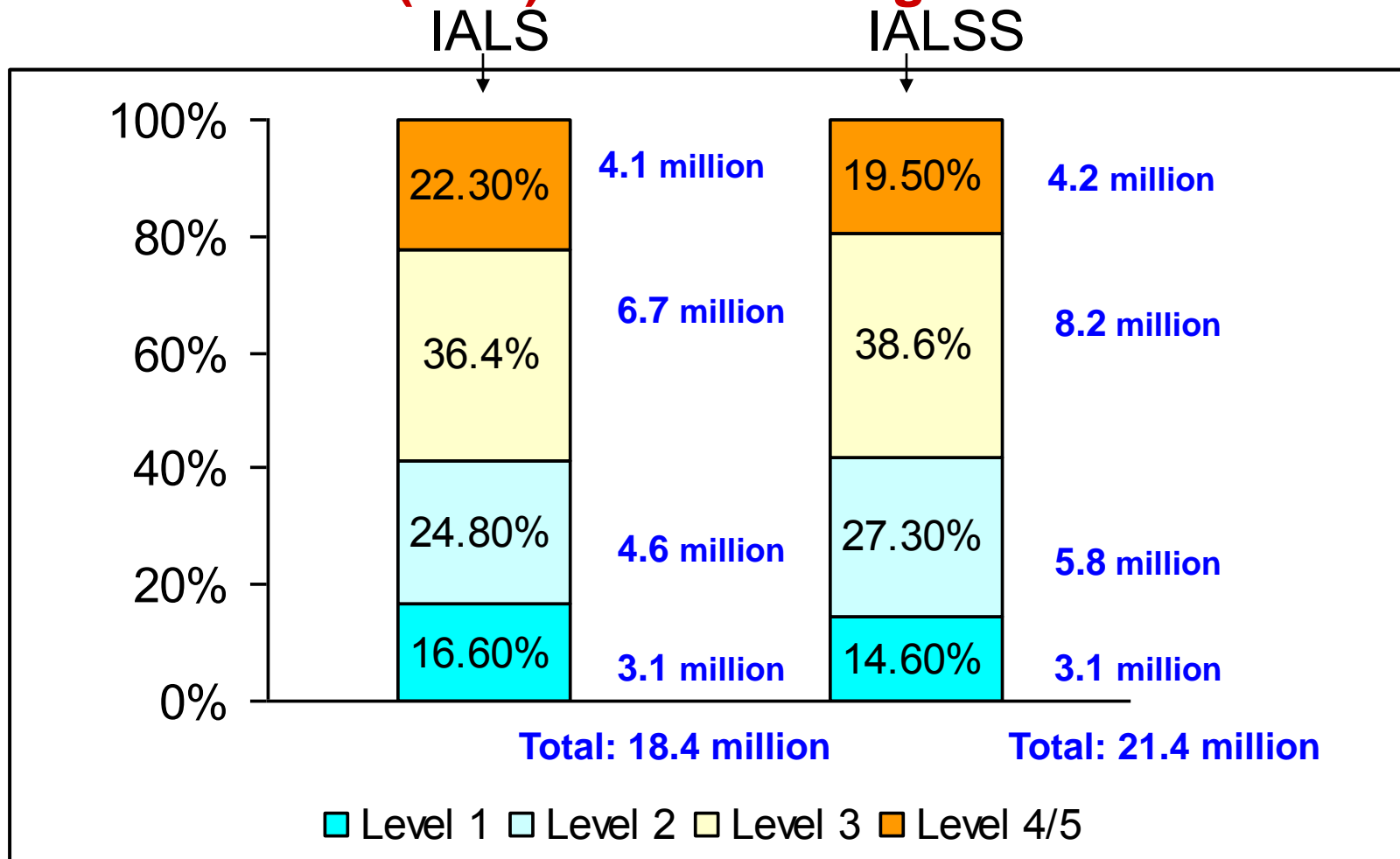
English only	465,170
French only	236,665
Non-official languages only	11,935
English and French	5,255
Eng. and non-off language	550
French and non-off language	105

### Population 15 years and over by highest level of schooling

(Census 2001)

Less than high school	219,825
High school graduate	87,150
Trade Vocational cert.	18,755
College education	133,825
University	129,815

The number of persons (16 to 65) with low literacy rose from 8 m in 1994 to 9 m in 2003 though the percentage (42%) did not change.



\* Differences at each level between IALS and IALSS are not statistically significant

# Comparisons of provinces and territories based on average scores.

Prose, population 16 and older, 2003

Jurisdiction	Y.T.	Sas.	Alta.	B.C.	N.S.	N.W. T	Man.	P.E.I.	Can.	Ont.	Que.	N.B.	N.L.	Nvt
Yukon Territory	Black	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Saskatchewan	Green	Black	Yellow	Yellow	Yellow	Yellow	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Alberta.	Green	Yellow	Black	Yellow	Yellow	Yellow	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
British Columbia	Green	Yellow	Yellow	Black	Yellow	Yellow	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Nova Scotia	Green	Yellow	Yellow	Yellow	Black	Yellow	Yellow	Yellow	Yellow	Yellow	Grey	Grey	Grey	Grey
Northwest Territories	Green	Yellow	Yellow	Yellow	Yellow	Black	Yellow	Yellow	Yellow	Yellow	Grey	Grey	Grey	Grey
Manitoba	Green	Green	Green	Green	Yellow	Yellow	Black	Yellow	Yellow	Yellow	Grey	Grey	Grey	Grey
Prince Edward Island	Green	Green	Green	Green	Yellow	Yellow	Yellow	Black	Yellow	Yellow	Yellow	Yellow	Grey	Grey
<b>Canada</b>	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Black	Yellow	Grey	Grey	Grey	Grey
Ontario	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Black	Yellow	Yellow	Grey	Grey
Quebec	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Black	Yellow	Yellow	Grey
New Brunswick	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Black	Yellow	Grey
Newfoundland and Labrador	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Black	Grey
Nunavut	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Black

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

# Proficiency varied across domains and population age in New Brunswick.

Average proficiency scores, population 16 and older and population 16 to 65, New Brunswick, 2003

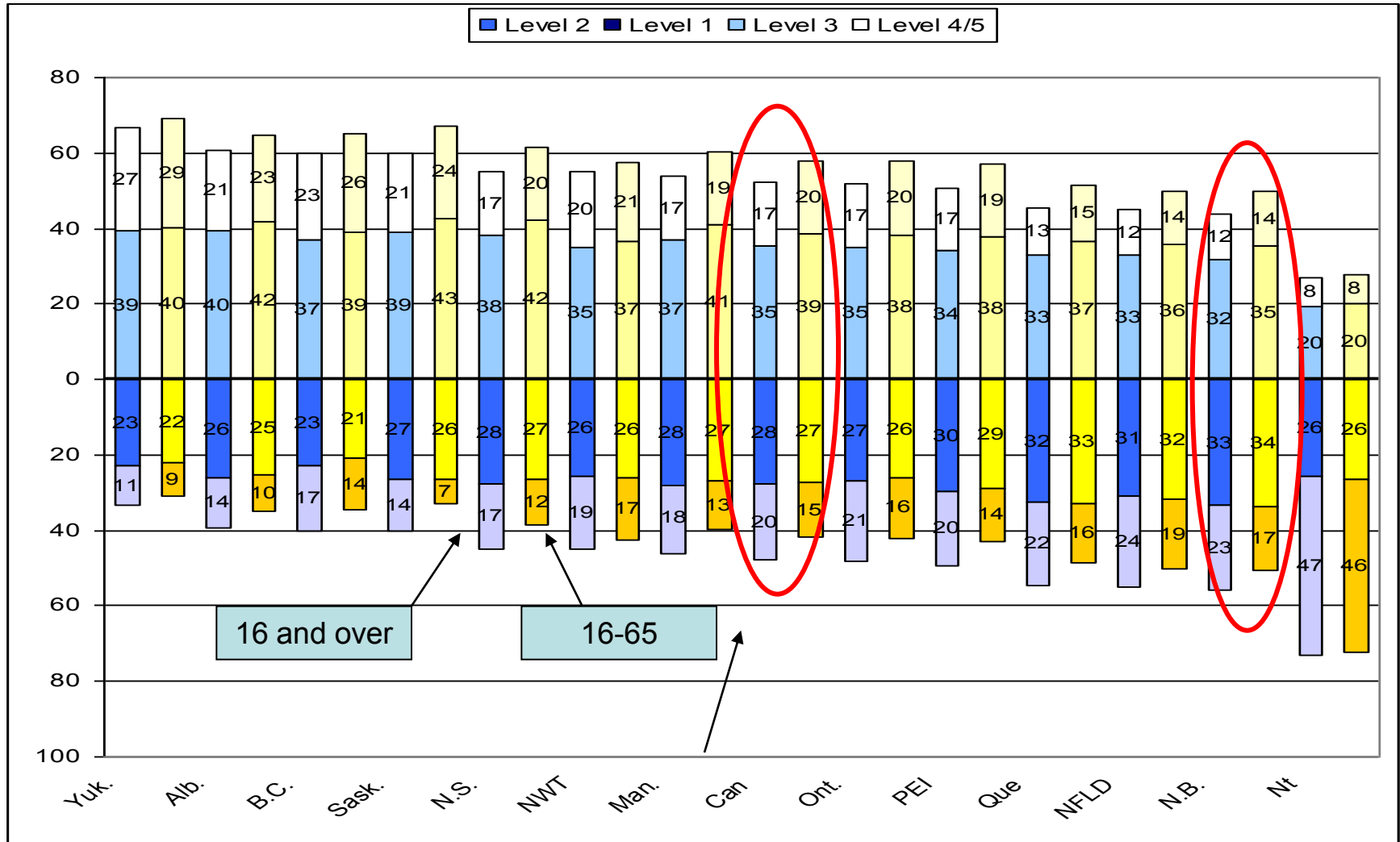
	Prose	Document	Numeracy	Problem Solving*
16 and older	264	261	252	257
16 to 65 years of age	273	270	262	266

 - Below level 3

\* Proficiency levels are defined differently for problem solving

In New Brunswick, the distribution of prose literacy proficiency is more favourable in the working age population compared to 16 and over, similar to most provinces and territories.

Per cent of population aged 16 and older and 16-65 at each prose level, 2003





**New Brunswick had average scores at level 2 in document, prose and in numeracy (population 16-65).**

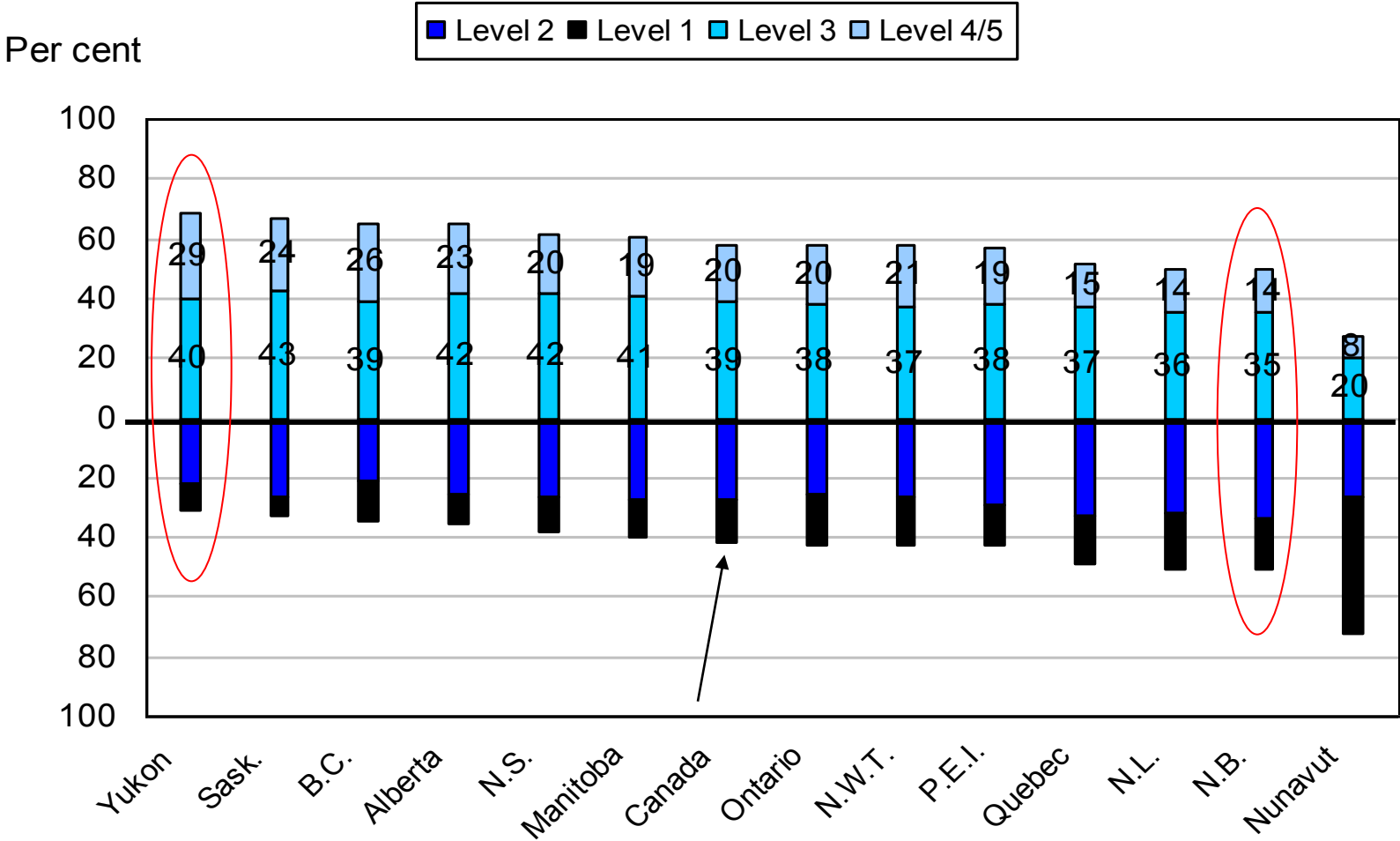
Province or Territory	Document literacy	Prose literacy	Numeracy
Newfoundland and Labrador	269	271	257 ←
Prince Edward Island	281	282	269 ←
Nova Scotia	284	286	272 ←
<b>New Brunswick</b>	<b>270</b>	<b>273</b>	<b>262 ←</b>
Quebec	273	275	269 ←
Ontario	279	279	270 ←
Manitoba	283	283	271 ←
Saskatchewan	294	294	284
Alberta	290	289	281
British Columbia	290	288	279
Nunavut Territory	234	232	220 ←
Northwest Territory	280	280	269 ←
Yukon Territory	294	296	283

→ Below level 3 in 3 domains

→ Below level 3 in numeracy but not in literacy.

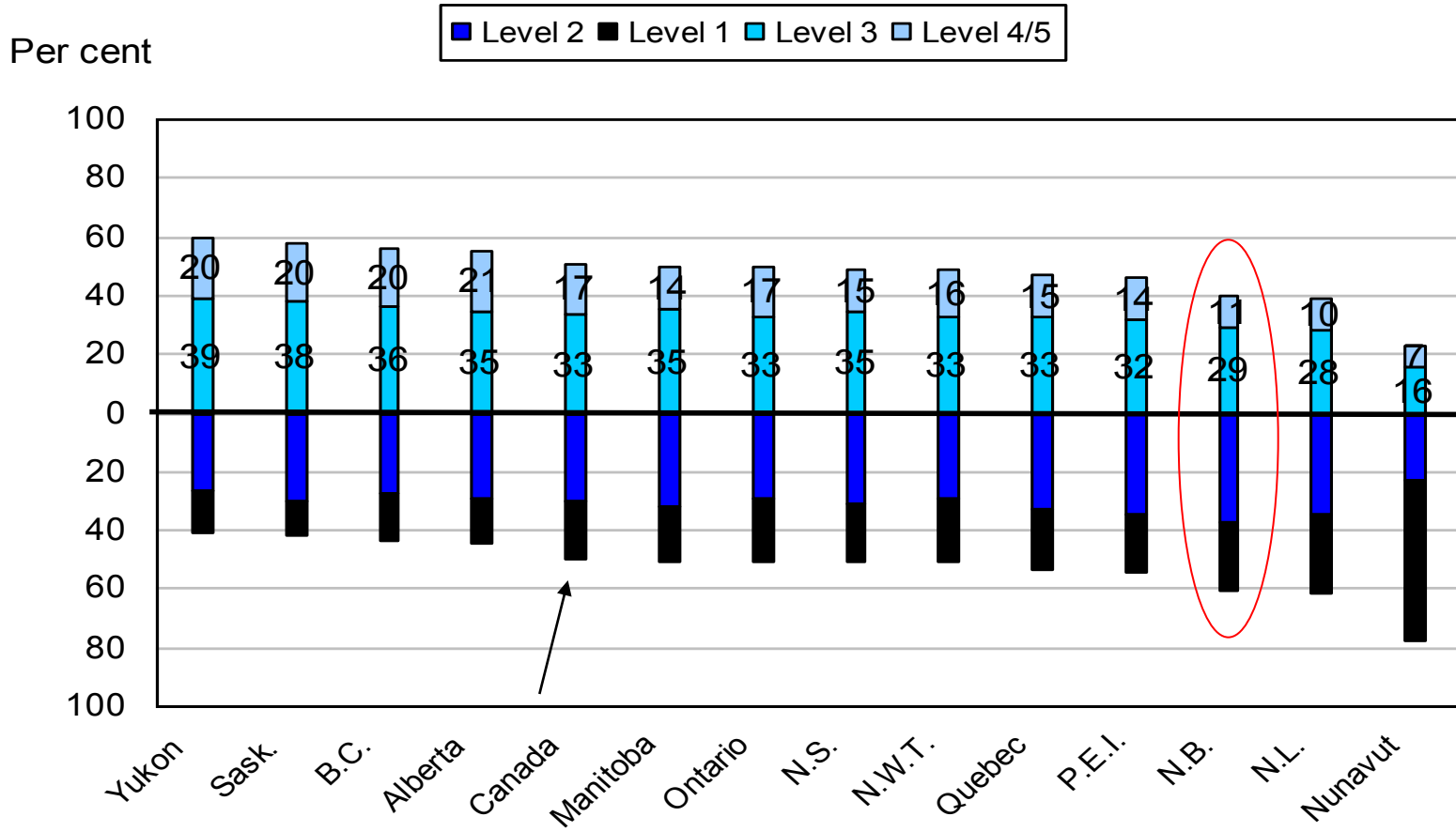
**Yukon had the lowest proportion overall (31%) of prose literacy below level 3. In New Brunswick, 51% of the working-age population (16-65) had an average prose literacy proficiency below level 3.**

Percent of population 16 to 65 at each prose level by provinces and territories, 2003



**Yukon had lowest proportion of working-age adults below level 3 in numeracy (41%). In New Brunswick the proportion of working-age adults below level 3 in numeracy was 60%.**

Percent of population 16 to 65 at each numeracy level by provinces and territories, 2003



Source: IALSS, 2003

## Impact of low literacy in the population 16-65.

Prose	Level 1		Level 2		Total	
	%	Number	%	Number	%	Number
Newfoundland and Labrador	18.8	70,000	31.6	119,000	50.4	189,000
Prince Edward Island	14.0	13,000	28.8	27,000	42.8	40,000
Nova Scotia	11.9	75,000	26.5	168,000	38.4	243,000
New Brunswick	16.6	85,000	33.8	173,000	50.4	258,000
Quebec	15.6	800,000	33.0	1,700,000	48.6	2,500,000
Ontario	16.2	1,300,000	26.0	2,100,000	42.2	3,400,000
Manitoba	12.7	90,000	27.0	200,000	39.7	290,000
Saskatchewan	6.6	41,000	26.4	162,000	33.0	203,000
Alberta	9.7	209,000	25.3	544,000	35.0	753,000
British Columbia	13.8	400,000	20.9	600,000	34.7	1,000,000
Yukon	9.0	2,000	21.9	4,000	30.9	6,000
Northwest Territory	16.5	4,000	26.1	7,000	42.6	11,000
Nunavut	45.8	6,000	26.4	3,000	72.0	9,000

## Impact of low numeracy in the population 16-65.

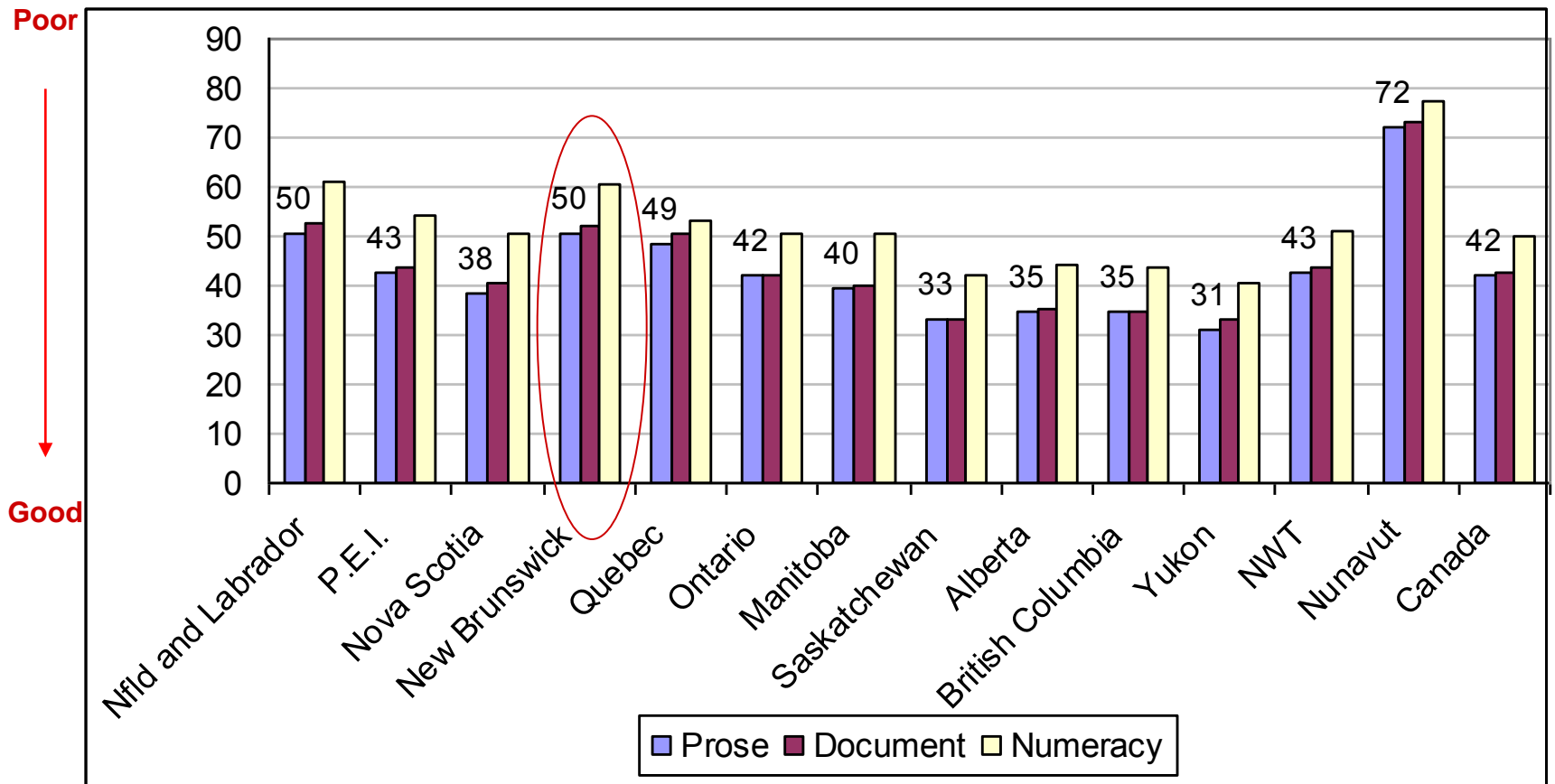
	Numeracy level 1		Numeracy level 2		Total	
	%	Number	%	Number	%	Number
Newfoundland and Labrador	26.8	101,000	34.3	107,000	61.1	208,000
Prince Edward Island	19.2	18,000	34.8	33,000	54.0	51,000
Nova Scotia	19.7	125,000	30.9	196,000	50.6	321,000
<b>New Brunswick</b>	<b>23.1</b>	<b>118,000</b>	<b>37.2</b>	<b>191,000</b>	<b>60.3</b>	<b>309,000</b>
Quebec	20.0	1,026,000	33.1	1,697,000	53.1	2,723,000
Ontario	21.3	1,759,000	29.1	2,403,000	50.4	4,162,000
Manitoba	18.2	131,000	32.1	230,000	50.3	361,000
Saskatchewan	11.8	73,000	30.2	186,000	42.0	259,000
Alberta	15.1	324,000	29.3	629,000	44.4	953,000
British Columbia	16.7	471,000	27.0	762,000	43.7	1,233,000
Yukon	14.1	3,000	26.4	5,000	40.5	8,000
Northwest Territory	22.0	6,000	29.0	7,000	51.0	13,000
Nunavut	54.7	7,000	22.6	3,000	77.3	10,000

Source: IALSS, 2003

Total 10,681,000

The proportion of New Brunswick residents at levels 1 and 2 varied by 10 percentage points between literacy and numeracy.

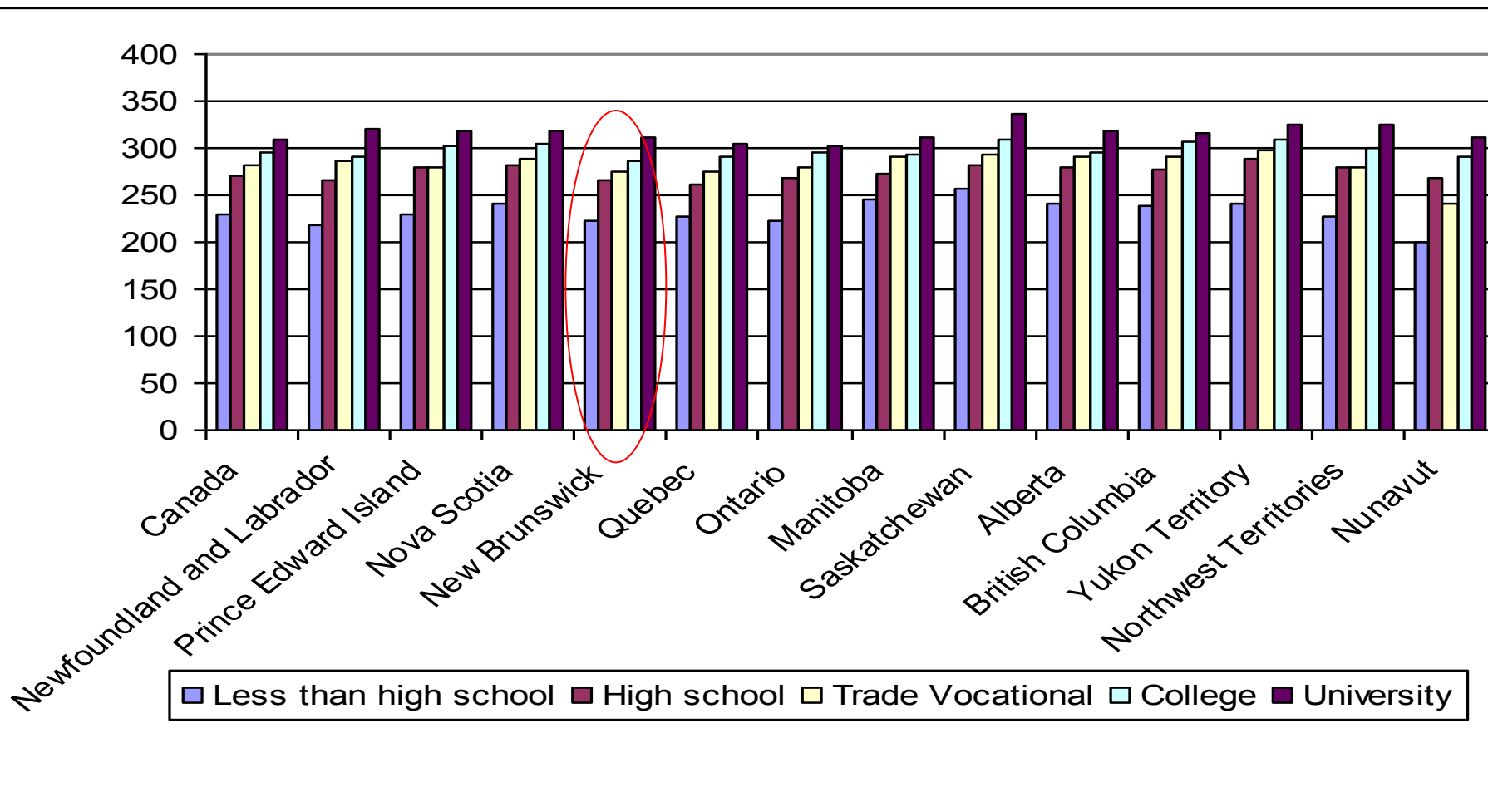
Per cent of adult populations performing at levels 1 and 2 in ALL 2003



Source: IALSS, 2003

In prose literacy, a higher level of education was associated with a higher level of literacy (population 16 and over). In New Brunswick, people at each level of education did not perform differently than Canadians on average.

Literacy proficiency by educational attainment, Canada, 2003



**Residents of New Brunswick did not have an average score significantly different from the Canadian average in prose literacy at all levels of education.**

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

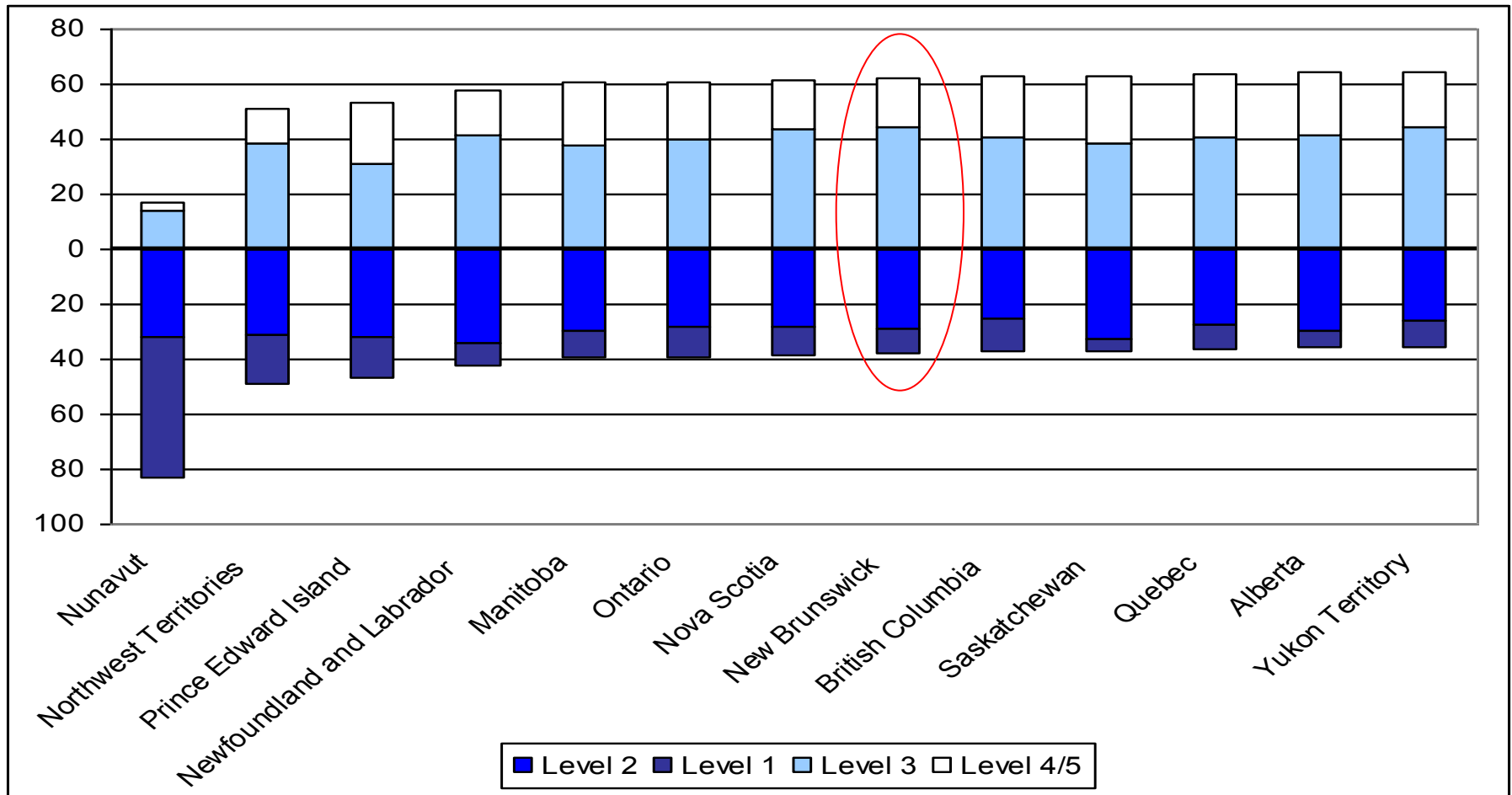
	Less than		High school		Trade		College		University	
	high school		High school		vocational		College		University	
	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.
Newfoundland and Labrador	219	(3.4)	265	(4.0)	286	(3.8)	290	(5.1)	321	(3.9)
Prince Edward Island	230	(6.8)	280	(5.5)	279	(5.5)	303	(5.5)	319	(7.9)
Nova Scotia	241	(4.4)	281	(4.2)	288	(3.2)	305	(3.5)	319	(4.2)
New Brunswick	223	(4.6)	265	(5.1)	276	(7.1)	286	(4.5)	311	(7.2)
Quebec	227	(2.0)	262	(2.3)	275	(2.1)	290	(2.2)	305	(2.5)
Ontario	223	(4.9)	268	(3.9)	279	(3.9)	295	(4.1)	303	(3.1)
Manitoba	246	(5.5)	273	(3.4)	291	(4.4)	293	(3.4)	312	(4.4)
Saskatchewan	256	(6.2)	282	(7.0)	294	(3.3)	309	(4.3)	336	(5.2)
Alberta	241	(7.1)	279	(4.5)	290	(3.8)	295	(4.0)	319	(4.2)
British Columbia	239	(4.8)	277	(4.8)	290	(3.4)	306	(4.3)	316	(4.4)
Yukon	241	(7.5)	288	(5.6)	297	(4.5)	308	(4.7)	326	(4.7)
Northwest Territories	227	(6.3)	280	(7.6)	280	(3.6)	301	(4.0)	324	(6.3)
Nunavut	199	(6.1)	269	(7.8)	241	(8.5)	290	(12.3)	311	(6.2)
<b>Canada</b>	<b>230</b>	<b>(1.8)</b>	<b>270</b>	<b>(1.8)</b>	<b>282</b>	<b>(1.7)</b>	<b>296</b>	<b>(1.8)</b>	<b>309</b>	<b>(2.0)</b>

Source: IALSS, 2003



**In most jurisdictions, the majority of people aged 16-25 had prose literacy above level 3. In New Brunswick, more than 60% of young people had prose literacy scores at level 3 or above.**

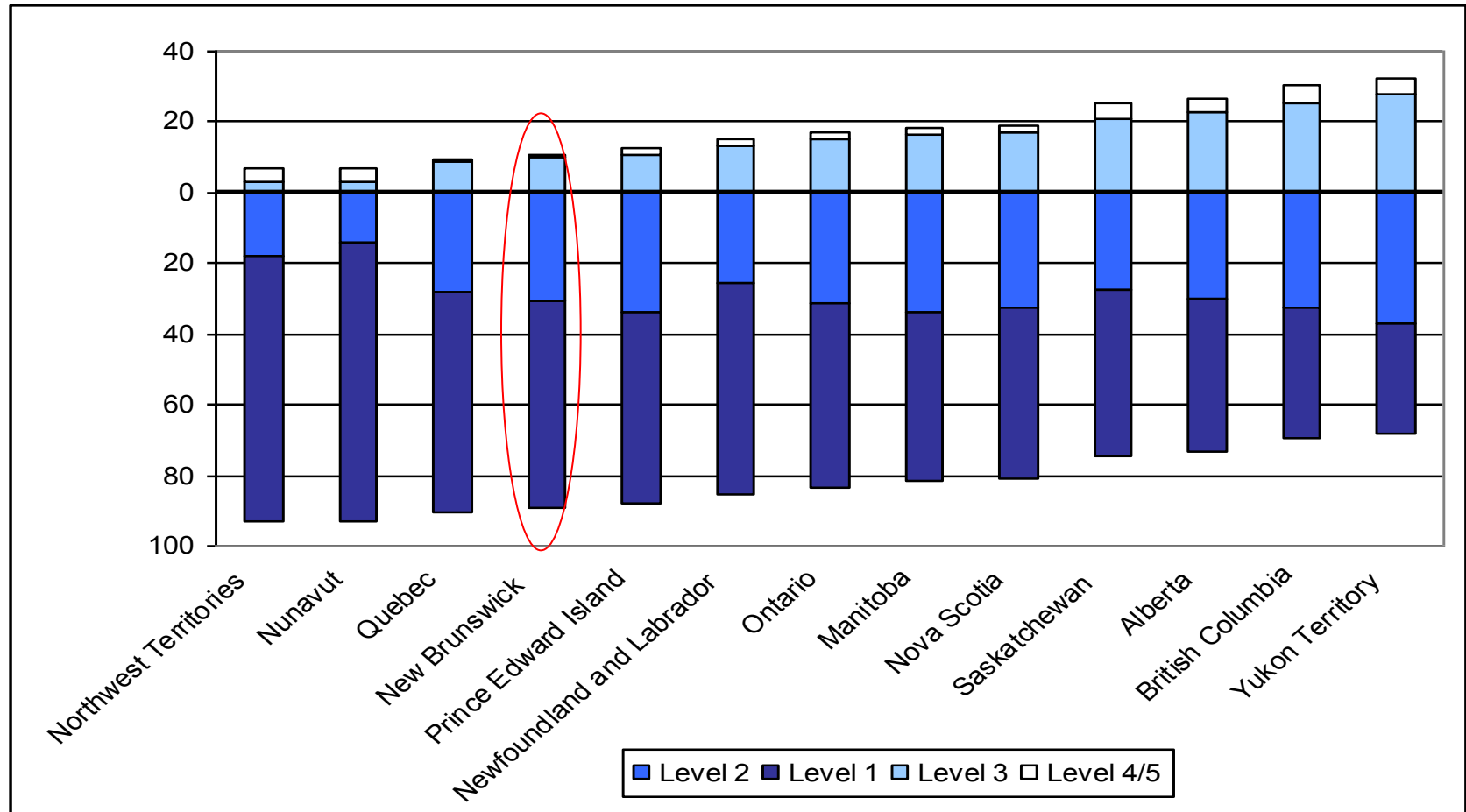
**Distribution of proficiency level on the prose literacy scale for youth age 16-25, Canada, 2003**



Source: IALSS, 2003

**In New Brunswick, the majority of people aged 65 and above (104,700; 14% of total population) had levels of proficiency below level 3 in prose literacy.**

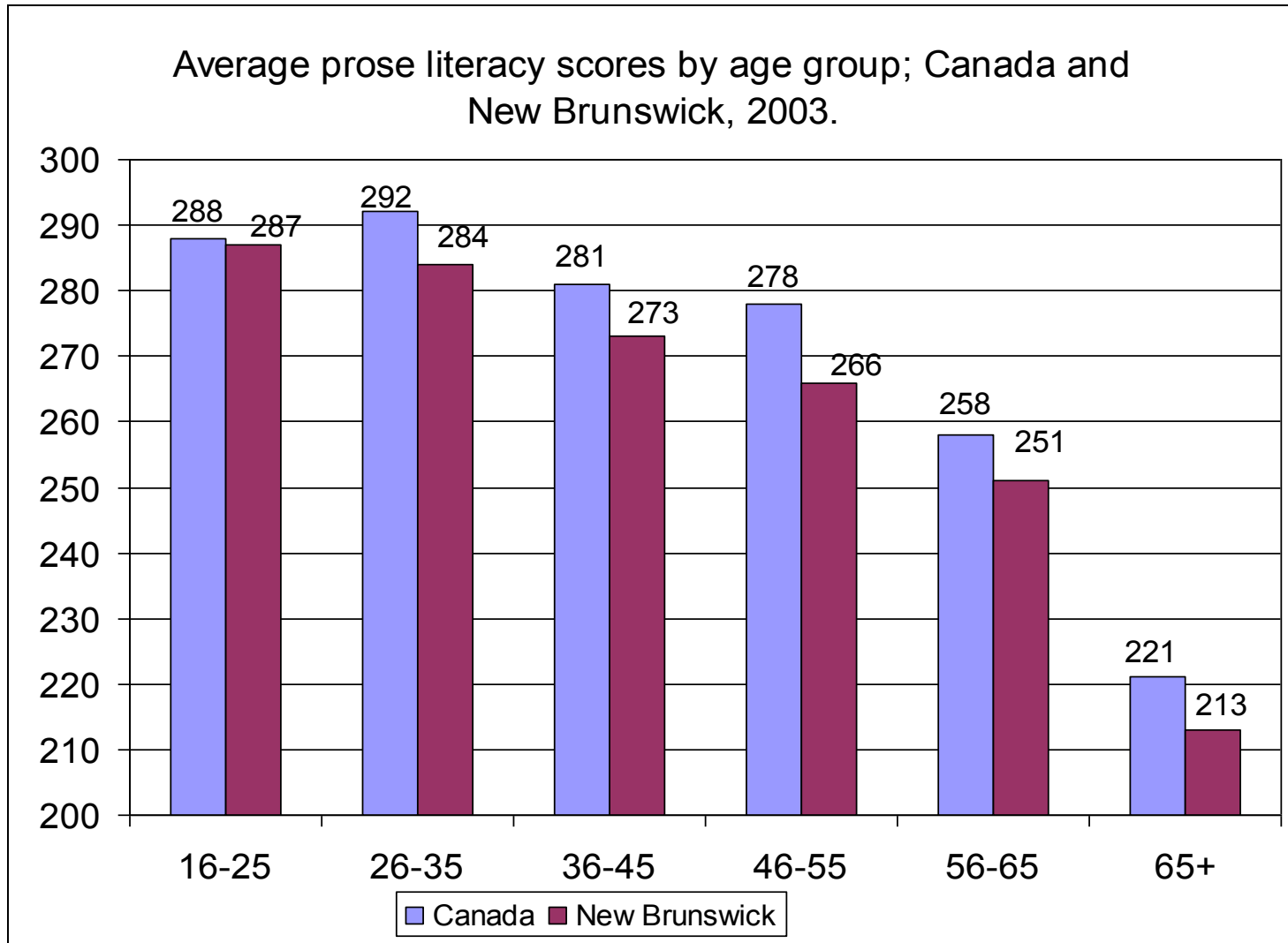
Distribution of proficiency level on the prose literacy scale for those older than 65 years, provinces and territories, 2003



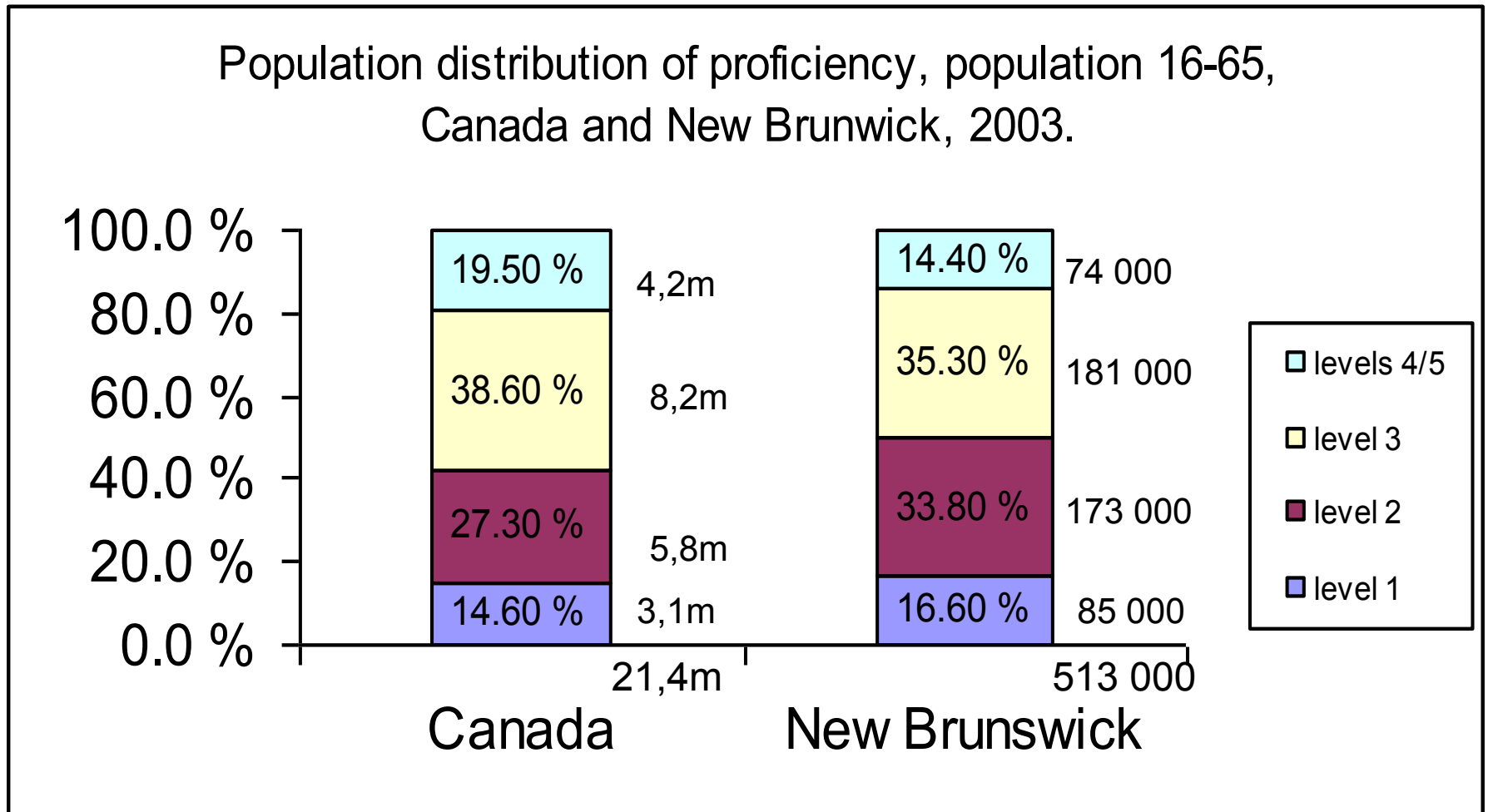
Source: IALSS, 2003

## Performance by age, New Brunswick

In Canada, average prose literacy scores decreased with age. In New Brunswick, the populations aged 16-25 and 26-35 had average scores above level 3.



**About 258,000 residents of New Brunswick scored below level 3 in prose literacy.**



## Principal characteristics of people at levels 1 and 2 in prose literacy in New Brunswick (population 16 to 65).

### Level 1

- 85 000
- 58% were male and 42% were female
- **54% were employed**
- 18% were unemployed
- Education:
  - **56% had not completed high school education**
  - 33% had completed high school education
  - 11% had completed postsecondary education
- Mother tongue:
  - 46% English
  - **51% French**

### Level 2

- 173 000
- 52% were male and 42% were female
- **64% were employed**
- 11% were unemployed
- Education:
  - **28% had not completed high school education**
  - 38% had completed high school education
  - 34% had completed postsecondary education
- Mother tongue :
  - 59% English
  - **36% French**

### **In New Brunswick, 33% of Francophones chose to be evaluated in English (population 16 and above).**

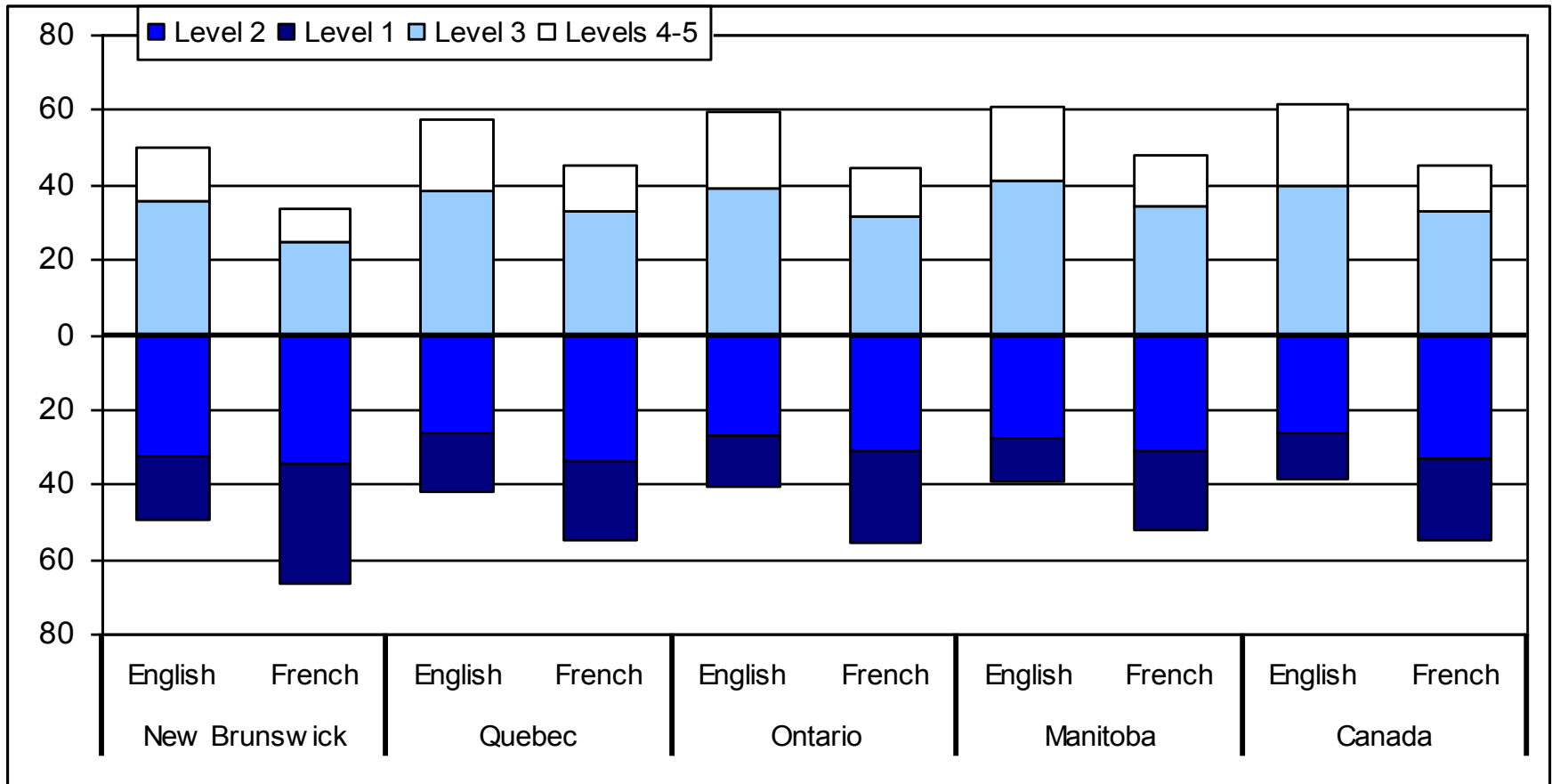
- Outside Quebec, about 65% of Francophones chose to be evaluated in English.
- In New Brunswick, 33% of Francophones were evaluated in English.

### **In Canada, Francophones who were evaluated in English scored above Francophones who were evaluated in French**

Half of Francophones outside Quebec who wrote the exam in English did not reach level 3 in prose literacy. On the other hand, 62% of Francophones evaluated in French did not reach level 3

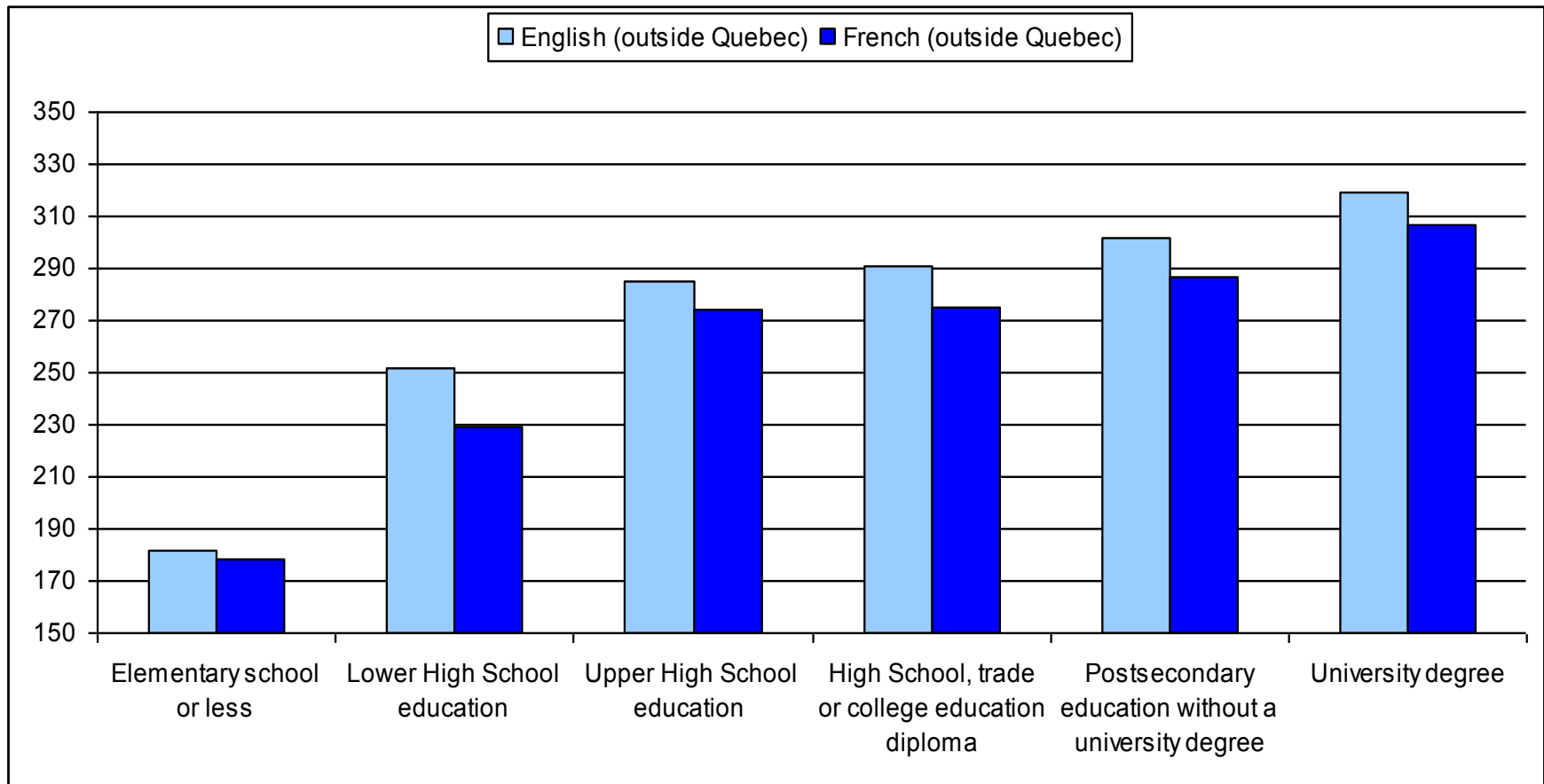
# In New Brunswick, 66% of people with French mother tongue had a literacy level below level 3.

Distribution of the population according to mother tongue and prose literacy proficiency level, Quebec, New Brunswick, Ontario, Manitoba and Canada, 2003



**At all levels of education, Anglophones (outside Quebec) had higher average scores than Francophones (outside Quebec) in prose literacy.**

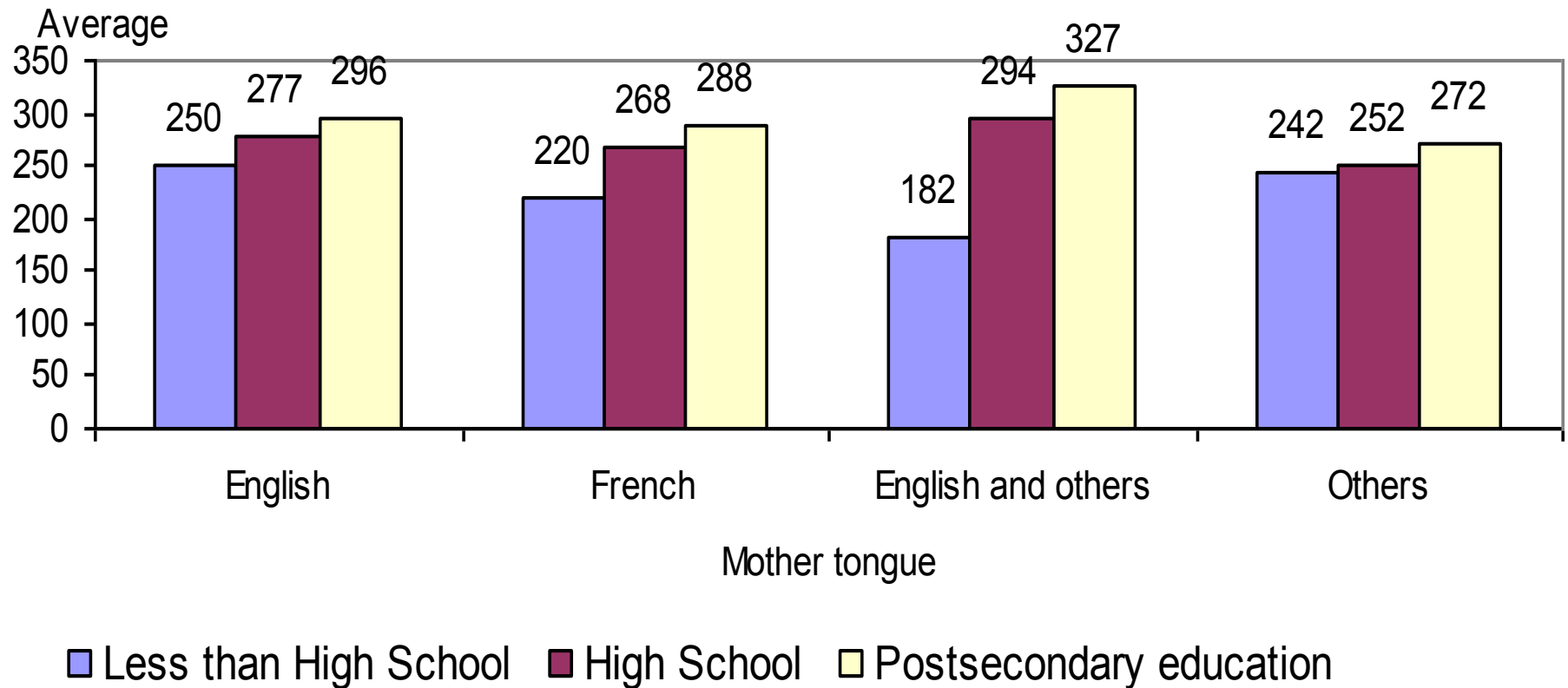
Average scores in prose literacy according to mother tongue and highest level of education completed, Canada without Quebec, population aged 16 and above, 2003.





## In New Brunswick, in prose literacy, there was a significant difference between the scores of Anglophones and of Francophones who have not completed high school education (population 16-65).

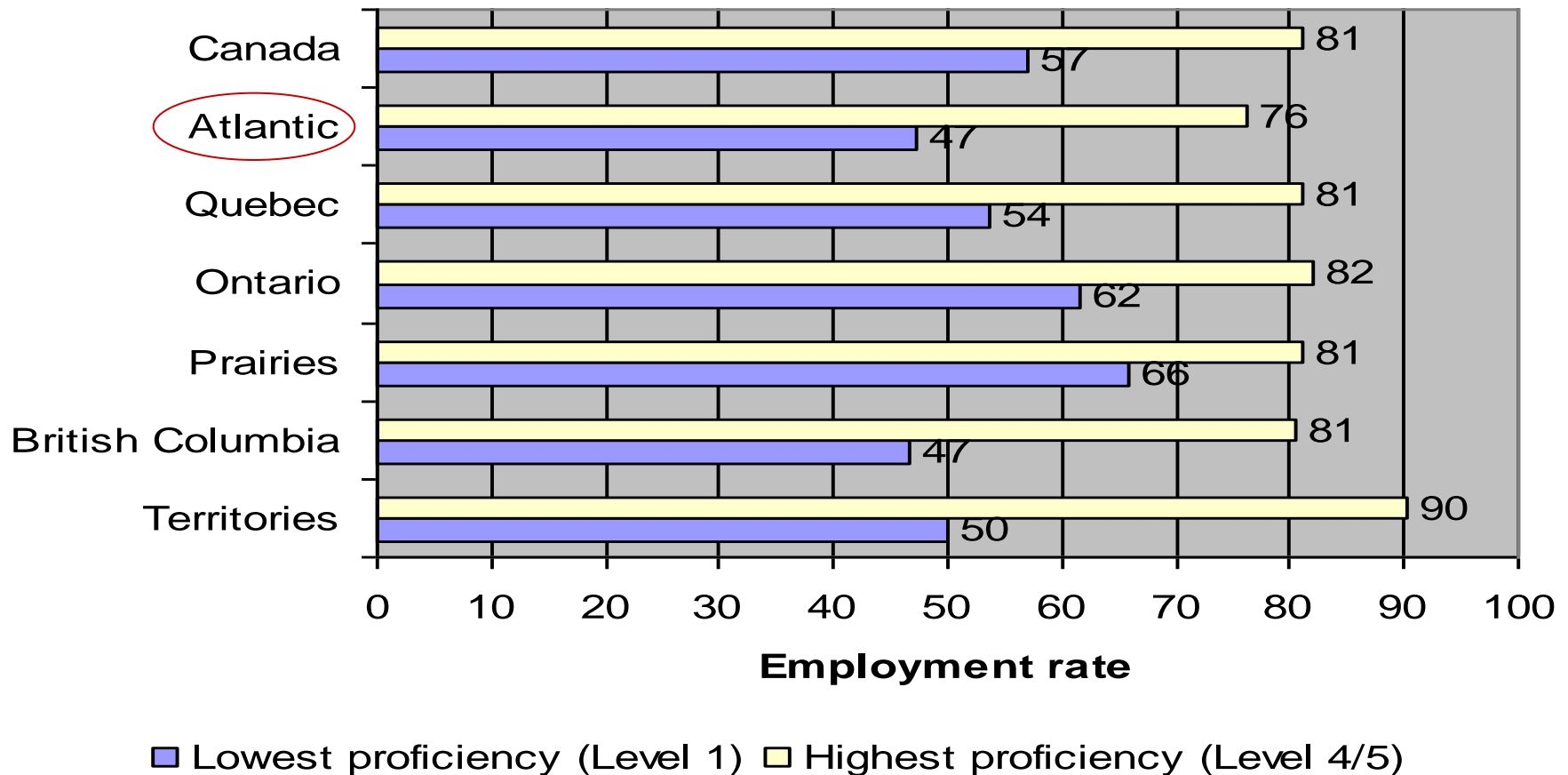
Average prose literacy proficiency scores according to mother tongue and highest level of education completed, population 16-65, 2003.



\*Non statistically significant differences at all levels of education, except for English and French with less than high school,

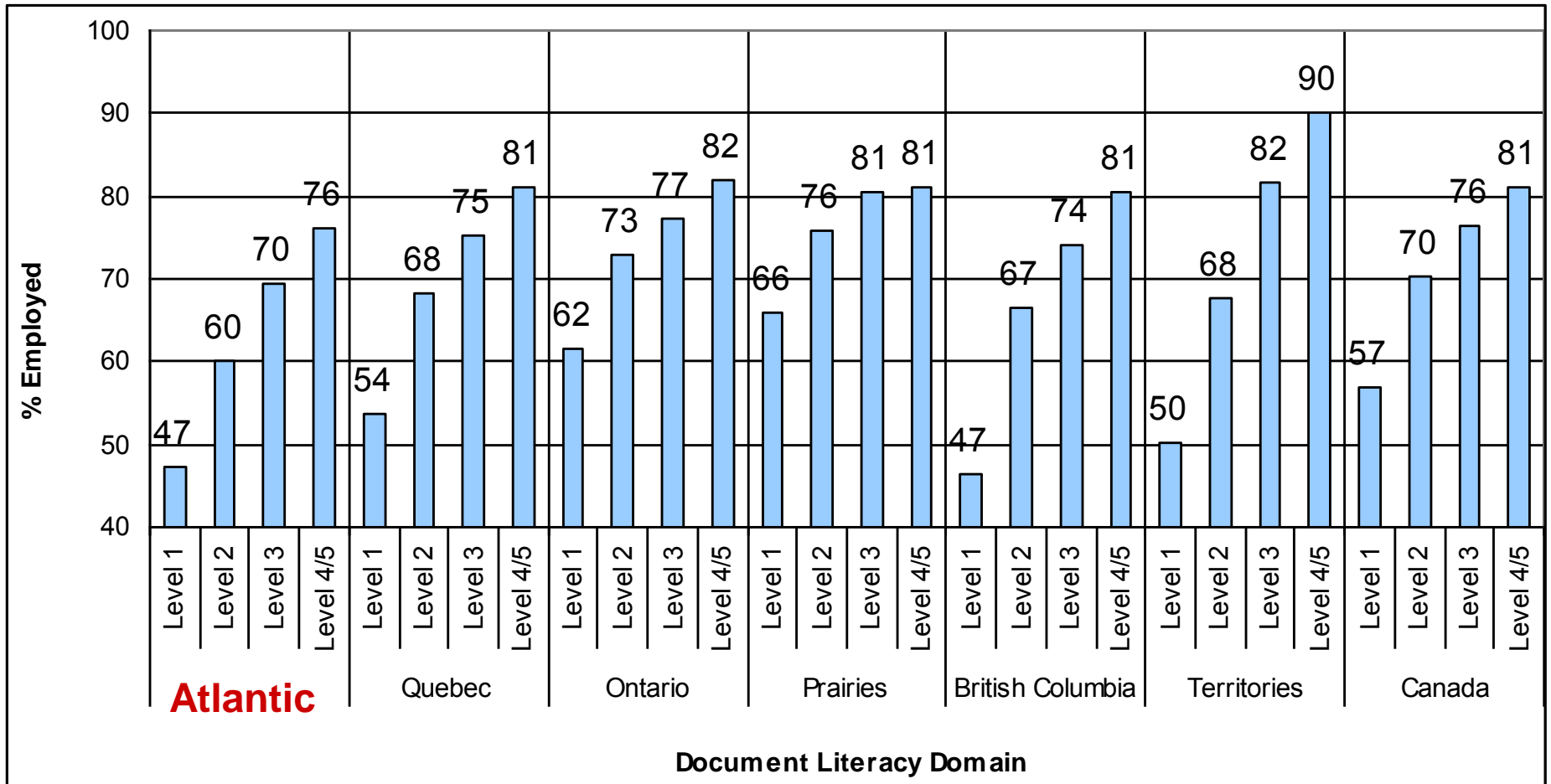
Those with higher literacy proficiency have a higher employment rate than those with low literacy.

Employment rate among respondents at the highest and lowest levels of document proficiency, 2003

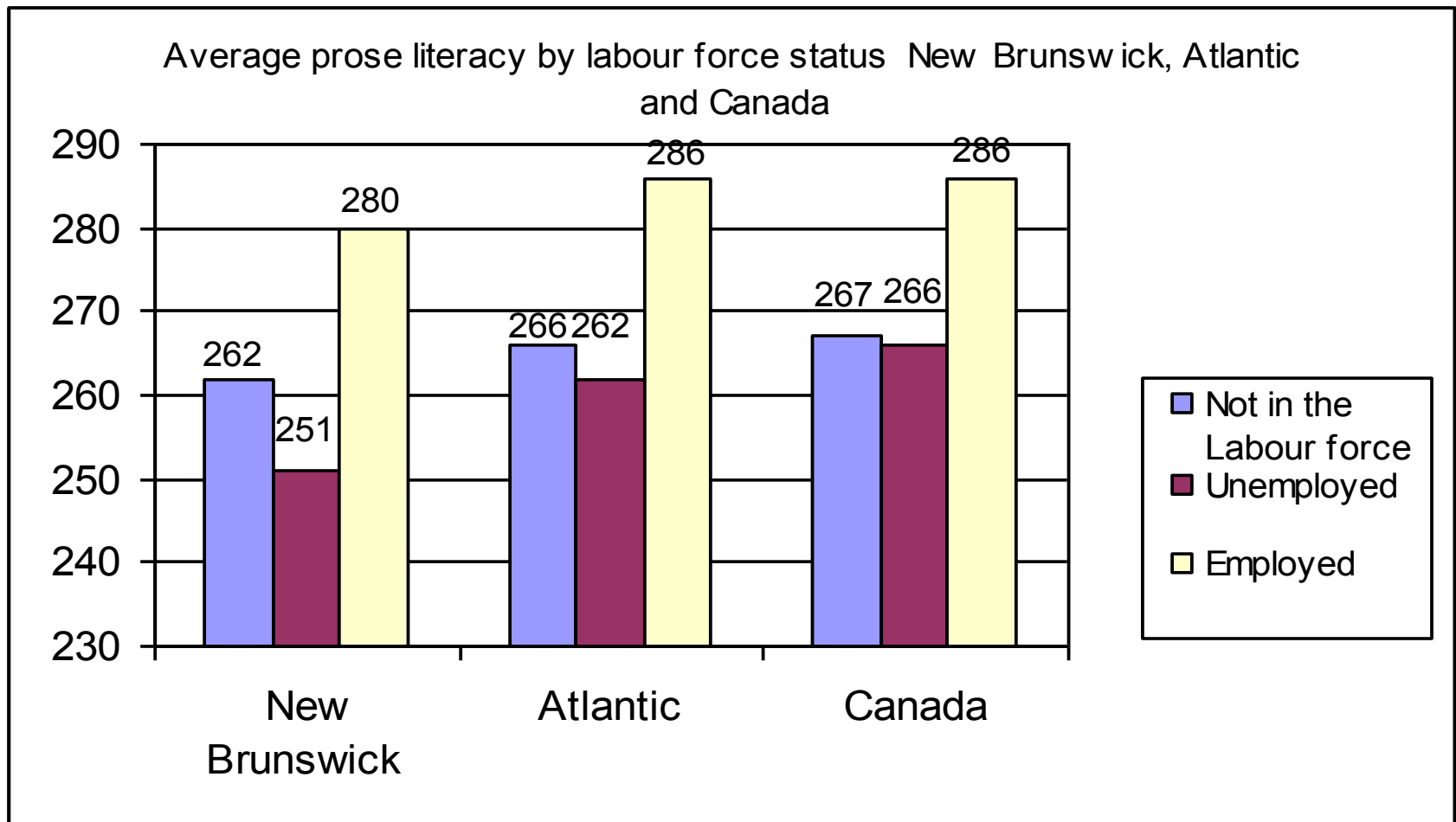


**47% of those at level 1 and 60% of those at level 2 in the Atlantic were employed.**

Per cent of employed population in each document literacy level, population 16 to 65, Canada and Regions, 2003



**In the Atlantic provinces, unemployed people and people not in the labour force scored on average at level 2 in prose literacy, while employed people scored on average at level 3. In New Brunswick, unemployed people and people not in the labour force had an average score at level 2 in prose literacy.**



**Persons with low prose literacy are concentrated among certain industries, Canada and New Brunswick.**

(Population 16-65)

<b>Canada</b>		
Industries	Level 1	Level 2
Manufacturing	445,000	696,000
Trade, finance, Insurance, real estate and Leasing	325,000	951,000
Accommodation and Food Services	189,000	323,000
Construction	158,000	287,000
Health care and social assistance	140,000	409,000

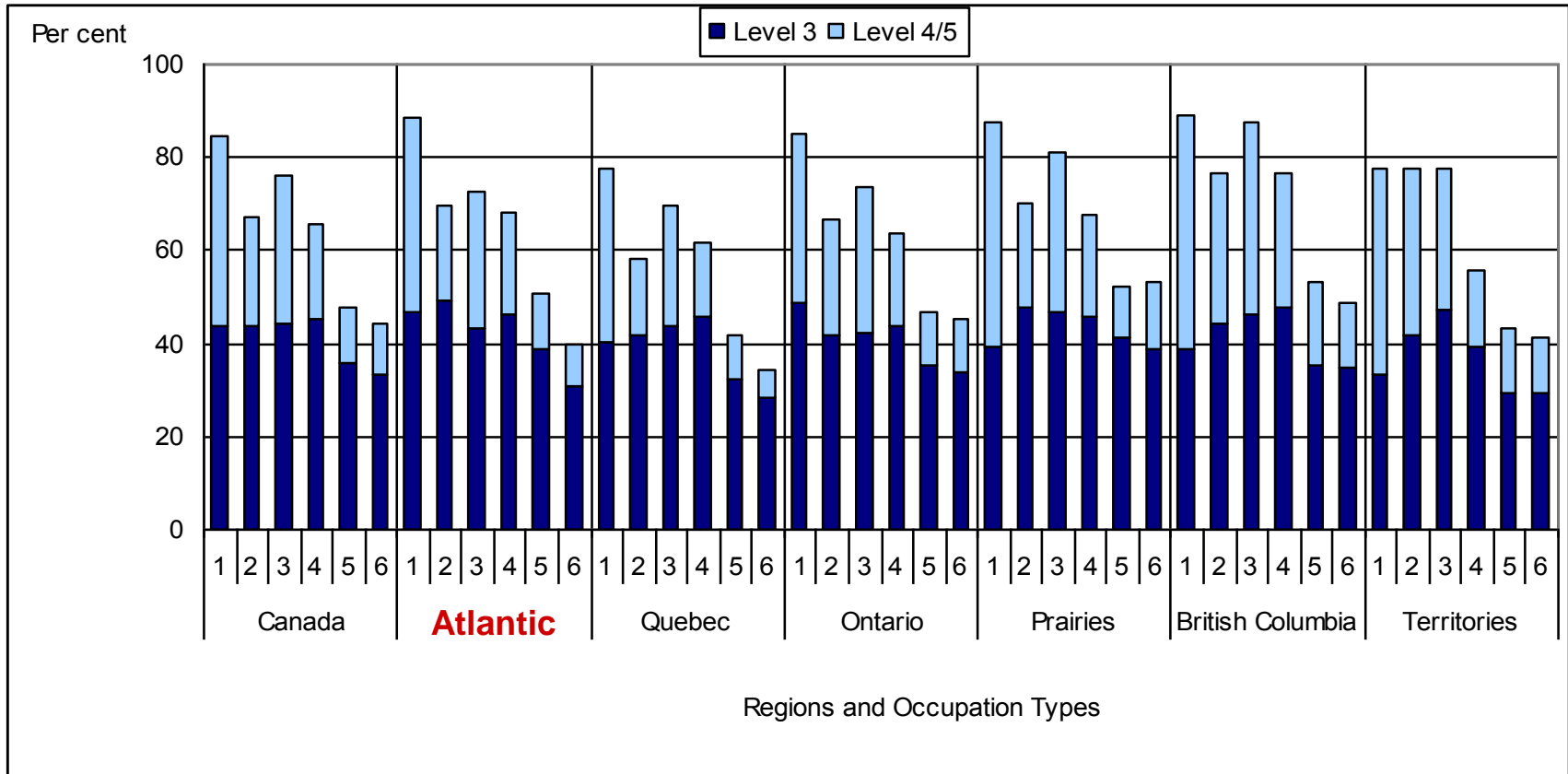
Total: 1,257,000 2,666,000

<b>New Brunswick</b>
Industries
Trade, finance, Insurance, real estate and leasing
Manufacturing
Health Care and Social Assistance
Construction
Accommodation and Food Services

\*Number are suppressed, roughly 40% could be in these industries

# The majority of knowledge experts score at Level 3 or above in prose literacy in the regions and the territories.

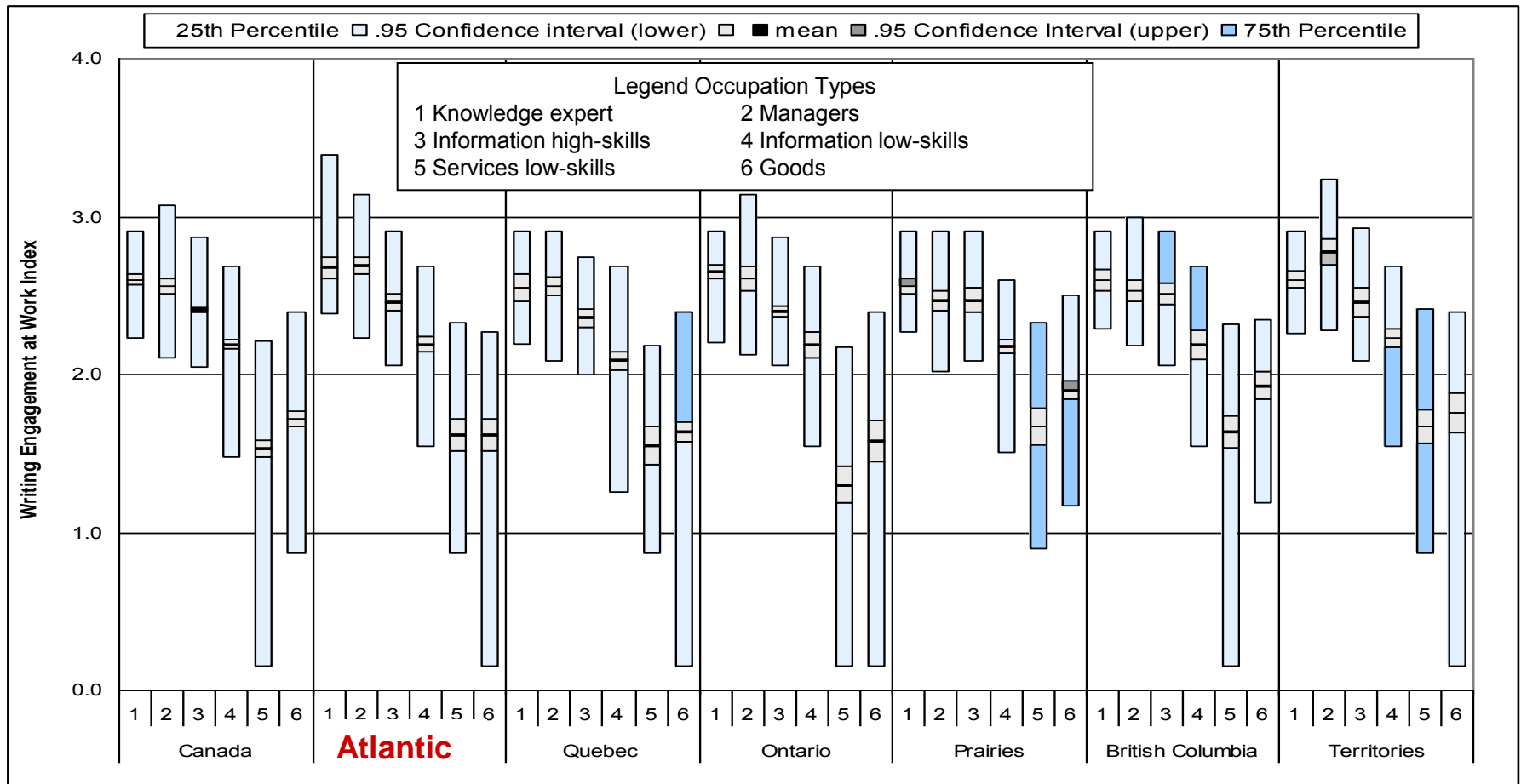
Per cent of Labour force population at prose levels 3 and 4/5 by type of occupations, population 16 to 65, Canada and regions, 2003



1	Knowledge expert	2	Managers	3	Information high-skills
4	Information low-skills	5	Services low-skills	6	Goods

**Workers in knowledge-related occupations tend to engage more often in writing at work than do low-skill information, services and goods production workers.**

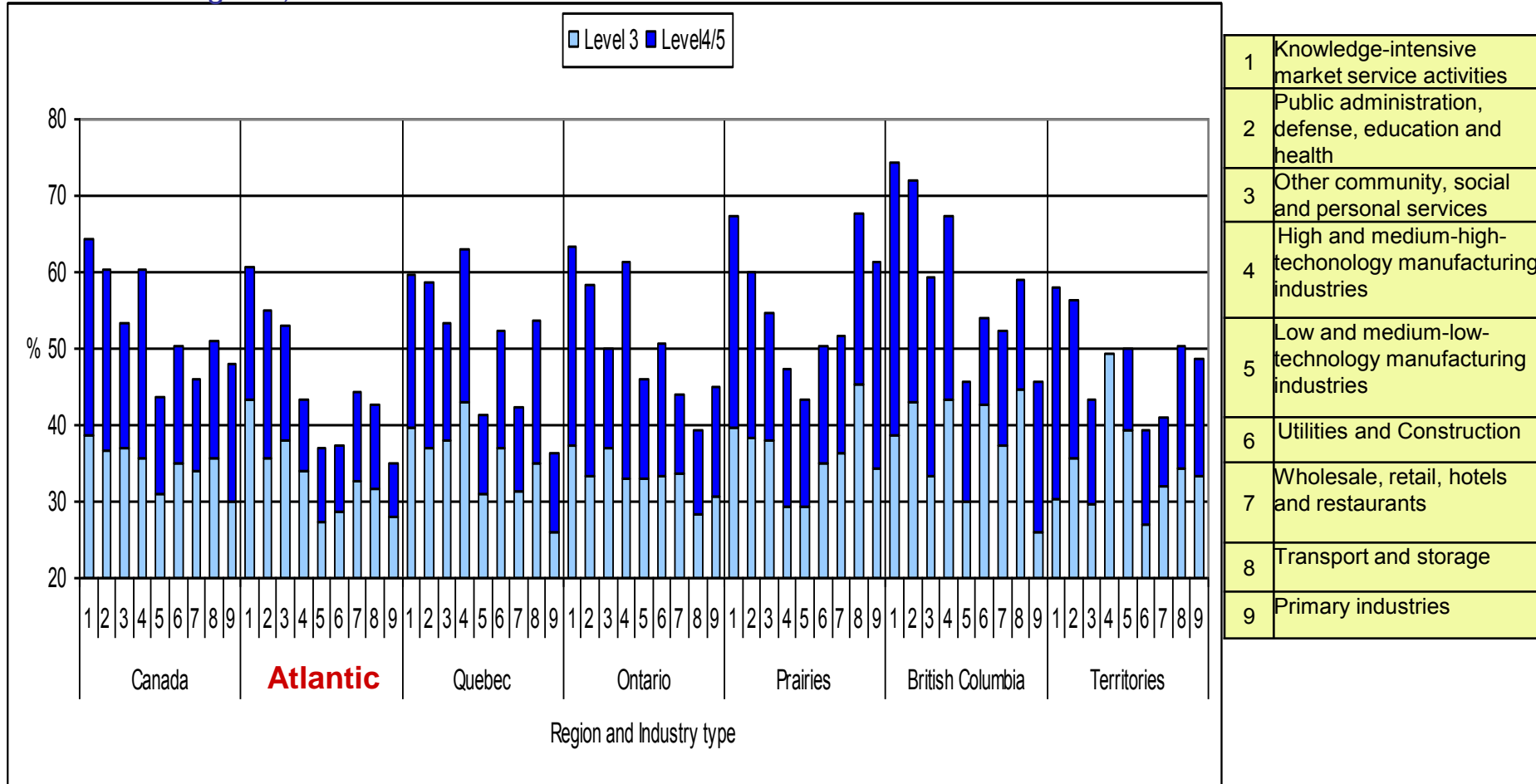
Index scores of writing engagement at work on a standardized scale (centered on 2) by aggregated occupational types, labour force population, 16 to 65, 2003



Source: IALSS, 2003

# In all industrial sectors in the Atlantic at least 35 % of all workers had proficiency level above level 3 in numeracy.

Per cent of labour force population at numeracy levels 3 and 4/5, by type of industry, population 16 to 65, Canada and regions, 2003



Source: IALSS, 2003

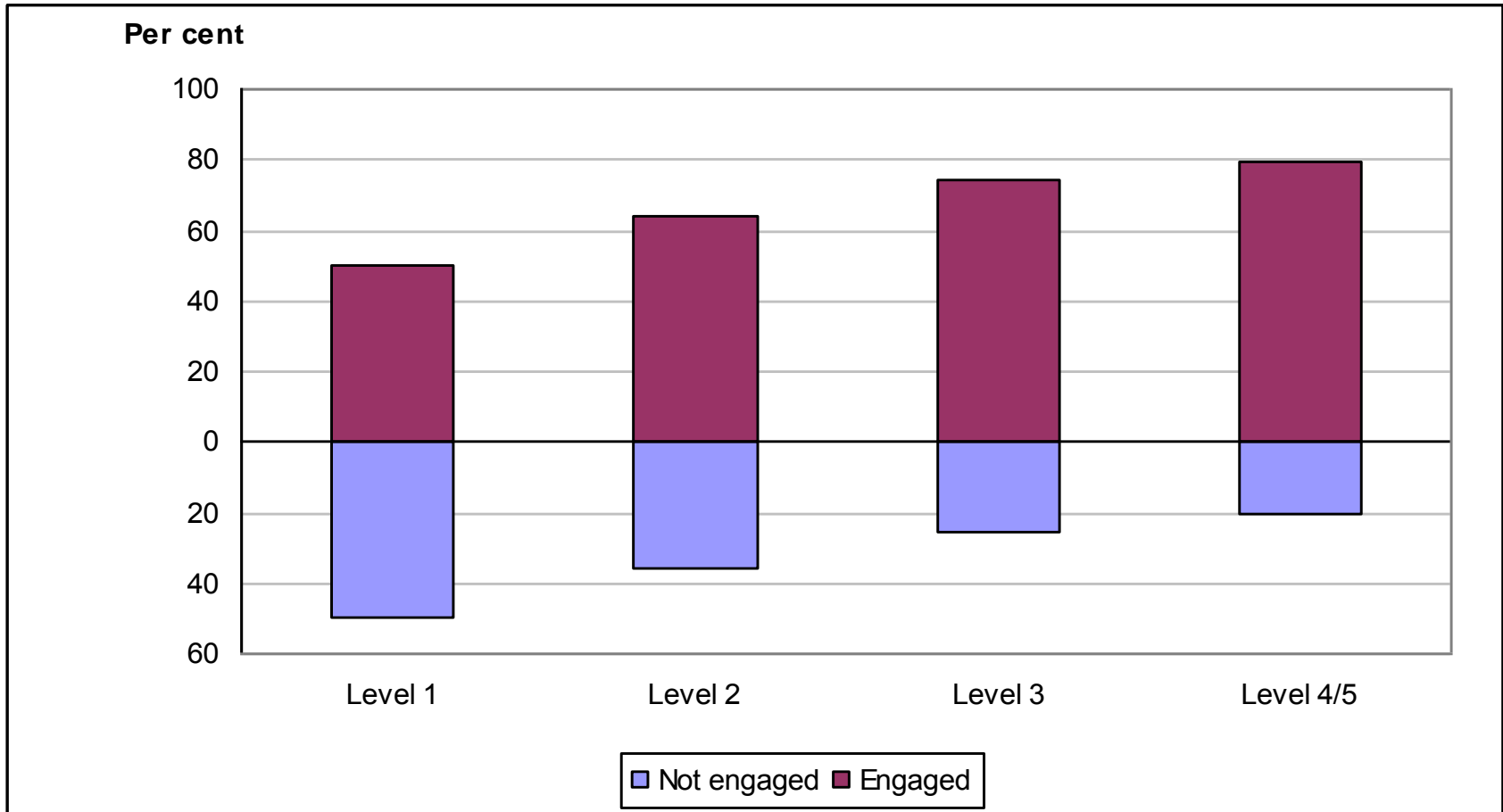


## Canadians with higher average scores earn more

		Prose	Document	Numeracy	Problem Solving
<b>Male</b>	Less than 20,000	<b>270</b>	<b>274</b>	<b>271</b>	<b>267</b>
	20,000 to 40,000	<b>266</b>	<b>270</b>	<b>267</b>	<b>262</b>
	40,000 to 60,000	<b>289</b>	<b>294</b>	<b>290</b>	<b>284</b>
	60,000 and more	<b>303</b>	<b>309</b>	<b>308</b>	<b>297</b>
		Prose	Document	Numeracy	Problem Solving
<b>Female</b>	Less than 20,000	<b>274</b>	<b>269</b>	<b>255</b>	<b>266</b>
	20,000 to 40,000	<b>286</b>	<b>280</b>	<b>266</b>	<b>275</b>
	40,000 to 60,000	<b>309</b>	<b>305</b>	<b>290</b>	<b>297</b>
	60,000 and more	<b>323</b>	<b>319</b>	<b>307</b>	<b>309</b>

# There is a positive relationship between prose literacy and civic engagement

Civic engagement index by prose literacy level, population aged 16 and older, Canada, 2003



**Regardless of level of literacy proficiency most immigrants were employed but were they under employed?**

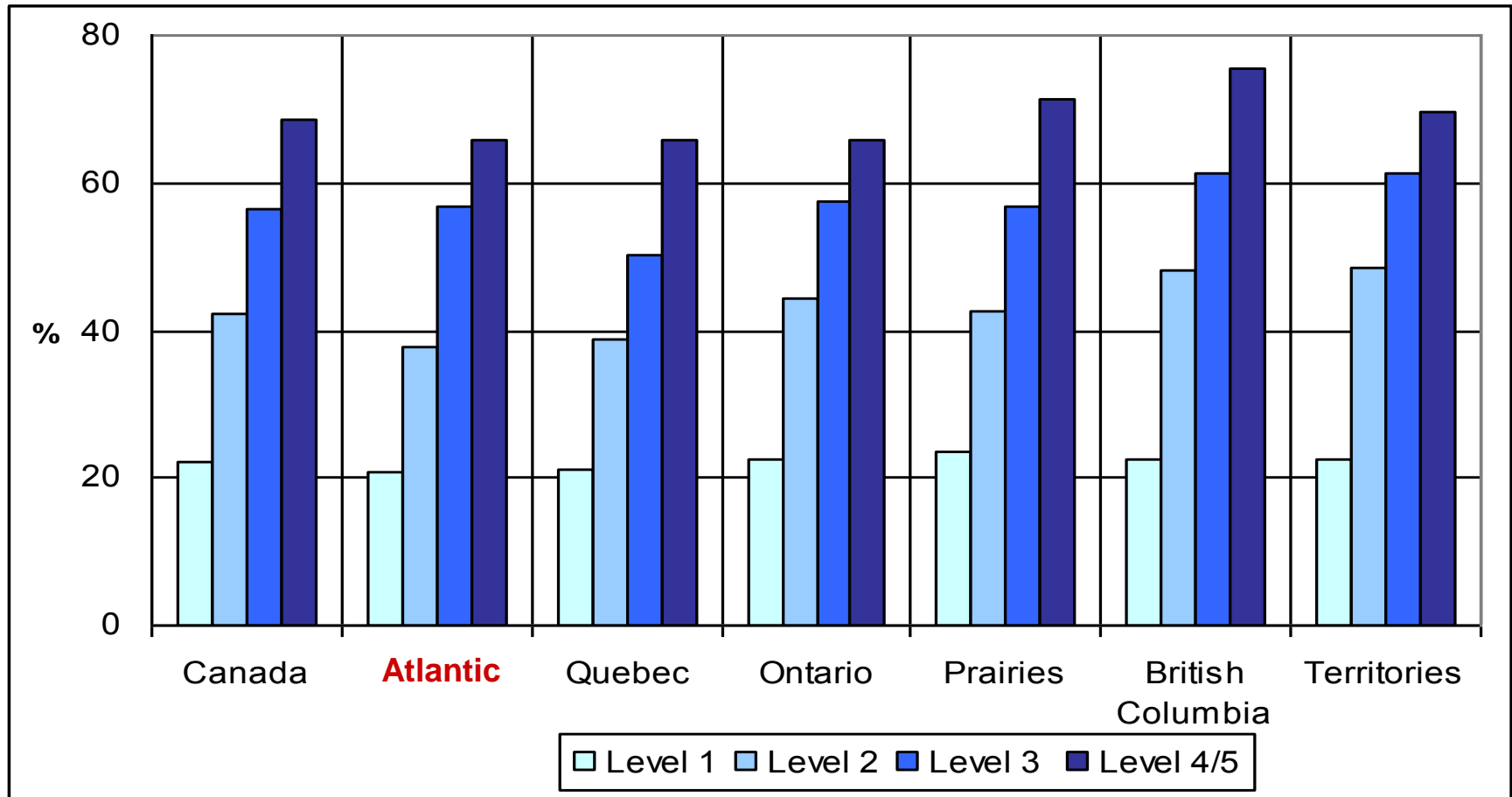
	Immigrants		Canadian born	
<b>Level 1</b>	<b>1,408,000</b>		<b>1,715,000</b>	
	<b>Employed</b>	<b>Unemployed</b>	<b>Employed</b>	<b>Unemployed</b>
	893,000	135,000	889,000	227,000
<b>Level 2</b>	<b>1,234,000</b>		<b>4,595,000</b>	
	<b>Employed</b>	<b>Unemployed</b>	<b>Employed</b>	<b>Unemployed</b>
	856,000	105,000	3,255,000	381,000
<b>Level 3</b>	<b>1,284,000</b>		<b>6,967,000</b>	
	<b>Employed</b>	<b>Unemployed</b>	<b>Employed</b>	<b>Unemployed</b>
	966,000	99,000	5,329,000	429,000
<b>Level 4/5</b>	<b>469,000</b>		<b>3,688,000</b>	
	<b>Employed</b>	<b>Unemployed</b>	<b>Employed</b>	<b>Unemployed</b>
	360,000	34,000	2,949,000	180,000

**A high number of immigrants at levels 1 and 2 proficiency in English or French have post secondary education.**

	Immigrants		
<b>Level 1</b>	<b>1,408,000</b>		
	<b>Less than HS</b>	<b>HS</b>	<b>PSE</b>
	567,000 (68.8%)	467,000 (36.2%)	374,000 (16.4%)
<b>Level 2</b>	<b>1,234,000</b>		
	<b>Less than HS</b>	<b>HS</b>	<b>PSE</b>
	169,000 (20.5%)	423,000 (32.8%)	642,000 (28.1%)
<b>Level 3</b>	<b>1,284,000</b>		
	<b>Less than HS</b>	<b>HS</b>	<b>PSE</b>
	77,000 (9.3%)	309,000 (23.9%)	898,000 (39.4%)
<b>Level 4/5</b>	<b>469,000</b>		
	<b>Less than HS</b>	<b>HS</b>	<b>PSE</b>
	--	92,000 (7.1%)	366,000 (16.1%)
<b>Total</b>	<b>-- (100%)</b>	<b>1,290,000 (100%)</b>	<b>2,279,000 (100%)</b>

**In all provinces and territories there is a substantial difference between the participation rates in training of those with the lowest and highest levels of literacy.**

Per cent of population receiving adult education and training during the year preceding the interview, by document literacy levels, 16-65, Canada and regions, 2003



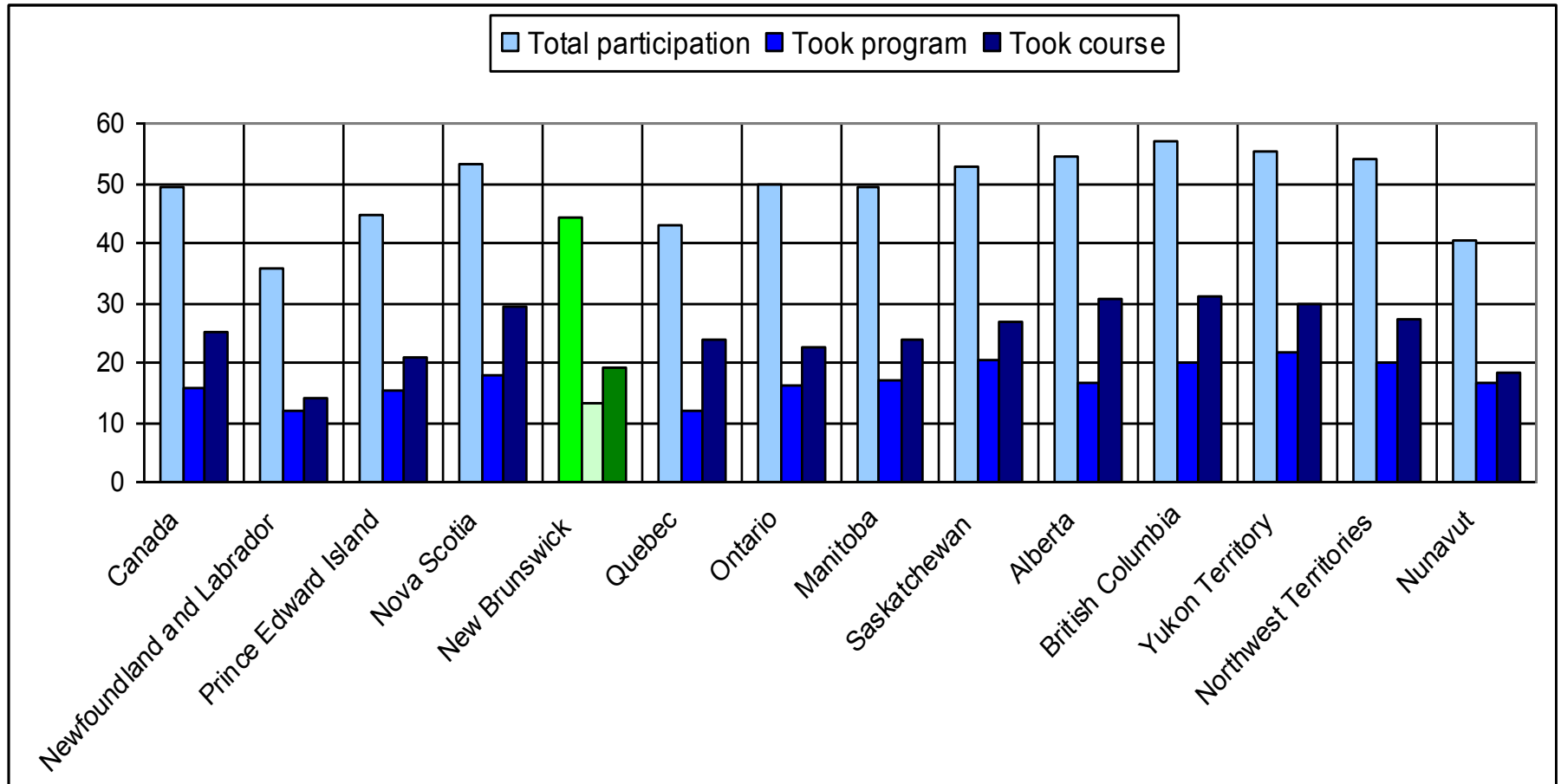
Source: IALSS, 2003

# Literacy performance- Adult training participation

**About 44% of workers participated in adult training in New Brunswick compared to 50% in Canada.**

**Also a smaller proportion (19%) of workers took courses in New Brunswick compared to Canada (25%).**

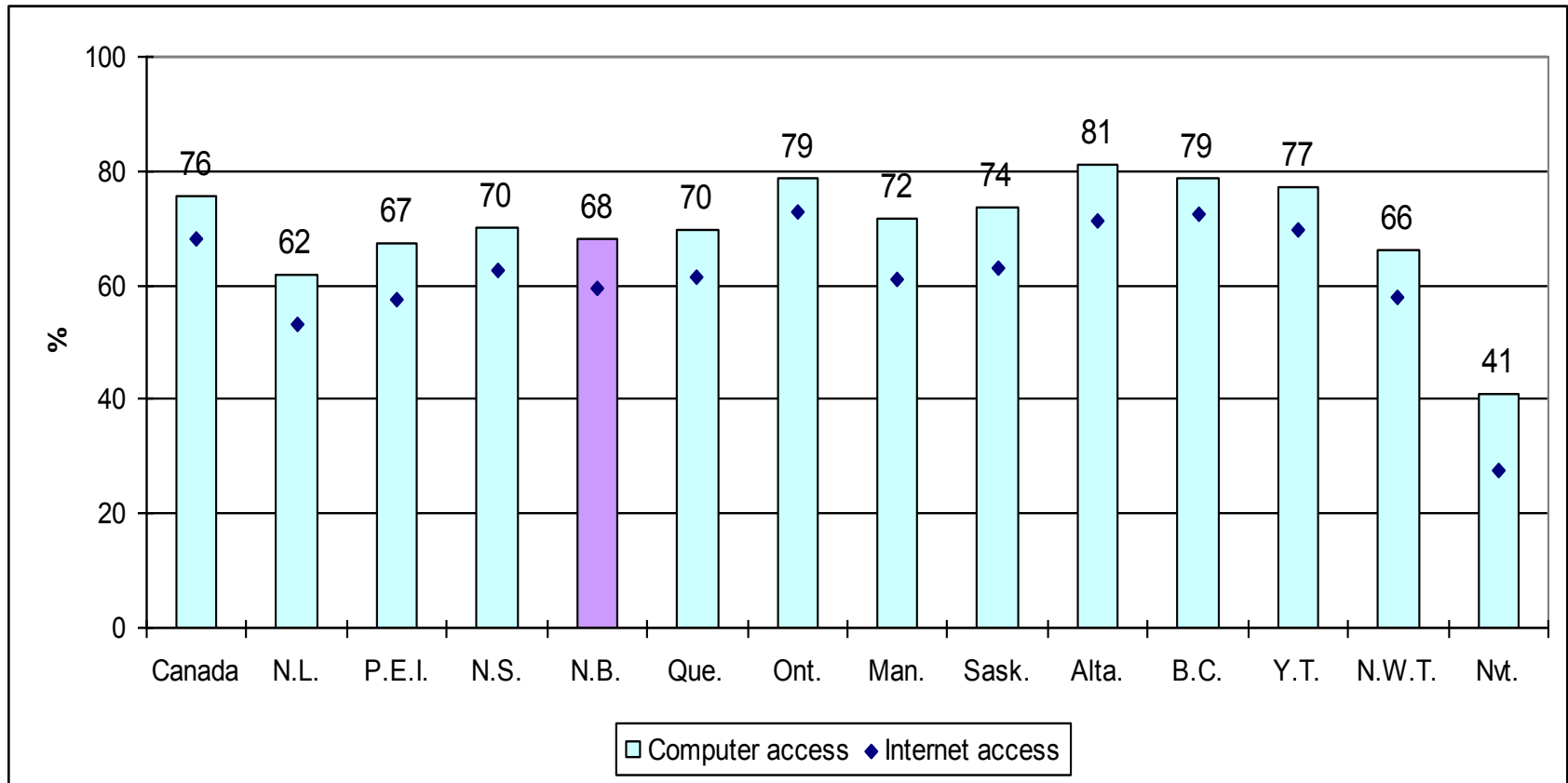
Per cent of population receiving adult education and training the year preceding the interview, by type of participation, population 16 to 65, Canada and jurisdictions, 2003



Source: IALSS, 2003

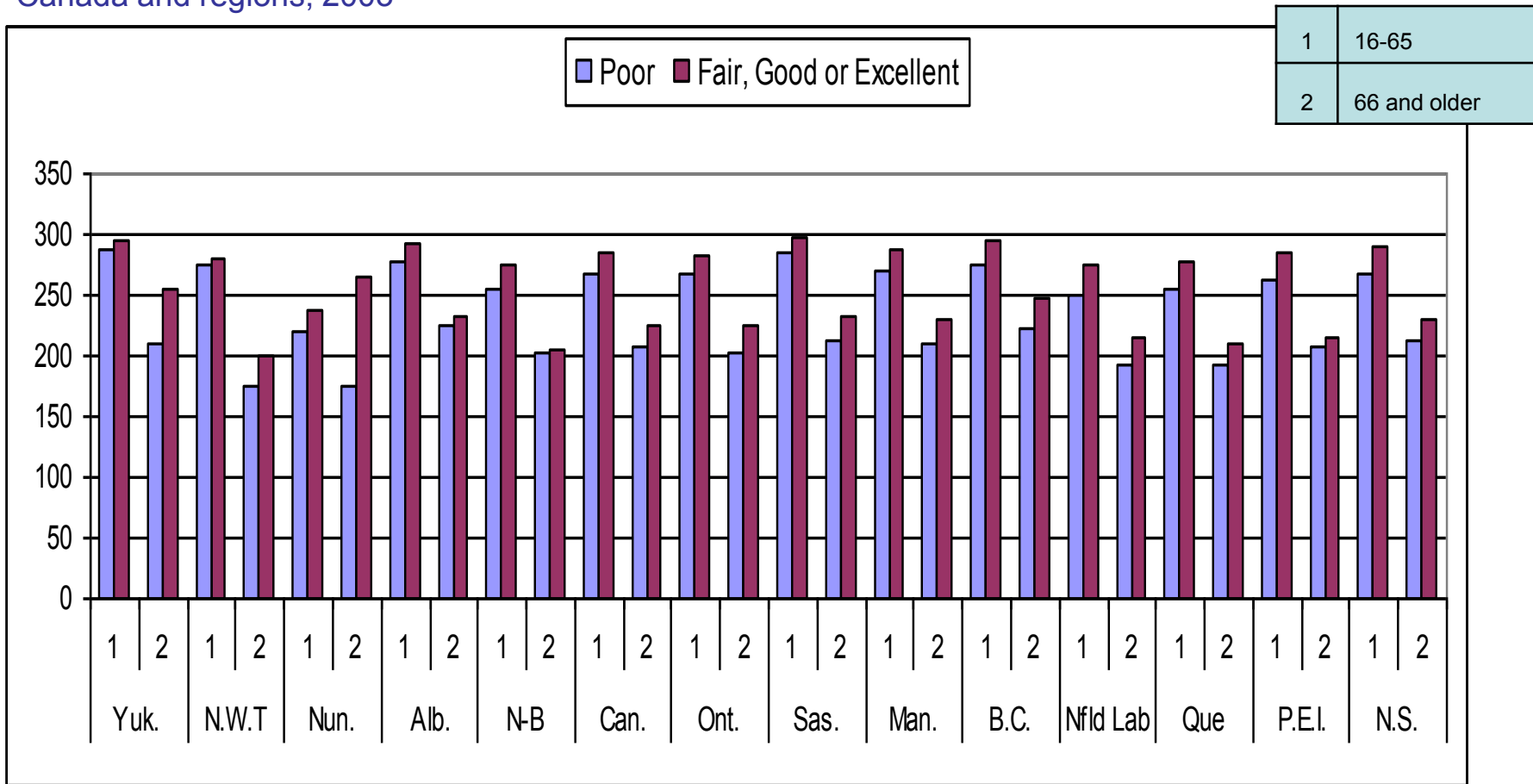
# 68% of New Brunswick residents have access to a computer at home compared to 76% of Canadians aged 16 to 65 years.

Computer and Internet access at home Per cent of adults aged 16-65 who report having access to a computer and the Internet at home, Canada and jurisdictions, 2003



# Generally, 16 to 65 year-olds in poor health have lower average document literacy scores.

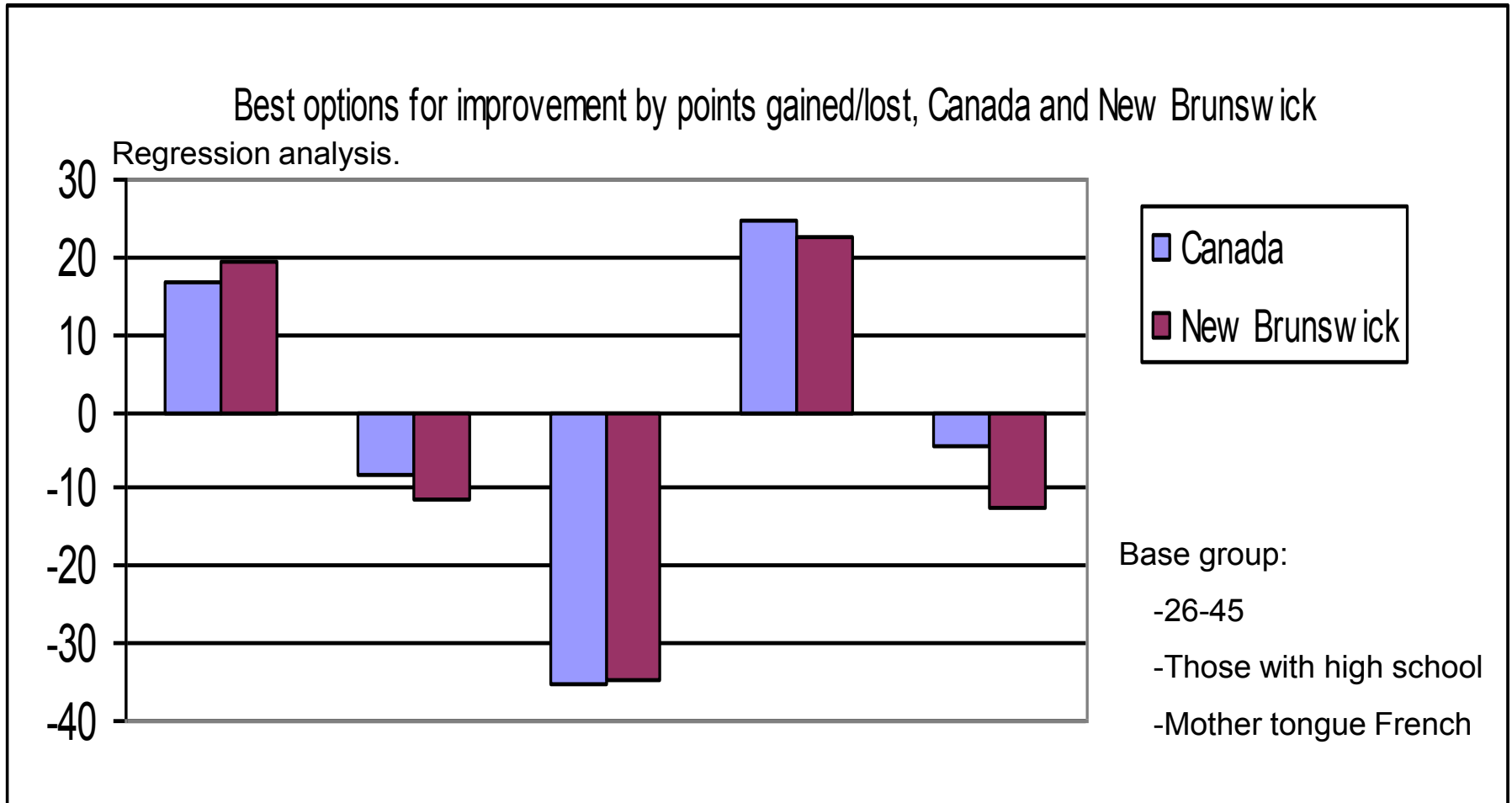
Physical Component Summary (PCS) scores by mean document literacy proficiency by age groups, Canada and regions, 2003



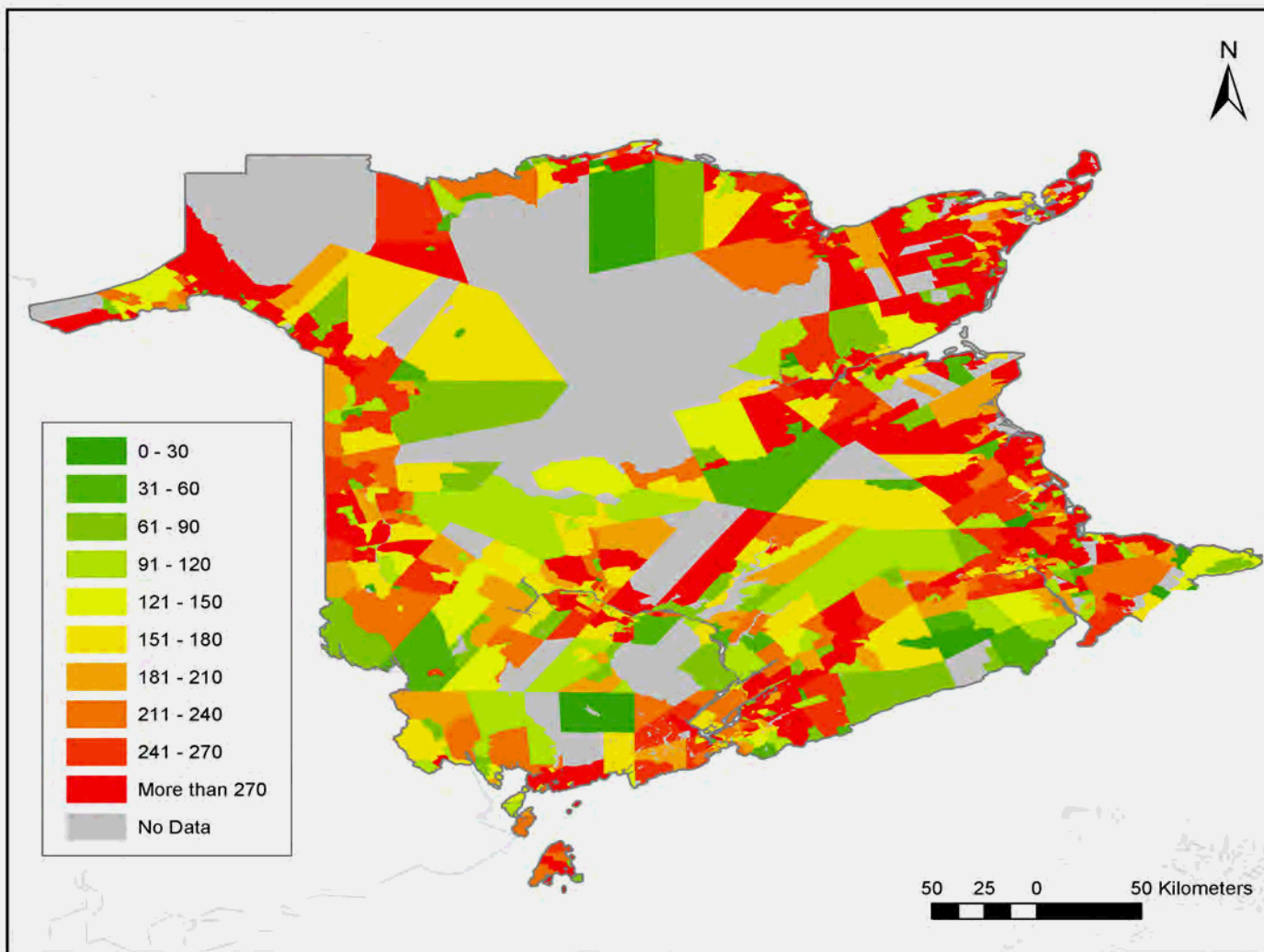
Note : Orders the provinces and territories by the size of the difference in average document literacy between those in poor health and those in excellent health.



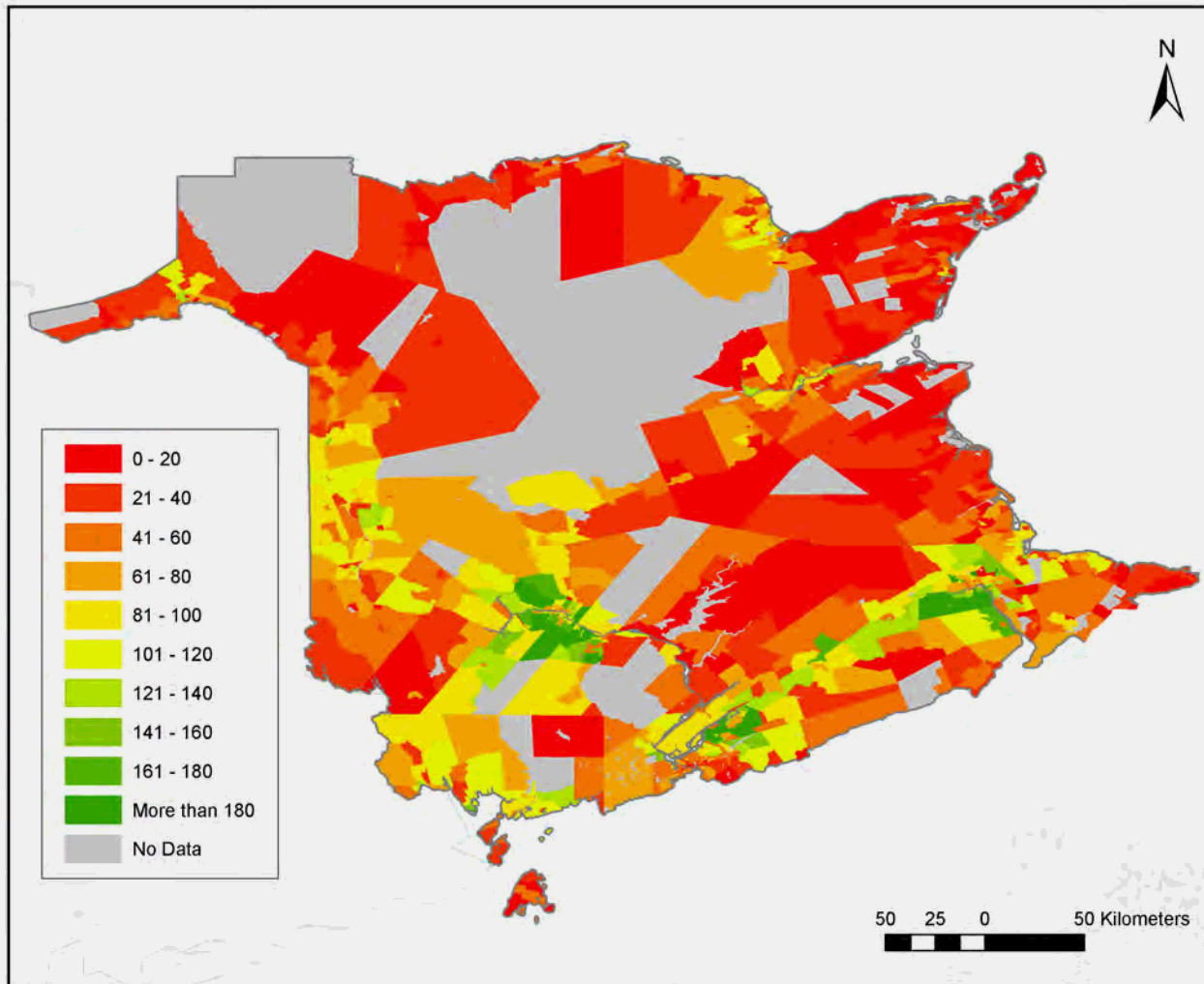
**Policy sensitive targets appear to be similar for New Brunswick and Canada.**



# Geographic distribution of people at levels 1 and 2 in prose in New Brunswick (IALSS population 16-65).



## Geographic distribution of people at levels 4 and 5 in prose in New Brunswick (IALSS population 16-65).



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