

REPORT ON THE STATE OF
Early Childhood Learning



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PREFACE

If learning is a lifelong journey, then the first few years are vital in determining what direction the journey is likely to take. A growing body of research indicates that the experiences during the first five years of a child's life have a major bearing on his or her future success in school, in the workplace, and many other aspects of a healthy, fulfilling life.

Early childhood is a time of play and discovery, but it is also the time when children should be mastering four key skills—social and emotional, physical, cognitive and language. These developmental pillars are essential to their ability to function in society. Some argue that society's wisest learning investments are concentrated on early childhood learning and development, on the very solid grounds that the early years are overwhelmingly significant to all dimensions of life's prospects.

Of course, parents play a key role shaping children's abilities and fostering their desire to learn. They provide the earliest and most lasting learning experiences in their children's lives and create a learning environment that will influence how well their children perform at school, in the community and in the workplace.

As their children's first teachers, adults also are models of lifelong learning. By upgrading their skills and acquiring new knowledge, adults not only demonstrate their own ability to make informed decisions and lead successful lives, they also improve the likelihood, through example, that their children will become successful lifelong learners.

Lifelong learning strengthens individuals, families and society. Its cumulative benefits are passed from one generation to the next, enabling individuals to contribute more fully as parents, workers, community members and citizens. An informed and engaged citizenry that continues to learn throughout life is essential to

Canada's social, economic and cultural well-being—and is a key ingredient of a vibrant democracy.

This report is an update of the early childhood learning chapter from *State of Learning in Canada: No Time for Complacency*, published in January 2007. It contains the most current data on early childhood learning and development in Canada, including factors that affect children's learning through their physical, cognitive, communicative, and emotional and social development.

"AT LEAST ONE IN FOUR CANADIAN YOUNG CHILDREN IS VULNERABLE"

(Willms, J. D. Vulnerable Children 2002)

According to Willms, children (0 to 11 years old) are considered as "vulnerable" either in their cognitive (learning) domain or behavioural domain, based on the "vulnerability index" derived from the National Longitudinal Survey of Children and Youth.

The index aims to identify children whose chances of leading healthy and productive lives are somewhat reduced unless there is a concerted and prolonged effort to intervene on their behalf. Children are classified as vulnerable in their cognitive domain if they score:

- *low in their motor and social development (age 0 to 3);*
- *low on receptive vocabulary (age 4 and 5); or*
- *low on their mathematics skills (age 6 to 11).*

Children are classified as vulnerable in their behavioural domain if they:

- *were rated as having a difficult temperament (age 0 to 1); or*
- *were deemed to have one of six behaviour problems (i.e. anxiety/emotional problem, hyperactivity, inattention, physical aggression or indirect aggression) at age 2 to 11.*

What we see is that most Canadians are born healthy and their level of development is similar to that of children in other member countries of the Organisation for Economic Co-operation and Development (OECD). However, more than one in four children in Canada enters school with a learning or behavioural problem that threatens his or her future success. And although family income is not as strong a factor in a child's success at school when compared with other countries, there are inequities that must be addressed if Canada is to sustain its comfortable level of social well-being and economic prosperity.

Early childhood learning and development are inextricable—without a strong foundation of physical, emotional, cognitive and social development, successful learning is less likely to follow.

A survey conducted by CCL in 2006 suggests Canadian parents overwhelmingly

agree that children need a well-rounded approach in their early years. For example, parents place greater importance on fostering a positive attitude toward learning than on school readiness. And their actions seem to bear out their intentions. The number of parents and other adults reading daily to children is on the rise—65% in 2004–2005, up from 56% ten years earlier—an activity known to have a positive impact on a child's ability to learn.

PREFACE

CCL's Survey of Canadian Attitudes toward Learning also reveals that, when it comes to public support for early childhood learning and development, there is a significant gap between parents' expectations and reality. Nearly two-thirds of parents feel that local child-care services are under-funded and that there are inadequate resources for parents who stay home with their children. The survey shows that Canadians want more support for both options.

Yet despite everything we know about early childhood learning, there is still far too much that we do not know. Like much of CCL's work, this report and the earlier *State of Learning in Canada* report underscore the need for comprehensive, consistent, nationwide indicators for early childhood learning. Given the importance that Canadian parents place on the best way to raise and care for their children, we need reliable, countrywide information to show how our children are progressing and where weaknesses exist. A solid base of evidence is required in order to identify where improvements are necessary and what can be done to address the challenges.

Although the Government of Canada has started to release a series of annual and bi-annual reports on the status of early childhood development under the terms of federal-provincial-territorial agreements on early childhood development and care, too many aspects of early childhood development in Canada remain unknown and unexplored. Canadians need to know whether we, as a country, are giving our future generation the best possible start—and if not, what steps should be taken to remedy the situation.

If we do not tackle such knowledge gaps, we increase the risk that we might overlook emerging challenges, or that we will lack the tools to address them.

To help close these gaps, the Canadian Council on Learning and its Early Childhood Learning Knowledge Centre are studying new approaches to monitoring and reporting on the state of early learning in Canada.

For example, while many indicators of early learning are assessed just before school age, CCL's Early Childhood Learning Knowledge Centre (a consortium of organizations led by the Centre of Excellence for Early Childhood Development at the Université de Montréal) will promote the use of additional indicators of child development, and of the environment in which children are growing up (including resources and services for families), from before birth to the age of four.

We hope that innovative initiatives such as these, along with reports such as those issued by the Government of Canada, will help bridge the research gaps needed to further the understanding of the formative early childhood years in Canada—and ensure our children are well prepared for the lifelong journey that is learning.

Too often, debate about early childhood learning and development is polarized around issues of home care versus day care, or private versus public care. What is really needed is an evidence-based approach focussed on helping individuals and communities address their own unique concerns. In a world where one size does not fit all—where parents and governments require choice and response to local conditions—we need common benchmarks whereas the data is cohesive, coherent and comparable in order to assess results.

EARLY CHILDHOOD LEARNING

1. Introduction

Children's experiences in the first years of life have a lasting impact on their development and future learning. As Nobel laureate James J. Heckman stated, "Learning starts in infancy, long before formal education begins, and continues throughout life Early learning begets later learning and early success breeds later success."¹

To express it in terms of the *four pillars of learning*² early childhood is when children learn to know, to do, to live together and to be.

As children develop, they adopt ever more complex skills. Their ability to use their senses and control their movements shapes their emotional and social development. As they mature emotionally and socially, new cognitive abilities, such as the use of language, emerge.

An important aspect of children's learning is that it occurs in stages. There are specific periods during which a young brain will develop particular skills, such as the ability to see with both eyes, to control emotions and to speak. If a child does not acquire these skills at the right stage, it may be difficult to catch up later.³

ATTITUDES TOWARD EARLY LEARNING

The Canadian Council on Learning's 2006 Survey of Canadian Attitudes toward Learning found that:

- Canadians think learning at all stages of life is critical to success
- Canadians think that early childhood learning should focus more on attitudes—such as fostering a positive attitude toward learning—than on school readiness

THE WIRED BRAIN

*Human development is not a matter of nature versus nurture, but of nature and nurture working together. In response to stimuli from the environment, the nerve cells of the brain form physical connections and pathways. This brain wiring process, which begins before birth and continues through life, is most intensive during the first three years of development.*⁴

CARE AND NEGLECT

A study of children adopted from foreign institutions demonstrates the extent to which serious early neglect can affect a child's development. The research revealed that children reared in privation had lower IQs at the age of four than children raised in caring homes. Perhaps more surprising was that the difference in brain function persisted at age 11, even after the children had spent seven years with adoptive parents.⁵ Animal research shows that intense stress early in life can lead to brain damage,⁶ underscoring the strong link between early care and a later ability to think and learn.

- There are more than 2 million children under the age of six in Canada.
- The proportion of children under six years of age declined from 9% of the total Canadian population in 1975 to 6% in 2005.⁷

2. Indicators of Early Childhood Development

To understand the state of early childhood learning in Canada, we need to examine four main areas of development: physical; cognitive; language and communication; and emotional and social development. These areas are linked and interdependent.

Measurements of motor skills, vocabulary, emotional control and social interactions, for example, tell us how Canadian children are developing and maturing. We also need to know about the environmental factors that influence early childhood learning. The most effective measurements are those that are repeated at regular intervals and therefore reveal trends.

In the pages ahead, we explore the state of early childhood development in Canada according to the following five indicators:

- birth weight
- physical development, including fine and gross motor development
- cognitive development
- language and communications skills development
- emotional and social development

We review the research on these indicators, describe what is known about Canada's performance and progress, and highlight areas for further attention and investigation.

BIRTH WEIGHT

The link between low birth weight and risks to later development and learning has been established for a long time. A recent study, for example, found that low birth weight is associated with lower cognitive development at ages 7, 11 and 16.⁸

Birth weight can also provide an indication of the environmental factors influencing a child's health and learning, as low birth weight is associated with poor nutrition, smoking, and alcohol and drug use.⁹

Societal factors affecting birth weight include a greater prevalence of fertility treatments and the increased tendency for women to delay childbearing into their 30s or later.¹⁰

What do we know about Canada's progress?

In 2003, 6% of Canadian babies were born with low birth weights (weighing less than 2.5 kg, or 5.5 lb.), a proportion that has remained constant for the past 25 years. The frequency of low birth weights in Canada is slightly below the average among countries of the Organisation for Economic Co-operation and Development (OECD). The Scandinavian countries, the Netherlands and South Korea have the smallest proportion of low-weight births.

TOOLS OF THE TRADE

Under an historic agreement on early childhood development reached by federal, provincial and territorial governments in September 2000, the Government of Canada is transferring \$500M per year via the Canada Social Transfer to provinces and territories for investment in programs and services for children under six and their families. As part of this agreement, governments have agreed to report annually on their investments in Early Childhood Development programs and services and biennially on a common set of indicators of young children's well-being. This agreement has expanded the use of, and interest in, assessment and monitoring tools for early childhood development.

EARLY CHILDHOOD LEARNING

Percentage of babies born with low birth weights, 1980–2003

	1980	1990	2000	2003
Australia	5.6 ¹⁹⁸³	6.1	6.3	6.4 ²⁰⁰²
Canada	5.8	5.5	5.6	5.8 ²⁰⁰²
Denmark	5.8	5.2	4.9	5.5
Finland	3.9	3.6	4.3	4.1
France	5.2 ¹⁹⁸¹	5.3	6.4	6.6
Germany	5.5	5.7	6.4	6.8
Iceland	3.4	2.9	3.9	3.1
Italy	5.6	5.6	6.7	6.5 ²⁰⁰²
Japan	5.2	6.3	8.6	9.1
Korea	..	2.6 ¹⁹⁹³	3.8	4.1
Netherlands	4 ¹⁹⁷⁹	4.8	5.1	5.4 ²⁰⁰²
New Zealand	5.8	6.2	6.4	6.1
Norway	3.8	4.6	5	4.9
Sweden	4.2	4.5	4.4	4.5
Switzerland	5.1	5.1	5.9	6.5 ²⁰⁰²
United Kingdom	6.7	6.7	7.5	7.6
United States	6.8	7.1	7.6	7.9
Median	5.6	5.6	6.3	6.6

Source: OECD, *Health at a Glance 2005*

PHYSICAL DEVELOPMENT AND MOVEMENT

Physical development in the early years includes the development of the body, the senses, and skills such as coordination and balance. A vital component of physical maturation is motor development, which includes increases in strength, coordination and movement control. Motor development affects exploration, play and interaction with peers, which in turn influence cognitive, language and social development.

In the first two years of life, a child experiences rapid motor development. What begins as a few spontaneous and reflexive movements progresses into purposeful arm motions, greater balance, and a newfound ability to sit, crawl, stand and walk.

From ages two to six, children usually learn to run, jump, skip, climb, catch and throw—skills that are critical for play, organized sports and recreational activities. Fine motor skills are also necessary to prepare children for common school tasks, such as controlling a pencil and turning pages.

Many factors affect the development of motor skills, even before birth. A mother's consumption of tobacco or alcohol during pregnancy,¹¹ or maternal stress or depression, can have negative impacts. Children who live in conditions of poverty, homelessness or family violence are also more likely to suffer delays in developing basic motor skills.¹² Also, environmental hazards, such as exposure to certain chemical agents during pregnancy, can have adverse effects on development.^{13,14}

A child who does not master gross and fine motor skills may struggle at school or develop feelings of inadequacy and frustration.¹⁵

What do we know about Canada's progress?

Gross motor skills

Gross motor skills are required for the movement of larger muscles in the arms, legs, torso and feet. These skills were last assessed in the National Longitudinal Survey of Children and Youth (NLSCY) in 2000–2001. Nearly 90% of children aged four and five were found to have average or above-average gross motor skills. There was little difference between boys and girls.

Gross motor skills, 0 to five-year-olds, 2000–2001

	AVERAGE OR ABOVE	DELAYED
Boys	88.8%	11.2%
Girls	89.7%	10.3%
Both sexes	89.2%	10.8%

Source: Statistics Canada, National Longitudinal Survey of Children and Youth

Fine motor skills

The NLSCY also assessed fine motor skills, which involve the coordinated movement of the hands, fingers, toes, wrists and other smaller muscles. In 2004–2005, 87% of 0 to five-year-olds were considered to have average or above-average fine motor skills. More boys (15%) were delayed in their development than girls (11%).

Fine motor skills, 0 to three-year-olds, 2004–2005

	AVERAGE OR ABOVE	DELAYED
Boys	84.6%	15.4%
Girls	88.7%	11.3%
Both sexes	86.6%	13.4%

Source: Statistics Canada, National Longitudinal Survey of Children and Youth

EARLY CHILDHOOD LEARNING

COGNITIVE DEVELOPMENT

Cognitive development involves mental processes such as thinking and reasoning. Every child develops at a different pace, but cognitive development generally tends to occur in stages.

Cognitive development milestones^{16,17}

AGE	
Zero–one month	newborn reflexes; recognition memory for simple stimuli
One–four months	deferred imitation of adults' facial expressions; some awareness of object permanence; limited anticipation of events
Four–eight months	sensitivity to changes in number or amount of things; development of object concept; use of shape, texture, and colour to identify objects; use of own body but also of simple landmark cues to locate objects in space
Eight–12 months	ability to retrieve an object from the first location in which it is hidden; categorization of social stimuli (for example, human versus non-human movement patterns); simple problem solving by combining sub-goals
12–18 months	classification of objects according to physical similarities; exploration of objects by acting on them in novel ways; experimenting with actions when solving problems
18–36 months	at age two, memory span of about two items; use of naming and looking as simple memory strategies; ability to draw scribbles; elementary planning capabilities
Three years	more complex thematic object classification (objects that function together or complement one another); recognition performance for 50-plus items; understanding that thinking is something that takes place inside oneself; basic understanding of numbers 1–10; ability to use a symbol for a real-world event, as component of problem solving; child's scribbles now become pictures
Four years	basic understanding of how one can take the perspective of another; understanding of <i>pretend</i> and <i>make-believe</i> ; enhanced categorization skills; concept of cardinality; recall of three or four items can occur
Five–six years	understanding relations such as <i>bigger</i> and <i>smaller</i> ; drawings become more realistic; can distinguish between theory and evidence

Many factors can promote or hinder cognitive development. Development is most likely to progress when:

- parents encourage learning through games and the use of appropriate play materials;¹⁸
- books are available and parents read to their children;¹⁹
- mothers encourage their children, show affection and engage in their activities;²⁰
- children in child care enjoy high-quality care with trained caregivers and organized, age-appropriate and stimulating activities;²¹
- children are raised in a safe and comfortable neighbourhood²² and a clean environment;²³
- children are not exposed to tobacco, alcohol or drugs in the womb;²⁴ and
- children from high-risk environments are integrated with those living with more advantages.²⁵

What do we know about Canada's progress?

The National Longitudinal Survey of Children and Youth applied two tests to assess cognitive development among children aged four and five.

- The "Who Am I?" Test involved copying and writing tasks designed to gauge a child's ability to conceptualize and reconstruct geometric shapes, and to understand and use symbols like letters and words.
- The "Number Knowledge Assessment" examined a child's early comprehension of numbers.

By both measures, most Canadian children demonstrated an average or advanced level of development in 2004-2005. However, significant differences were noted between children based on family income.

In the "Who Am I?" Test, 19% of children from low-income families were considered to have delayed development, compared to 14% of other children. In the Number Knowledge Assessment, 28% of children from low-income families showed delayed development, compared to 14% of other children.

Cognitive development of four- and five-year-olds by family income, 2004–2005

	DELAYED	AVERAGE	ADVANCED
"Who Am I?" Test			
Total	14.8%	65.8%	19.4%
Above LICO *	13.8%	65.5%	20.7%
Below LICO	19.4%	67%	13.6%
Number Knowledge Assessment			
Total	16.4%	72.6%	11.1%
Above LICO	13.8%	74.2%	12.1%
Below LICO	28.4%	64.8%	6.8%

Source: Statistics Canada, National Longitudinal Survey of Children and Youth
* Low income cut-off

Although the risk of developmental delay is greater for children in economically disadvantaged families, it is important to note that children from all economic backgrounds can experience developmental delay. In fact, the Ontario Child Health Study demonstrated that while children in lower-income families were more likely than children from wealthier families to have cognitive or behavioural disorders, the greatest number of children with these difficulties is actually from middle-income families.

EARLY CHILDHOOD LEARNING

Developmental disorders by family income, ages four to 16

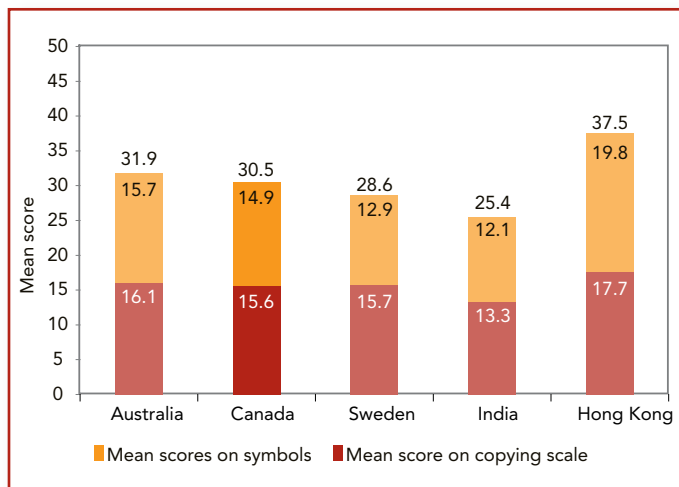
FAMILY INCOME	RISK OF ONE OR MORE DISORDERS (PER 100 CHILDREN)	PERCENTAGE OF TOTAL CASES OCCURRING AT EACH INCOME LEVEL
<\$10,000	36.3	14.5%
\$10,000–\$25,000	17.4	26.5%
\$25,000–\$50,000	16.8	48.7%
>\$50,000	14.9	10.3%
All Income Levels	18.2	100.0%

Source: Norrie McCain, Margaret and J. Fraser Mustard. *Early Years Study Final Report* (Government of Ontario, Ontario Children's Secretariat, 1999)

International comparisons

A 2002 study used the "Who Am I?" Test to compare the ability of six-year-old children in five countries to understand and copy shapes and symbols. Canadian children scored higher overall than children in Sweden and India, about the same as those in Australia, but lower than children in Hong Kong.

International comparison of "Who Am I?" Test results, six-year-olds, 2002



Source: de Lemos, Molly. *Patterns of Young Children's Development: An International Comparison of Development as Assessed by Who Am I?* (Gatineau, Que.: Human Resources Development Canada, 2002).

LANGUAGE AND COMMUNICATION SKILLS DEVELOPMENT

From birth to age six, oral language is pivotal for a child's development.²⁶ In primary and elementary schools, the acquisition of language has an impact on a child's capacity to read and write,²⁷ socialize²⁸ and understand what is going on in the classroom.²⁹

For most children, learning to speak seems natural and effortless. This is not, however, always so. In fact, about 8–9% of young children suffer from speech difficulties.³⁰ Speech impediments, especially if they persist past the age of five, increase the risk of social, academic and emotional problems later in life.³¹

Canadian researchers are leaders in the study of language and literacy impairments and their association with behavioural problems from infancy into the school years. Canadian researchers of the Canadian Language and Literacy Research Network (CLLRNet) are currently studying how early verbal delays are linked to social adjustment.

Early language development generally occurs in the following sequence:³²

Birth to one year	sounds and non-verbal communicative acts; from eight to 12 months, there is more control over vocalization and the use of invented words, gesturing and gaze direction
One to two years	the first meaningful words are spoken and a vocabulary begins to emerge
Two to three years	the ordering of words and sentences points to the development of grammar skills
Three to five years	continued increase in sentence length and the formation of complex sentences signal the consolidation and advancement of language learning

Factors influencing language learning include:³³

- a family history of language or learning difficulties,
- gender, as males have a higher rate of language and learning difficulties, and
- neurological injury or other types of physical disorders that lead to learning difficulties.

External factors also affect language development, including:

- how much parents speak to the child and the complexity of their vocabulary and grammar,³⁴
- how much parents or other caregivers read to the child, particularly as this develops an emotional closeness, and
- the mother's ability to respond verbally to the focus of the child's attention and activities.³⁵

Reading with the child, often and regularly, promotes language development, especially if the child is asked questions and is engaged in the activity. Other ways to promote language include reciting poems, teaching the child to recognize letters and their sounds, and teaching children to recognize and write their names.³⁶

EARLY CHILDHOOD LEARNING

What do we know about Canada's progress?

Receptive vocabulary

The Peabody Picture Vocabulary Test–Revised (PPVT-R) assesses receptive vocabulary—or the words a child can understand—at ages four and five. The test, included in Canada in the NLSCY, requires the child to identify pictures that match words being read out by an interviewer.

Most Canadian children assessed with the PPVT-R since 1994–1995 showed average or advanced progress in this area. The proportion of children scoring in the delayed range showed a slight decline, from 16% in 1994–1995 to 14% in 2004–2005, the most recent year for which statistics are available.

PPVT-R test of language development, four- and five-year-olds, 1994–1995 to 2004–2005

YEAR	DELAYED	AVERAGE	ADVANCED
1994–1995	15.9%	68.8%	15.3%
1996–1997	16.7%	69.5%	13.9%
1998–1999	15.9%	70.8%	13.3%
2000–2001	14.5%	69.1%	16.4%
2002–2003	13.1%	69.6%	17.3%
2004–2005	13.6%	70%	16.5%

Source: Statistics Canada, National Longitudinal Survey of Children and Youth

Approximately one-quarter of children from low-income families were considered to have delayed receptive vocabulary development, compared to 11% of other children.

PPVT-R test of language development, four- and five-year-olds by family income, 2004–2005

	DELAYED	AVERAGE	ADVANCED
Canada	13.6%	70%	16.5%
Above LICO *	11.2%	70.7%	18.1%
Below LICO	24.8%	66.4%	8.9%

Source: Statistics Canada, National Longitudinal Survey of Children and Youth
*Low income cut-off

MORE ON EARLY LITERACY

For further information, please see *How Parents Foster Early Literacy*, published by the Canadian Council on Learning as part of its *Lessons in Learning* series. Available at www.ccl-cca.ca.

Communication skills

The NLSCY assesses communication skills by measuring a child's capacity to vocalize, understand oral speech, and pass a message on to someone else. In 2004–2005, almost 90% of children aged 0 to 3 years had average or better communication skills. However, more boys (13%) than girls (8%) fell within the range considered delayed.

Communication skills 0 to three-year-olds, 2004–2005

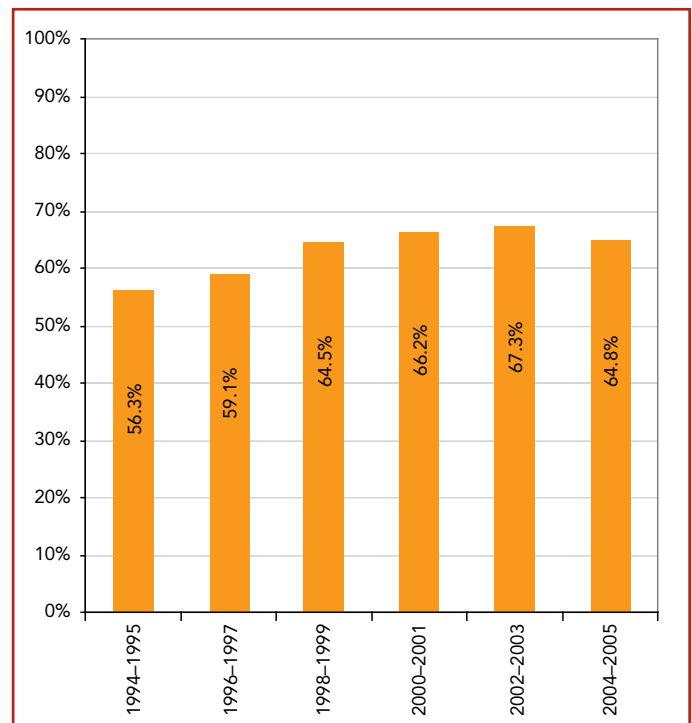
	Average or above	Delayed
Boys	86.9%	13.1%
Girls	92.6%	7.5%
Both sexes	89.7%	10.3%

Source: Statistics Canada, National Longitudinal Survey of Children and Youth

Reading to children

A higher proportion of children under the age of six were being read to daily by their parents or other adults in 2004–2005 (65%) than in 1994–1995 (56%), according to the NLSCY. Again, the survey demonstrated a link between a family's income and its likelihood of daily reading. In 2004–2005, 57% of children in low-income families were read to daily, compared to 67% of other children.

Proportion of children, from birth to five years, being read to daily, 1994–1995 to 2004–2005



Source: Statistics Canada, National Longitudinal Survey of Children and Youth

EARLY CHILDHOOD LEARNING

EMOTIONAL AND SOCIAL DEVELOPMENT

Children in their early years have to learn to live with others and to develop relationships. The emotional and social development of young children involves the following:

- *The development of social and emotional bonds of attachment with a significant adult, usually the parent*

These bonds are particularly important during times of distress, sickness or fatigue.³⁷ Such bonds also teach independence, the capacity to interact with others and to recognize emotional signals.

- *The ability to control emotions*

Emotional and behavioural self-control, which typically begins at the age of two, is associated with an ability to pay attention and concentrate, and to regulate emotional responses in different environments.

- *Integration within peer groups*

From the age of one, a child can interact with other children.³⁸ Limited at first, these interactions become increasingly important and frequent by the time the child is in school or child care. Peer interactions teach social rules and cues. As children integrate into their peer groups, they learn to suppress aggressive behaviour, understand group social structures, develop leadership skills and form friendships.

Steps in a child's emotional and social development include:

Six months	Infants can communicate with other infants through smiling, touching and babbling.
One year	Most children can participate with their peers in activities related to objects.
Two years	Children can play with other children, imitate others, and change their roles in play.
Three to five years	Pro-social behaviour, or behaviour intended to help or benefit others, and games of simulation are developed and aggressive behaviour diminishes. At four, children can name their best friends and distinguish between peers they like and dislike.

What do we know about Canada's progress?

To gauge the social and emotional development of Canadian children, the National Longitudinal Survey of Children and Youth (NLSCY) measured physical aggression (bullying, being mean, fighting), indirect aggression (taking revenge, telling secrets, spreading gossip), and personal and social maturity.

As the tables on the following pages reveal, gender differences are common. More boys (16%) than girls (12%) between the age of two to five show high levels of physical aggression. The proportion of pre-school children displaying high degrees of indirect aggressiveness decreased from 11% in 1994–1995 to 6% in 2004–2005.

On the other hand, the proportion of girls (11%) considered to have delayed development in personal and social skills was almost half that for boys (18%). However, it is important to note that boys and girls tend to follow different trajectories.³⁹

TRENDS IN PHYSICAL AGGRESSION

The NLSCY illustrates three distinct trends in physical aggression as a child matures from toddler age to pre-adolescence.

For most children (83%) physical aggression decreased over this period, but one in six children retained their aggressive behaviour.

Children with consistently high levels of aggression tended to be boys, to come from low-income families, and to have mothers with little education. The mothers, moreover, were more likely to report more hostile and ineffective parenting strategies.⁴⁰

EARLY CHILDHOOD LEARNING

Physical aggressiveness among two- to five-year-olds, 2004–2005

	AVERAGE	HIGH
Both sexes	85.8%	14.2%
Boys	84.0%	16.0%
Girls	87.7%	12.3%

Source: Statistics Canada, National Longitudinal Survey of Children and Youth

Indirect aggressiveness among four- to five-year-olds, 2004–2005

	AVERAGE	HIGH
Both sexes	93.7%	6.3%
Boys	93.7%	6.3%
Girls	93.7%	6.3%

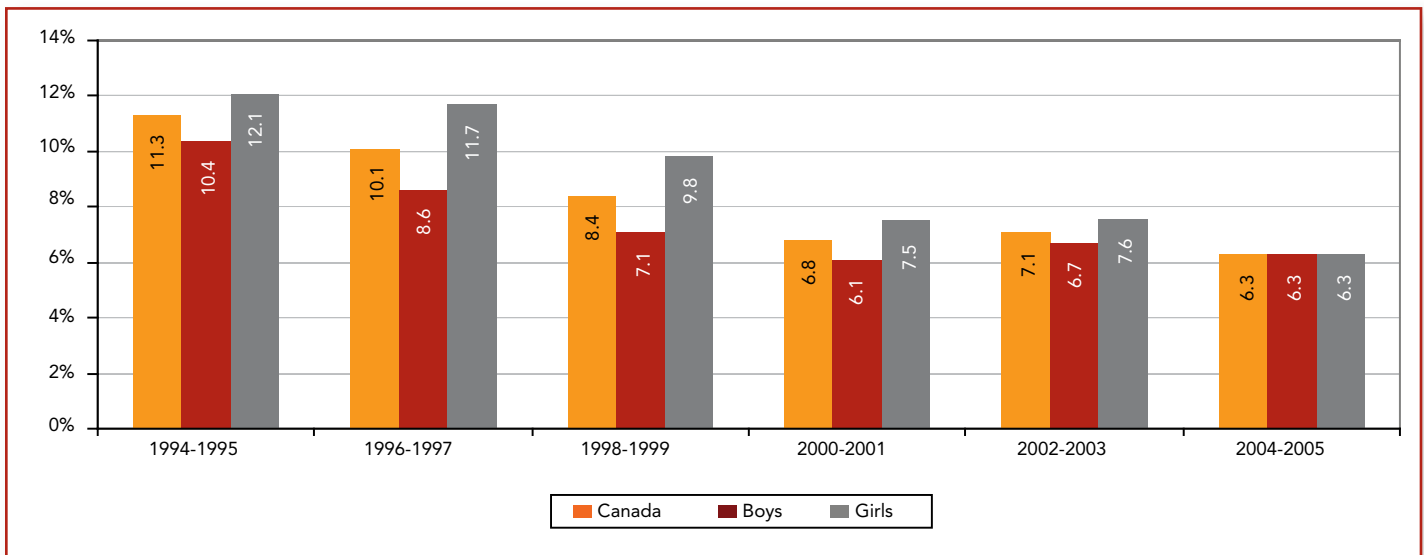
Source: Statistics Canada, National Longitudinal Survey of Children and Youth

Personal/social development among 0 to three-year-olds, 2004–2005

	DELAYED	AVERAGE OR ABOVE
Both sexes	14.6%	85.4%
Boys	17.9%	82.1%
Girls	11.1%	88.9%

Source: Statistics Canada, National Longitudinal Survey of Children and Youth

Children aged four and five with high levels of indirect aggressiveness, 1994–1995 to 2004–2005



Source: Statistics Canada, National Longitudinal Survey of Children and Youth

3. The Road Ahead

WHERE DOES CANADA STAND?

The research leaves no doubt that early childhood learning and development are vital for lifelong learning and life readiness. And yet, many Canadian children are not experiencing optimal early development.

In fact, more than one in four children (29.54%) is entering Grade 1 with learning or behavioural difficulties that could affect future success in academics and life in general.⁴¹ Although some children are at greater risk of developmental delays, such problems affect children in all demographic groups. Thus, it is important to achieve a better understanding of the current developmental status of Canadian children, and how this status can be improved.

Toward that end, governments in Canada have been seeking new ways to monitor and report on the status of early childhood development. For example, in support of the federal-provincial-territorial agreement on early childhood development, each government reports biennially on indicators of child well-being.⁴² This is in addition to regular reporting on their investments and progress in enhancing programs and services for young children and their families.

The well-being reports are based on a collaborative federal-provincial-territorial effort to develop and report on a set of common indicators, using the best available data on children's well-being in the areas of physical health and motor development, emotional health, social knowledge and competence, and cognitive learning and language communication. *The Well-Being of Canada's Young Children: Government of Canada Report* covers the common set of indicators of child well-being at the national level as well as information on the family and community contexts in which children are growing up.

Individually, and together, these reports—which are based on findings from the National Longitudinal Survey of Children and Youth and key national sources of health data—contribute to a greater understanding of how Canada's young children are doing, and the factors contributing to their well-being, across the domains of child development.

Significant information on early childhood development has come to light through the creation of new data sources. Examples, which are described in greater detail on pages 14-15, include:

- Early Development Instrument
- Linked provincial databases in Manitoba
- The Early Years Evaluation
- The Quebec Longitudinal Study of Child Development
- Understanding the Early Years

WHAT DON'T WE KNOW?

As illuminating as they are, the current data sources provide only a fragmented picture. There is significant room to expand these types of initiatives and start piecing together a richer picture of what we know about early learning across Canada.

The information on early childhood learning collected at present does not tell us everything we need to know at a pan-Canadian level. The current tools, such as the NLSCY and other data initiatives, provide a rich understanding of determinants of early childhood development, such as parental education. However, there is a need for better assessment of the “outcomes” of early childhood development, and learning in particular. Another key knowledge gap is in the area of the factors influencing the development trajectories of children with fewer opportunities, especially Aboriginal and disabled children.

Ideally, Canada would gather data that would also allow us to make more complete comparisons between our domestic situation and that of children living in other countries. To achieve that goal, there is a need for an international forum to share the current knowledge of early childhood development science and develop common instruments.

A 2004 report by the Organisation for Economic Co-operation and Development⁴³ found that there is significant scope to expand our research and deepen our understanding of early learning across Canada. One approach would be to develop a comprehensive data

EARLY CHILDHOOD LEARNING

strategy on early childhood learning and development, with a focus on children's development trajectories. This would require more longitudinal data (such as the NLSCY and the Quebec Longitudinal Study of Child Development) with more direct assessments at different points in a child's early development stage, and then later in life as a youth and adult.

No single survey will ever answer all the questions related to a field as complex as early childhood learning and development. Consequently, the data strategy should take advantage of available data sources for early childhood development, as well as integrate data from different sources—something Manitoba is trying to do with its linked database initiative.

Action is required on a number of knowledge fronts—from enhanced data and information collection, to more analysis and research in key areas, to better dissemination and sharing.

WHAT WILL CCL DO?

Early childhood learning is one of five priority issues identified by the Canadian Council on Learning. CCL has established the Early Childhood Learning Knowledge Centre to identify and share effective practices and ways to improve monitoring and reporting on the state of early learning in Canada. The knowledge centre is a consortium of organizations led by the Centre of Excellence for Early Childhood Development at the Université de Montréal.

Currently, many indicators of early learning are assessed just before school age. The Early Childhood Learning Knowledge Centre intends to promote the development and use of additional indicators that would provide information on child development from before birth to the age of four. CCL will also highlight the importance of indicators related to the environment in which children are growing up, including the resources and services that are available to families.

Canada's future depends on our ability to provide our children with the foundation they need to achieve their full potential in life. Governments, early childhood educators, parents and society as a whole all have an interest in supporting early development.

Unfortunately, today we do not have all the information we need to understand how well our children are developing in Canada, information that would enable us to identify the steps that should be taken to get all young Canadians on a path toward a fulfilling life. As its contribution to the efforts to fill this gap, CCL is developing a comprehensive data strategy that will identify the information required to understand areas of strength and weakness, and provide a foundation for better decision making by governments, educators and parents themselves.

EARLY CHILDHOOD LEARNING

THE EARLY DEVELOPMENT INSTRUMENT

The Early Development Instrument (EDI) was created in 1997 to assess child development and school readiness at kindergarten age. It was designed by the Offord Centre for Child Studies (formerly the Canadian Centre for Studies of Children at Risk) at McMaster University in Hamilton, Ont., in partnership with the Founders' Network and the Early Years Action Group in North York, Ont.

The EDI serves as an outcome measure for early life and as a baseline measure for the school years. Through a checklist filled out by kindergarten teachers, the instrument gauges physical health and well-being, social competence, emotional maturity, language and cognitive development, and communication skills and general knowledge.

Each category contains a *vulnerability threshold*. Children who score below the threshold are said to be limited or vulnerable in that particular domain of their development. Communities are informed of the proportion of vulnerable children within their geographic boundaries.

The EDI gathers data on about half of all five-year-olds in Canada. It is used in British Columbia, Manitoba, Ontario and other regions of the country.

In British Columbia, for instance, the Human Early Learning Partnership (HELP) used the EDI to identify school districts where children were most in need of interventions. (See map.)

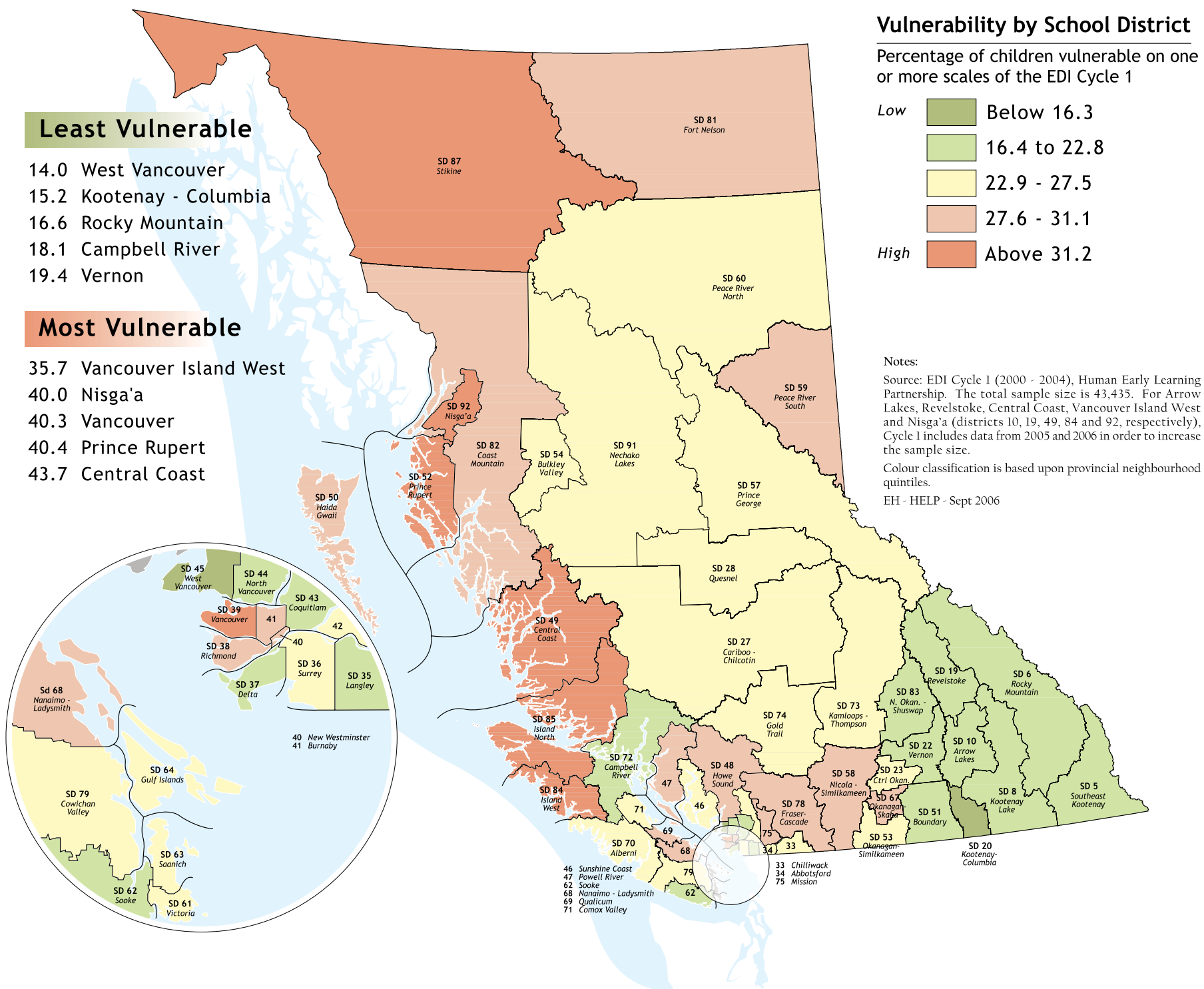
For more information on the EDI, please see: www.offordcentre.com/readiness/

Least Vulnerable

- 14.0 West Vancouver
- 15.2 Kootenay - Columbia
- 16.6 Rocky Mountain
- 18.1 Campbell River
- 19.4 Vernon

Most Vulnerable

- 35.7 Vancouver Island West
- 40.0 Nisga'a
- 40.3 Vancouver
- 40.4 Prince Rupert
- 43.7 Central Coast



EARLY CHILDHOOD LEARNING

THE EARLY YEARS EVALUATION

The Early Years Evaluation (EYE) is designed to help educators assess the skills of children aged four to six, who are making the transition to school.⁴³ Five aspects of early child development and school-readiness are evaluated:

- awareness of self and the environment (general knowledge)
- social skills, behaviour and approaches to learning
- cognitive skills
- language and communication
- physical development

The evaluation consists of a 10-minute assessment by a teacher and a direct assessment completed by the child over 20 to 30 minutes. KSI Research International Inc. has conducted three pilot studies to assess the reliability of EYE.

More information is available at: www.ksiresearch.com/eye/

THE QUEBEC LONGITUDINAL STUDY OF CHILD DEVELOPMENT

The Quebec Longitudinal Study of Child Development (QLSCD)⁴⁴ aims to identify factors that affect the social development and academic performance of young people in the province.

The first round of the QLSCD began in 1998 with a cohort of 2,120 children born in 1997–1998. The children were surveyed annually from the age of five months to four years. A second phase of the study is now underway and will continue until 2011.

For more information, please see: www.jesuisjeserai.stat.gouv.qc.ca/etude_an.htm

UNDERSTANDING THE EARLY YEARS

Understanding the Early Years (UEY) is a research initiative funded by Human Resources and Social Development Canada. Under UEY, participating communities receive information on the school readiness of their kindergarten children, family and community factors that influence children’s development, and the availability of local resources for children and families.

Launched in 1999 in North York, Ont., UEY was refined as a pilot project in 12 communities. It has been a pan-Canadian program since 2004, with up to 100 communities receiving support between 2005 and 2008.

More information is available at: www.hrsd.gc.ca/en/hip/sd/300_UEYInfo.shtml

LINKED PROVINCIAL DATABASES IN MANITOBA

The Manitoba Centre for Health Policy (MCHP) at the University of Manitoba uses anonymous administrative databases that can be linked together for specific research projects (www.umanitoba.ca/centres/mchp/data.htm).

While the link between socio-economic status (SES) and school performance is generally well established, the creative use of provincial databases allowed the MCPH to produce even more telling statistics for a project known as the Child Health Atlas 2004.

The top graph (right) illustrates what schools see when they review Education Ministry data on the performance of children taking the standardized Grade 3 language arts test. Ninety-four percent of students living in high-SES areas passed the test, compared to 83% of those from low-SES areas.

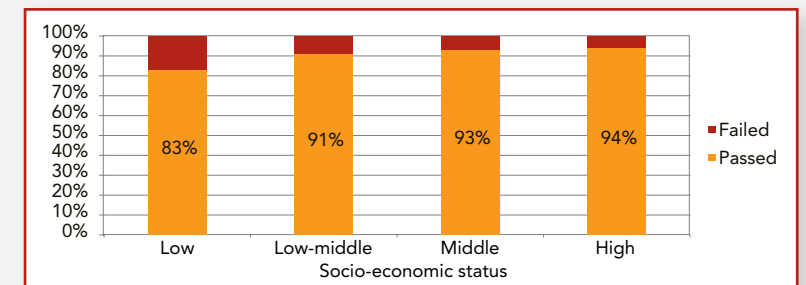
However, the bottom graph (right) tells a different story. In this case, researchers included more comprehensive population-registry information. When all children who should have been in Grade 3 in Winnipeg in 1998–1999 were included in the expanded dataset, only 50% of the children from low-

SES families passed the test. Children from the lowest SES group were more likely to have failed the test, been absent or exempted, or had already been held back at least one grade and were therefore no longer with their Grade 3 cohort.

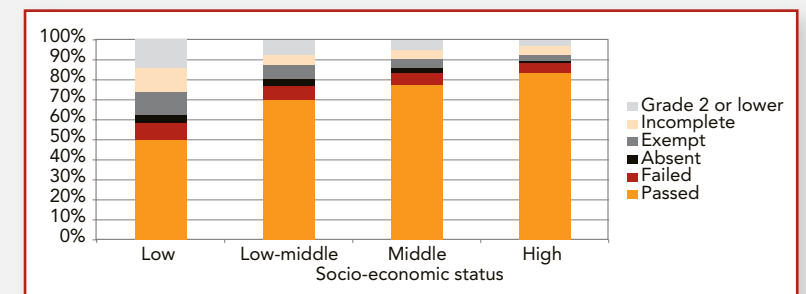
More details on this project may be found at: www.umanitoba.ca/centres/mchp/reports/child_inequalities/

Performance of Winnipeg pupils on standardized Grade 3 language arts test, based on family income 1998–1999

Pass/fail rate of those who wrote the test



Figures with all eight-year-olds who should have written the test



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