

Measuring Readiness to Learn in Niagara

The Importance of the Early Years

Research in early child development and neurobiology provides evidence that the first six years of life lay the foundation for much of the knowledge and skills required for successful school adjustment and later adult competence. In addition to this, studies have shown that readiness to learn at age six can predict a child's ability to benefit from academic instruction.

The Canadian Government acknowledged the importance of the early years when it launched *Understanding the Early Years* (UEY), a Human Resources Development Canada research project involving 13 communities across the country, including the city of Niagara Falls.

UEY involves 3 community study components. These are:

- **The Early Development Instrument (EDI);**
- **The Community Mapping Study (CMS); and**
- **The National Longitudinal Study of Children and Youth Community Study (NLSCY).**

Together, these components assess early development outcomes within communities, and any relationships that may exist between children's readiness to learn, the socio-economic status of their families, and the availability of community programs and services.



If Canada is to remain a world leader in economic growth and prosperity, it must continually invest in the skills of its labour force. According to a 1995 World Bank Report, ensuring that children enter school ready to learn is one of the best investments a nation can make. The evidence is so compelling that countries all over the world are now studying children's readiness to learn and how it can be optimized.

Each Community is Unique

While many Canadian communities share similar challenges, each of the communities examined by the UEY project has exhibited several unique features that set it apart from the other communities. This is one of the reasons why community-based research is so important. Such research allows a community to understand how well its youngest citizens are developing and allows investments in families, children and children's development to be monitored and evaluated over time. As communities document both their efforts and the results, effective practices will be identified and both resources and outcomes will be optimized. In short, the UEY project provides the data that communities need to find strategic solutions to ongoing social and labour market challenges.

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About the Early Development Instrument (EDI)

The EDI is a research tool that provides a snapshot of how ready the children in a given community are to take advantage of the many learning opportunities school presents. It is based on kindergarten teachers' observations of the children in their care. The EDI examines developmental outcomes, grouping them into five domains:

- Physical Health and Well-being,
- Emotional Maturity
- Social Competence
- Language and Cognitive Development and;
- Communications Skills and General Knowledge.

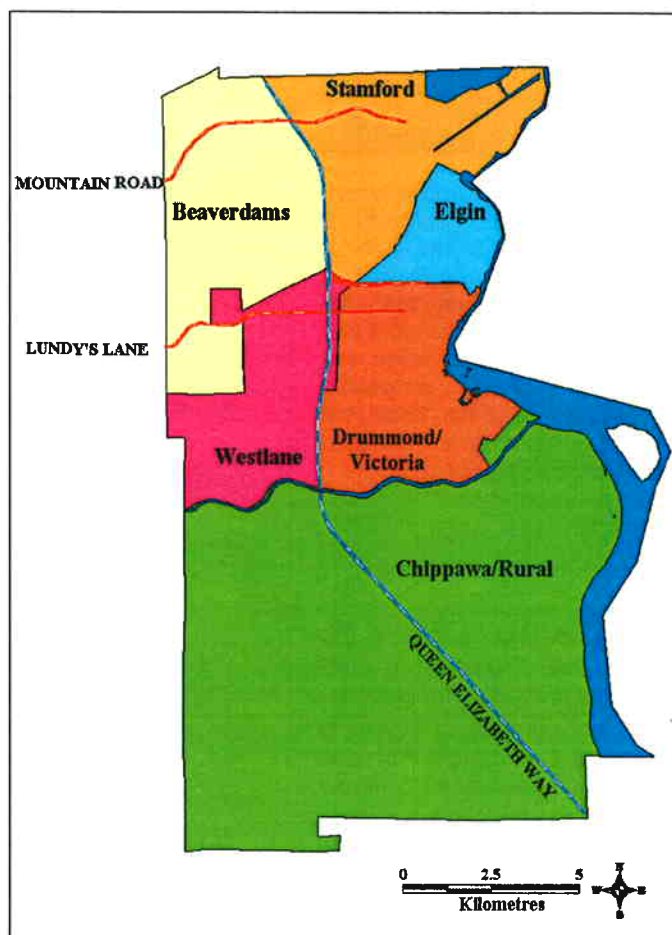
Children's scores are considered only as they relate to the scores of others in their peer group. Children with scores at or below the 10th percentile in one or more of the developmental domains are considered to be vulnerable in terms of readiness to learn skills. Thus, the percentage of children in a population who score at or below the 10th percentile in one or more domains can be interpreted as an indication of how many children are "not ready to learn at school" and have "increased needs" in comparison with the rest of the population.

Highlights of the 2001 Niagara Falls EDI

In order to examine EDI scores in relation to the neighbourhoods in which children lived, the city was divided, and results tabulated, according to six neighbourhood study areas.

Just over 28% of children in Niagara Falls scored at/below the 10th percentile in one or more developmental domain indicating that they were vulnerable in terms of readiness to learn skills.

Niagara Falls Neighbourhood Study Areas

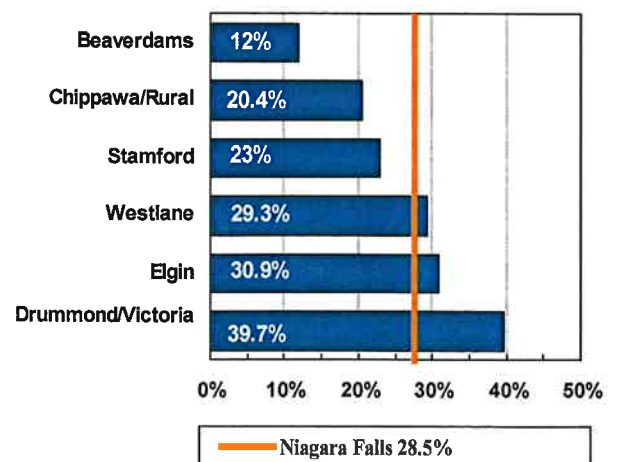


The proportion of children vulnerable in terms of readiness to learn skills varied across neighbourhoods from 12% in Beaverdams to 39.7% in Drummond/Victoria.

One half of Niagara Falls neighbourhood study areas had increased needs when compared to the city as a whole—these neighbourhood study areas were located in Westlane, Drummond/Victoria and Elgin.

The remaining neighbourhood study areas—Stamford, Chippawa/Rural and Beaverdams, had decreased needs when compared to the city as a whole.

Proportion of Children Vulnerable on One or More Readiness to Learn Domains, Niagara Falls, 2001



On average, children in Niagara Falls scored as well as, or slightly better, than their peers who took part in the EDI across Canada. However, children in Niagara Falls scored low in the area of Emotional Maturity.

| EDI Domain | Average score 2002 | |
|--|------------------------|---------------|
| | Children across Canada | Niagara Falls |
| Physical Health & Well-being | 8.77 | 8.78 |
| Social Competence | 8.32 | 8.14 |
| Emotional Maturity | 8.04 | *7.72 |
| Language & Cognitive Development | 8.28 | 8.29 |
| Communication Skills & General Knowledge | 7.70 | 7.78 |

*Statistically significant; P<0.05

About the Community Mapping Study (CMS)

Community mapping is a relatively new means of communicating data that is fast gaining popularity. It involves identifying the geographic boundaries of a community, along with the neighbourhood borders within it. Next, information about the relevant features and assets of the community are collected—e.g., physical and socio-economic characteristics, and the availability of programs

and services for families and children. Finally, the resulting data is analyzed and presented in relation to health indicators, such as children's developmental outcomes on the EDI. These steps result in maps that local decision-makers can use to place community resources where they'll be most effective.

Highlights of the Niagara Falls CMS

The CMS examined each of the six neighbourhoods in Niagara Falls from three perspectives believed to play a significant role in children's developmental health:

- Socio-economic environment,
- Physical environment and;
- Community resources.

In order to present data concisely, neighbourhoods were further divided into geographic units used by Statistic Canada to collect census information. These units are called Enumeration Areas (EAs).

Putting it all together: The Social Index

Using data from the 1996 Census, the average for each factor was determined by EA and compared to the national average on the same factor. A point system was devised and an index was created by adding the points to arrive at an overall score for each EA out of a total possible score of nine.

Higher scores indicated a greater presence of characteristics or factors associated with risk and disadvantage, and thus potentially greater need for preventive or supportive services.

The Socio-Economic Environment

A composite measure, called the "Social Index", was developed to express the level of socio-economic risk present in each EA based on nine factors:

- Employment rate
- Education
- Language
- Average household income
- Reliance on government transfers
- Family status
- Mobility
- Home ownership
- Immigrant status

EA scores were categorized into four groups, ranging from low to high risk, according to the number of risk factors present as determined by the Social Index.

| | |
|--------------------|-------------|
| Low risk | 0-2 factors |
| Somewhat low risk | 3-4 factors |
| Somewhat high risk | 5-6 factors |
| High risk | 7-9 factors |